

**BUSINESS EXCELLENCE MODELS AND LEADERSHIP
STYLES ADOPTED BY SMALL SCALE ORGANISATIONS -
CASE STUDY**

THESIS

**Submitted in partial fulfillment
of the requirement for the degree of
DOCTOR OF PHILOSOPHY**

By

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CERTIFICATE

This is to certify that the thesis entitled **Business Excellence Models and Leadership Styles adopted by Small Scale Organisations - Case Study** and submitted by Satyajit Majumdar. ID No. 2000PHXF001 for award of Ph. D. Degree of the Institute, embodies original work done by him under my supervision.

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CHAPTER 1

INTRODUCTION

Growth in Indian Economy

India is demonstrating a less familiar phenomenon may be called as 'industry - less growth'. In 2002 global recession forced down industrial growth everywhere including India. Industry normally grows more slowly or falls faster than GDP in a business downswing. But in 2002 the world has swung up out of the recession, notwithstanding some fears of a second downward dip in coming months. In India the industrial growth continues to lag behind GDP growth even in a global recovery. (CII Outlook Survey, 2002) However, since the global recession has set in, India has been the second largest growing economy in the world. This has been a matter of some satisfaction.

The Table below shows that India has the second highest rate of GDP growth but only the eight highest industrial growths among the countries in the table. Many countries that lagged behind India during the recession are soaring industrially in the global recovery.

COUNTRY	GDP GROWHT (QE II 2002-03)	INDUSTRIAL GROWHT (QE II 2002-03)
China	8.0	12.8
India	6.4	4.0
South Korea	5.7	5.4
Singapore	3.9	18.9
Thailand	3.9	6.2
Philippines	3.8	10.7
Russia	3.7	4.4
Chile	1.5	- 2.0
Malaysia	1.1	4.9
Taiwan	0.9	8.4
Brazil	- 0.7	0.7
Hong Kong	- 10.9	- 11.6
Argentina	- 16.3	- 12.4

Table 1.1 - Industrial Growth Trends
(Data Source : The Economist, 2002)

The issues those depressed the industrial growth are appreciation of real exchange rates, high real interest rates, reservations for small scale industries, high import

tariffs, (that make raw material costly), inflexible labor regulations have been analyzed by many. Every reform tends to create losers before it creates winners, which is why sometimes the policy makers are reluctant to reform. our political economy has settled into an equilibrium where there is little political incentive to rock the boat with radical change. Experts are of the opinion that slow industrial growth is going to stay in for some time. (Aiyar, 2002)

India is far behind not only the developed economies but also some of the so – called emerging economies. Both sets of countries are or can be major trading partners of India, and many are also major sources of technology, capital, and joint ventures for Indian corporates (reference – Table 1.2). For meeting the global challenges, we need to work at hyperpace on two fronts – improvement of the country’s governance and improvement of country’s businesses, in both private sector and public sector. (Khandwalla, 2001)

	Overall Rank, Global Competitiveness Report *	Overall Rank, Global Competitiveness Report **
Emerging Economies –		
Malaysia	16	27
South Korea	22	38
Thailand	30	34
Mexico	31	36
China	32	29
Indonesia	37	46
Brazil	51	35
India	52	39
Russia	59	47
Developed Economies –		
United States	2	1
Canada	5	10
United Kingdom	8	15
Japan	14	16
France	23	21
Germany	25	9

Table 1.2 - Relative Competitiveness of India

(Data Source : * World Economic Forum’s Global Competitiveness Report, 1999 & ** IMD’s World Competition Yearbook, 1999)

The ranking of India vis-à-vis other emerging economies on key management effectiveness measures are as follows –

	India	China	Malaysia	Indonesia
Worker Motivation	32	21	20	44
Total Quality Management	41	37	22	45
Customer Orientation	37	27	23	45
Entrepreneurship	41	17	29	45
Social Responsibility of Managers	41	18	22	43
Shareholders Value Generation	41	19	33	43
Corporate Credibility	29	35	15	42

Table 1.3 - Ranking of India and other Emerging Economies
(Data Source : IMD's World Competition Yearbook, 1999)

In almost all parameters India ranks after Indonesia. The table also shows significant gap in ranking with China in the year 1999 but in early 2000 Chinese corporate showed significant business performance.

The Manufacturing Sector in 2001 – 02

The research work is focused on the business models followed by the manufacturing sector. This calls for a review of the performance of this sector. Poor performance in the manufacturing sector was visible in 2001 - 02. In the second half of the 1990s, the pace of expansion of manufacturing output fell away from the high growth phase of 1994 – 96. Although the deceleration leveled off in 1998 – 99 and a modest recovery set in during 1999 – 00, this could not be sustained in the following year. In 2001 – 02, the slowdown in manufacturing became wide spread, affecting a broad spectrum of constituent industries.

According to the Annual Report of Reserve Bank of India, 2001 – 02, the relative contribution of the manufacturing sector (with a weight of 79.36 % in the Index of Industrial Production – IIP) to the growth of IIP declined to 85.3 % during 2001 – 02 from 87.3 % in 2000 – 01. As a disaggregate level, 12 out of 17 of two – digit industry groups registered positive growth during 2001 – 02. Out of the 12 industry

groups. five groups (20.86 % weight in IIP) witnessed acceleration while the remaining 7 groups (37.80 % weight in IIP) decelerated, broadly comparable to the group – wise distribution of industrial performance in 2000 – 01.

The other 5 groups (20.7 % weight of IIP) suffered decline as against 3 such groups during the previous year. Industry groups such as ‘beverages, tobacco and related products’ and ‘rubber, plastic, petroleum and coal products’ weathered the slowdown, posting growth rates above 10 %. On the other hand ‘food products’, ‘cotton textiles’, ‘jute and other vegetable fiber textiles (except cotton)’, ‘metal products and parts (except machinery and equipment)’ and ‘wood and wood products, furniture & fixture’, recorded declines.

The table below details data on performance of manufacturing sector and employment with the contributions from large, medium and small scale sectors.

Sub Sector	Employment (In million)			Annual Growth Rate (Per Cent)	
	At 1992	End 1993	March 1994	1992-93	1993-94
Total Manufacturing	33.11	33.73	34.46	1.9	2.2
I. Large and Medium	5.82	5.81	5.6	-0.2	-2.8
2. Decentralised	27.29	27.29	28.81	2.3	3.2
a) Modern	18.48	18.91	19.44	2.3	2.8
i. Small Scale	12.98	13.41	13.94	3.33	4.0
ii. Power loom	5.50	5.50	5.50	0.00	0.00
b) Traditional					
i. Handloom	8.81	9.01	9.37	2.3	4.0
ii. Khadi	3.53	3.53	3.67	0.00	4.0
iii. Village industry	0.47	0.48	0.48	2.1	0.00
iv. Coir Industry	1.20	1.22	1.23	1.7	0.80
v. Sericulture	0.18	0.18	0.18	0.00	0.00
vi. Handicrafts	1.82	1.83	1.87	0.50	2.20
	1.61	1.77	1.97	9.90	9.60

Table 1.4 – Performance & Employment in Manufacturing Sectors in India, 1992-94

(Data Source : Draft Mid-Term Appraisal of Eight Five Year Plan. 1992-97, Planning Commission)

Small Scale Industries (SSI) in India

The development of SSI has been an important plank of India's industrial policy. SSI in India has been given a distinct identity and Government has accorded high priority to this sector on account of the vital role it plays in balanced and sustainable economic growth. It plays crucial role in the process of economic development by value addition, employment generation, equitable distribution of national income, regional dispersal of industries, mobilization of capital and entrepreneurial skills and contribution to export earnings (Govil, 1992).

Year	No. of Unit as on Dec. 31 1998 (Lakhs)	Employment (Lakhs)	Output (Rs. Crore)	Exports (Rs. Crore)
			At current prices	
1990-91	19.5(-)	125.3(-)	155340(-)	9664
1991-92	20.8(6.9)	129.8(3.6)	178699(15.0)	13883(43.7)
1992-93	22.5(8.2)	134.1(3.3)	209300(17.1)	17785(28.1)
1993-94	23.8(5.8)	139.4(4.0)	241648(15.1)	25307(42.3)
1994-95	25.7(8.0)	146.6(5.2)	293900(21.7)	29068(14.9)
1995-96	27.2(5.8)	152.6(4.1)	356213(21.2)	36470(25.5)
1996-97	28.6(5.2)	160.0(4.8)	412636(15.8)	39249(7.6)
1997-98	30.14(8.61)	167.2(4.37)	469377(13.75)	43946
1998-99	31.21	171.58(-)	527, 515	48979
1999-00	32.25	177.30	578, 470	53975
2000-01 (P)	33.70	185.64	6,50,332	NA

Table 1.5 - Performance of SSI in India

(Data Source: Economic and Political Weekly, 1999 & www.ciionline.org)

At the end of March, 2001 there were 3.37 million small scale industrial units in the country. During 2000 – 01 the value of production by these units aggregated Rs. 65, 03, 320 million at current prices and they provided employment to 18.56 million persons. The sector accounts for 95 % of the industrial units in the country, 40 % of the value added in the manufacturing sector, 34 % of the national export, 7 % of the

Gross Domestic Product, production of over 7500 items in industrial sector. The product range varies from simple items produced with traditional technology to high – tech products produced with sophisticated technology. (Kamesam, 2002)

Major policy thrust was seen after nationalization of major banks in 1969, which signaled the need for redefining lending priorities and it was mandated that 40 % of the loan should be for what is called priority sector which included agriculture, SSI and individual service and business sectors. There has been a steady increase in the flow of credit to SSI sector which has gone up considerably from Rs. 1, 67, 830 million in March, 1991 to Rs. 4, 84, 450 million in March, 2001 constituting 14.2 % of the bank credit. (Kamesam, 2002)

The process of liberalization of Indian economy since 1991 has created many opportunities for growth as well as has thrown many challenges to the SSI sector. The performance reveals that after opening of Indian market and the policy of liberalization the small scale sector was severely affected. The subsequent recession (especially in the engineering sector) had added to the problems. According to census data available for the year 1999 (Development Commissioner – SSI, Government of India, 1999), out of 382,820 SSI units 309,842 are reported to be closed, 57,041 are not traceable and existence of 15,987 units is doubtful, since the process of liberalization had been initiated. Data on failure of large organisations is also alarming. In spite of having a track record of contributing about 35 % in country's exports, the SSI sector could not perform as per expectation. But there is another revealing example available. Two SSI units from Mumbai were studied in 2000, in spite of recession these units registered growth between 70 % and 120 % from 1994 to 1999. It is interesting to note that one of these units was from engineering sector (this sector was severely affected by the recession), mostly supplying to OEMs. A broad analysis brings out that leadership and its influence on readiness to change are the major factors to influence the dynamic nature of the businesses.

Total Quality Approach

The SSI have also been the center of the interest in the Total Quality era. Large organisations can not improve performance unless their suppliers in the value chain also grow in the quality maturity level; and many of these suppliers are small scale organisations. The first attempt towards this `improvement journey` was ISO 9000 certification. In India, the share of ISO 9000 certified organisations is gradually increasing. The SSI are pursuing quality management system as a tool for maintaining alignment with ever increasing demands of customers in the competitive environment. Total Quality Management (TQM) has also been accepted as a means for competitive advantage.

Prof. Ton van der Wiele of Erasmus University, Rotterdam, The Netherlands and Prof. Alan Brown of Edith Cowan University, Perth, Western Australia (1997) published a joint report on independent research works carried out by them among 1700 small and medium scale organisations in Australia during 1994 and 1996. The objective was to study the nature of the quality management approaches adopted by the organisations, whether they had stopped after ISO 9000 certification or continued to approach Total Quality. (The criteria for identifying the organisation as small or medium was based on the number of employees). The authors concluded that 41.6 % organisations continued the quality journey beyond ISO 9000 certification. The reason for total quality initiatives taken by these organisations were reducing cost, improving process capability, processes management and policy deployment. The TQM perspective shows that employee participation, improvement of the key and supporting processes by identifying and managing process variables, involvement of top management in quality assessment and greater focus on self assessment were the factors mostly considered to be important. The research report concludes that there had been a major initiative directed towards the self assessment for business planning and attaining of improvement goals, and creating role models within the organisation. The authors also felt that organisations may adopt TQM as turnaround strategy.

Owner and CEO of a German small scale organisation Per-Ake Sorensson (1997) made a self-analysis of his organisation. He had adopted TQM as mean for change

management, which is spread over 4 years. BPR (Business Process Re-engineering) was also linked to the change initiative. The mid-term appraisal after 2 years showed that 33 % reduction in customer complaint (target of 90 %), 37 % reduction in lead time (target 50 %), 14 % improvement in productivity (target 33 %) and 7 % reduction in cost (target 25 %) were achieved through the change process. The elements of the change process were reported to be business objectives and budgets, organisational structure, procedures, internal socio-technical system, training process, improvement process and management behaviour. The author advocated integration of these elements for success of the change initiative.

Leadership

Jens J. Dahlgaard of Aarhus School of Business (Denmark), Heine Zahll Larson, Consultant, Arthur Anderson (Denmark) and Anders Norgaard, Quality Coordinator, Terma Elektronik AS (Denmark) conducted a research (1996) on different leadership profiles in Danish companies in order to establish relationship between leadership styles and success criteria for business excellence. The research included about 100 business leaders and managers as well as about 600 employees of medium and large organisations. The authors concluded that important behavioral attributes for success are that the leader should be creative, visionary, brave, team-builder, coach and motivator, and must have a shared vision (focus on quality, creativity, and learning) with communication capabilities.

In most of the cases a major gap lies in managing the 'change'. Change needs to be managed, as change can not be accepted as a sporadic outcome or an accidental result, it has to be reasonably anticipated and dealt with. Successful organisations engineer the change process based on their vision, experience and analysis. It is believed that management of change calls for a specialized skill, which can be learnt. It is widely accepted that such competence already exist within large and medium scale organisations. The SSI face problems in systematic strategy planning which is generally not integrated with the leadership. According to C. K. Prahalad and Gary Hamel, many companies find themselves confronted with sizeable 'organisational transformation' problems. Any company that is more of a bystander than a driver on

the road to the future will find its structure, values, and skills becoming progressively less attuned to an ever – changing industry reality. Such a discrepancy between the pace of change in the industry environment and the pace of change in the internal environment spawns the daunting task of organisational transformation. The organisation transformation agenda typically includes downsizing, overhead reduction, employee empowerment, process redesign, and portfolio rationalization. As important as these initiatives are, their accomplishment cannot restore a company to industry leadership, neither it ensures that it intercepts the future.

As time evolves the different factors of the external environment take dominant roles. There are certain basic parameters (mainly related to pure business performance and social well being) which remains constant but their levels of focus may vary depending on the time frame. The aggregate performance of the business is a function of such parameters with varied degree of weightage. Value, belief and the boundary conditions defined by CEOs are the essential variables of leadership but it can be beyond these parameters, too. Leadership is desired to be imbibed into the culture built over a period of time. It is not only a basic attribute of the CEOs but an accepted and understood phenomenon, which must be shared by all. It is obvious that the functional leaders drive leadership-values from the inherent culture while the CEOs have their own value system based on age, experience, etc. CEO has an enabling role, too. The role of CEO is dependent on various factors and yet his personality makes difference in short term as well as long term performance of the organisation. Emphasizing on mission Stephen R. Covey mentioned that mission statements, whether personal or corporate in scope, empower people to take control of their lives and thereby gain more internal security. A corporate mission statement provides 'meaning' for the enterprise.

Leadership has been considered as a prime mover of the organisational-dynamics. As the organisation passes through different phases of the growth-cycle the variables of external environment influences the strategy-design process. Leadership and strategy are mutually dependent aspects of the business process. Once strategies are defined the leadership gives direction for deployment of actions, co-ordinate the desired change process and design the review systems. Establishing the need for

leading transformation in a changing environment. Sumantra Ghoshal et. al. opined that transformational change is a change journey through the valley of death. In different phases of journey, the organisation will experience some very different kinds of resistance through anger and depression to exploration, enthusiasm and commitment. To lead a company through this journey, top level managers must learn to anticipate these emotions and have the courage and wisdom to cope with them. At each phase, the leadership task is very different and the roles leaders play must, therefore, radically change in the course of the journey.

CHAPTER 2

LITERATURE REVIEW

2.1 SMALL SCALE INDUSTRIES

There is no single, uniformly acceptable, definition of a small firm. The Bolton Committee (UK, 1971) in its report attempted to overcome this problem by formulating what they called an 'economic' definition and a 'statistical' definition. The economic definition regarded firms as being small if they satisfied three criteria –

- they had a relatively small share of their market place,
- they were managed by owners of part – owners in a personalized way and not through the medium of formalized management structure,
- they were independent, in the sense of not forming part of a large enterprise.

The Committee also devised a 'statistical' definition which was designed to address three main issues. The first was to quantify the current size of the small firm sector and its contribution to economic aggregates such as gross domestic product, employment, exports, innovation, etc. The second purpose was to compare the extent to which the small firm sector has changed its economic contribution over time. Thirdly, the statistical definition, in principle, has to enable a comparison to be made between the contributions of small firms in one country with that of the other nations.

There are three central respects in which small firms are different to large firms. The first is the uncertainty associated with being a price – taker, which can be considered to be the inverse of Bolton definition which emphasized the small share of the market – place. The second source of uncertainty for small firms is their limited customer and product base – the classic example of which is where small firms simply acts as subcontractors to larger firms. Lyons and Bailey (1993) describe what they refer to as 'subcontractor vulnerability'. They argue this depends not only upon dependence on

dominant customers, but also upon the extent to which output is specialized to particular customers, the specificity of investment decisions made and the probability that the customer will withdraw the custom. They clearly show that, even for subcontractors as a whole, the smaller firm clearly perceives itself to be more vulnerable, than the large firms. The third dimension of uncertainty relates to the much greater diversity of objectives of the owners of small firms, compared with large. Many small business owners seek only to obtain a minimum level of income, rather than maximizing sales or profits. Small business owners do not have to concern themselves with reporting their action to external shareholders and so 'performance monitoring' effectively does not exist. For a small, the relationship between the business and the owner is very much closer than it is between the shareholder and the large firm. The motivation of the owner of the small firm is therefore a key influence upon small firm performance. This contrasts with the large firm management literature, which emphasises the importance of control. Here the central issue is how the owners of the business ensure that the managers of the business act in their interest, and how senior managers exert control over junior managers. This form of 'internal' conflict is absent in a small firm, where ownership and control are located in the hands of a few people, or possibly a single individual.

The central distinction between large and small firms, then, is the greater external uncertainty of the environment in which the small firm operates, together with the greater internal inconsistency of its motivation and actions. The second key area of difference is their role in innovation. The conventional role which the small firms play in innovation relates to their 'niche' role. It is the ability of small firms to provide something marginally different, in terms of product or service, which distinguishes it from the more standardized product or service provided by larger firms. The small firms, however, is also much less likely to undertake research and development than large firm, and is less likely to have a high proportion of its staff concerned exclusively with research. Even so, small firms are more likely to introduce fundamentally new innovations than larger firms, this feature often being attributable to small firms having less commitment to existing practices and products (Pavitt et.

al., 1987). The third area of difference between large and small firms is the much greater likelihood of evolution and change in the smaller firms. Small firms which become larger undergo a number of stage changes which influence the role and style of management and the structure of the organisation (Scott and Bruce, 1987). The key point here is that the structure and organisation of the small firm is more likely to be in a state of change as the firm moves one stage to another, than is the case for larger firms.

2.1.1 SME and SSI in other Countries

The criteria for classifying industries into small or large scale differ from a country to another. The table below provides an overview of the criteria for classification adopted in various countries –

Country	Category of Industry	Criteria / Country's official definition
Australia	Manufacturing	Manufacturing enterprises : 20 employees
	Services	Small Enterprises : 100 employees
Belgium	SME	Annual Staff average of 50 employees Annual turnover (VAT excluded) ECU - 4.2 mn Balance Sheet total of ECU 2.1 mn
Canada	Manufacturing	Independent firms having < 200 employees
China	SME	Depends on product group usually < 100 employees; Investment ceiling 30 million Yuan (US\$8 million)
Denmark	Manufacturing	< 500 employees. Production units with more than 5 employees
France	SME	10 - 499 employees
Germany	SME	< 500 employees
Greece	Small Enterprises	< 50 employees
	Medium Enterprise	50 - 500 employees
Indonesia	SME	< 100 employees
Ireland	SME	< 500 employees
Italy	Small Enterprises	< 200 employees
Japan	Manufacturing	< 300 employees or asset Capitalization < 100

		million Yen
	Wholesale Trade	< 50 employees or Capitalization < 30 million Yen
	Retail Trade and Services	< 50 employees or Capitalization < 10 million Yen
Korea	Manufacturing	< 300 employees
	Services	< 20 employees
Malaysia	SMEs	< 75 full time workers or with a shareholder fund of < RM 2.5 million (US\$1 million)
	SIs	Manufacturing establishments employing between 5 and 50 employees or with a shareholders fund upto RM 500,000
	MIs	Manufacturing establishments employing between 50 and 75 full time employees or with a shareholders fund upto RM 500,000 to RM2.5 million
Mexico	Micro	< 15 employees and gross Income / Sales < US\$ 175,000
	Small	15 - 99 employees and gross Income / Sales < US\$ 175,000
	Medium	100 - 249 employees and gross Income / Sales < US\$ 3,500,000
Netherlands	Small Enterprises	< 10 employees
	Medium Enterprises	10 - 100 employees
Philippines	Small Enterprises	< 200 employees, revenue < P 40 million
Portugal	SME	< 500 employees
		< Esc 2400 million in sales (value for 1993) is not controlled more than 50% by any company (nor does it hold over 50% of any other company)
Singapore	Manufacturing	< S\$ 12 million fixed assets
	Services	< 100 employees
Spain	Small Enterprises	< 200 employees
	Medium Enterprises	< 500 employees
Sweden	SME	Autonomous firms with < 200 employees
Switzerland	SME	No fixed definition
Taiwan	SME	In manufacturing, mining and construction-

		invested capital is < NT\$40 million or the number of regular employees not to exceed 200
	SSE	In manufacturing and construction-sales turnover < NT\$120 million or regular employees to be < 20
Thailand	Labour intensive sectors	< 200 employees
	Capital Intensive Sectors	< 100 employees
United Kingdom	SME	No fixed definition
United States	Very Small Enterprises	< 20 employees
	Small Enterprises	20 - 99 employees
	Medium Enterprises	100 - 499 employees
Vietnam	SME	No fixed definition, generally <200 employees

Table 2.1 - Small & Medium industries in other countries
(Data Source : www.ciionline.org)

Small Business Model of China

About 40 years ago India and China were at similar level of economic and industrial performance, also a decade ago both were at same GDP level. But China has grown way ahead, at present the GDP growth is double than that of India. (Di Lodovico et. al., 2001) The SSI in China has grown based on Township and Village Enterprise (TVE) concept, this has resulted fastest source of growth in China since reforms began in 1978. TVEs are a mix of collectively owned and private enterprises in the rural areas of China. If we have to experience rapid growth like China, we must examine their growth experience with respect to TVEs and more generally with rural areas. These are certain desirable features that the TVEs possess, that enable them to be competitive in domestic and international markets.

Since they are collectively owned, TVEs in China save on the cost of land. Land is leased from the township government and so land rental / leasing costs are saved by enterprises which are able to pass on cost savings to consumers through lower prices. From beginning, TVEs in China were subject to hard budget constraints. They were never protected, on the contrary, township and village governments were allowed to establish TVEs for production of goods outside of the central plan in the post-reform period. This meant that TVEs got no funds from the plan or from state banks. Because

of this the working capital requirements of TVEs were largely met by household savings that were held not in banks, but the enterprises themselves, lessening their dependence on costlier bank credit and provided access to cheap capital. The collective nature of ownership in the TVEs implied that there is greater identification of workers with the enterprise. TVEs are sensitive to the need of lower and middle - income consumers and they make their products cheap. Goods like toys are not durable for a long time anyway because they are likely to be broken or because children get bored with them. In such cases, low prices even in the absence of durability can be attractive.

The performance of the TVEs in China can be largely attributed to their pre-reform state. Rural consumption was deliberately held below urban consumption levels, agriculture was taxed heavily when compared to industry, and restrictions were imposed on rural - urban migration (Sridhar, 2002). Hence, when TVEs were allowed to be set up in the post - reform period, they produced remarkable increases in productivity, output and exports.

2.1.2 Definition of SSI in India

Small scale industrial units are those engaged in the manufacture, processing or preservation of goods and whose investment in plant and machinery (original cost) does not exceed Rs. 1 Crore. These would, include units engaged in mining or quarrying, servicing and repairing of machinery. In the case of ancillary units, the investment in plant and machinery (original cost) should also not exceed Rs. 1 Crore to be classified under small-scale industry. Investment limit is Rs. 5 Crore for toys, hosiery, packaging materials, auto components and hard tools sectors.

The status of 'Tiny Enterprises' is given to all small scale units whose investment in plant & machinery is upto Rs. 25 lakhs, irrespective of the location of the unit. The government has not given any definition to 'medium scale enterprises (MSI)', but as per the common understanding the term 'MSI' is applicable to those enterprises who have made an investment between Rs. 1.00 Crore to Rs. 10 Crore.

The Government has declared some items reserved for the SSI sector, but due to the de-reservation policy adopted since economic reform the list is shrinking gradually. In the year 2001, the 811 items were in the reserve list, 14 items were de-reserved in that year, which included readymade garments. With removal of quantitative restriction on 714 items from April 01, 2001 (as per the WTO agreement), only 169 items exclusively remain reserved for SSI, rest 642 items could be imported under OGL (Open General License). This threw open many new challenges for the SSI. The Government has further de-reserved 51 items from the reserved category in 2002. In 2002, for 13 products (bulk drugs) investment ceiling had been raised from Rs. 1 Crore to Rs. 5 Crore. The drugs were Para Amino Phenol (international grade), Parazolones, Benzyl Benzonate, Calcium Gluconate, Aluminium Hydroxide Gel, Saccharine & its salts, Methyl, Ethyl & Propyl Parabens (starting from para hydroxy benzoic acid), Paracetamol, Niacinamide as the country has definite advantages in export of these products in the international market. Seventy five items were de-reserved in 2003, which included laboratory chemicals & reagents, leather & leather products, plastic products, chemical & chemical products and paper products. With this only 674 items are now reserved for SSI .

Large unit can also manufacture the reserved items provided they export 50 % of their production over a period of 3 years.

2.1.3 The Structure

The organisational structure of the industrial sector in India is quite diversified and complex. The sector can broadly be divided into two broad groups, 'organised sector' and 'unorganized sector'. The organised sector covers industries which are registered under the Factories Act, 1948 and is also sometimes called the 'factory sector'. The segment includes factories which employ 10 or more workers on any day during the 12 months preceding registration and are using power (registered under section 2m(i)) and units which employ 20 or more workers on any day not using power (registered under section 2m(ii)). Such factories are further dub – divided into what is known as 'census sector' factories and 'sample sector' factories. Those registered factories

which employ 50 or more workers on any day using power or 100 or more workers without power belong to the census sector. All these are completely enumerated. In fact, these factories are under a statutory obligation to submit annual return to the competent authority in standard proforma giving operational details of the unit during the previous year. All other factories belong to the sample sector and for this sector a sample of factories is selected every year following some well – defined probability scheme, and information similar to that obtained from the census sector factories is collected from them. This information is then used to derive estimates of important variables for the ‘sample sector’ as a whole which are then pooled with the census sector aggregates to get information for the factory sector. This information is published every year in the ‘Annual Survey of Industries (ASI)’ which is the principal source of data for organised manufacturing sector in India.

The factory sector comprises the large and medium manufacturing units (defined in terms of employment) of the industrial sector in India. The rest of the manufacturing sector consists of a number of sub – sectors. The unorganized or the non – factory sector is divided into sub – groups namely, small scale industries (SSI), powerloom, khadi and village industries, handloom, handicrafts, coir and sericulture. It is also important to note that these segments fall administratively under the purview of different boards / commissions, e.g. Textile Commissioner (for powerloom), Khadi and Village Industries Commission (KVIC – for khadi and village industries). The Small Industries Development Organisation (SIDO) under the Development Commissioner, SSI is responsible for maintaining the database of statistical information pertaining to the SSI units falling in its purview and also for devising policies for the development of the SSI sector which are implemented by the state governments.

Two important points to be noted for the SSI sector in this context are (i) as opposed to the factory sector, SSI, which constitute a very large segment of the industrial sector in India, are defined in terms of capital invested in plant and machinery and not according to employment size, hence there can be an overlap between the factory

sector units and the SSI units. Those registered factories which invest less than the amount specified for a unit to be treated as small scale belong to both the groups, and (ii) there is no system of compulsory registration of the units in the SSI sector and the units are not required to supply operational details. In other words, there is a scheme of registration of SSI units with the state directorate of industries (SDI) but since registration is voluntary, a considerable proportion of units do not get themselves registered with the SDI. One suspects that this number is greater than that on the rolls of the SDI.

2.1.4 Statistics on the SSI Sector

General Performance

Export from small scale sector have posted a healthy growth of nearly 11 % at Rs. 59,978 crore during 2000-01 as against Rs. 54,200 crore recorded in the year before, according to the Annual Report of Ministry of SSI, Government of India, 2000 - 01. In dollar terms the exports from the sector has increased by 5.0 % from US\$ 12.51 billion in 1999 - 00 to US\$ 13.13 billion in 2000 - 01, which constituted about 35 % of direct exports from the country. Employment in the sector was at 185.64 lakh during 2000-01 which was only 4 % higher than the employment level of 178.5 lakh during 1999-00, the report said. The overall credit to the SSI sector in 2001 has increased by Rs. 2,657 crore as compared to an increase of Rs. 3,114 crore in 2000. However, the share of credit to the SSI sector as percentage of the net bank credit has decreased from 17.5 % in March, 1998 to 14.2 % in March, 2001. Total number of small scale sector units in the country during 2000-01 increased by nearly 5 % to 33.70 lakh as compared to 32.12 lakh a year earlier, of which registered units comprised 26.72 lakh and the unregistered units 6.98 lakh units.

According to Annual Report of Ministry of SSI, Government of India, 2001 - 02, the number of SSI units was estimated to have increased to 34.4 lakh. Also, during this period the value of production by the SSI units also increased by 8.1 % to Rs. 6,90,

522 Crore at current prices, and by 6.0 % to Rs. 4, 77, 870 Crore at constant prices, while the real GDP from the industrial sector as a whole posted a growth of 2.9 % during the year. Employment in the SSI sector went up to 192.2 lakh from 185.6 lakh during the period.

The tables below details growth trends in the SSI since 1991 – 92 i.e. in the post form era.

Year	Target (%)	Achievement (%)
1991-92	3.0	3.1
1992-93	5.0	5.6
1993-94	7.0	7.1
1994-95	9.1	10.1
1995-96	9.1	11.4
1996-97	9.1	11.3
1997-98	-	8.43
1998-99	-	7.7
1999-00	-	8.16
2000-01	-	8.1

Table 2.2 - SSI Production Growth - Target and Achievement
(Data Source : www.ciionline.org)

Year	SSI Sector	Industrial Sector
1991-92	3.1	0.6
1992-93	5.6	2.3
1993-94	7.1	6.0
1994-95	10.1	9.4
1995-96	11.4	12.1
1996-97	11.3	7.1
1997-98	8.43	5.8
1998-99	7.7	4.0
1999-00	8.16	6.5
2000-01 (Provisional)	-	8.90

Table 2.3 - Trends in Growth - SSI and Industrial Sector
(Data Source : www.ciionline.org)

Year	Target (Lakh Nos.)	Achivement (Lakh Nos.)	Growth Rate
1992-93	128.0	134.06	3.28
1993-94	133.0	139.38	3.97
1994-95	138.6	146.56	5.15
1995-96	144.4	152.61	4.13
1996-97	150.5	160.0	4.88
1997-98	165.0	167.58	4.50
1998-99	170.1	171.58	2.61
1999-00	175.4	177.3	3.33

Table 2.4 - Target and Achievement on Employment During Eight Plan
(Data Source : www.ciionline.org)

Performance in Post – Reform Era

In the post reform era there has been special focus on SSI. A package was announced by the Prime Minister for the SSI on August 30, 2000, which included measures to improve credit flow and reduction of excise duty.

In the post reform period the growth in the number of units as well as in employment is not uniform. The growth in employment is consistently lower than in the number of units. Looking at growth in output at constant prices, a considerable amount of jump is noticeable since 1993 – 94. So far as exports are concerned, a remarkable feature is the lack of stability in the growth rates over time. There is a considerable decline in the growth rates from 1991 – 92 to 1992 – 93, which then picked up in the next year but again there was a drastic fall in 1994 – 95. Thereafter, 1996 – 97 turned out to be a bad year from the point of view of growth in export. On the whole the behaviour of growth rates for the SSI sector is fluctuating (CII Report, 2001).

The table shows a comparison of pre and post reform performance data of GDP growth and increase of job opportunities in organised sector and SSI.

Period	GDP Growth per annum	Increase in jobs per annum	
		Organised Sector Including Govt.	SSI Sector
1980 - 90	5.7 %	1.59 %	6.7 %
1991 - 97	5.7 %	0.86 %	3.5 %

Table 2.5 - Trends in Growth of Employment in SSI & Industrial Sector (%)
(Data Source : www.ciionline.org)

Current Outlook

Small and medium scale enterprises (SME) are planning to increase capital investment in the current year. As much as 86 % of the respondents to the CII Business Outlook Survey on SME (2002) indicated their plan to authorize more capital investment vis-à-vis the previous year and at the same time suggested an

increase in the investment limit for the small industry to enable technology up-gradation for their enterprises.

However, the Survey has revealed a positive outlook for future on the part of industry with 46 % of the respondents expecting an increase in their profit margins and only 22% of the respondents expecting the profit margins to further decline in the next six months. The rest expect their profit margins to remain the same.

On the production front, 42 % of the respondents expect the growth to be more than 10%, 28% expect the production of the company to be between 5 – 10 %, 23 % of the respondents expect the growth between 0 – 5 %. Only 7 % foresee a negative growth in their production.

As far as capacity utilization is concerned, the survey has revealed that 17 % of the respondents achieved capacity utilization of over 80 %, 39 % achieved between 61 – 80 %, and 33 % of the respondents have achieved 41 – 60 %.

With profit margins of as many as 53 % of the respondents registering a decline in the last six months, it is evident that competition is making the SME feel the heat of dismantling quantitative restrictions and the imperative need for them to adjust themselves, according to emerging market forces.

The CII Survey concludes that pressure on the bottom - lines of the SME is increasing. An ET Survey on 200 large companies which finds that the share of raw materials in total cost of production has declined by one percentage points from 72.8 % in 2000 – 01 to 71.8 % in 2001 – 02 (The Survey was based on data compilation of Centre for Monitoring Indian Economy). The share in aggregate turnover of the sample companies has declined more sharply from 54.2 % in 2000 – 01 to 52.3 % in 2001 – 02. As majority of SSI are suppliers to the large scale counterparts, the raw material cost cutting strategy is further mounting pressures on their SSI suppliers for cost reduction.

Problem in Data Sourcing

The policy planning on SSI can not be done properly by the Government due to the large number of unregistered firms which are not covered under any survey conducted by the Government of India. The first All India census was conducted during 1973 – 74 with 1972 as the reference year, the second was carried out in 1990 with 1987 – 88 as reference year. There has been two follow up surveys in 1987 – 88, 1994 – 95 and 2002 - 03. The main problem with these is that they cover only those units which are registered (voluntarily) with the SDI. A large number of unregistered units remain uncovered by these censuses and one does not really know much about such a vital part of the industrial sector of our country. Even with those two censuses, the gap seems to be too long and it is not clear how often such censuses will be carried out. (Mukherjee, et. al, 1999).

The problem is, unless the unregistered units are covered, policy planning with regard to the SSI can hardly be done properly. The problem becomes all the more complicated when one takes into account the high rate of mortality in the SSI sector, reported as sick or untraceable.

There is one source of data which is the most comprehensive and perhaps the most informative compared to other sources and that is the economic census. There had been economic census conducted in the year 1977, 1980, 1990 and 1999. The economic census covers both registered and unregistered units. Unfortunately the information presented in the published reports of the three censuses is not uniform and one can not make comparison over time.

2.1.5 Perceived Advantage

Flexibility and thus lower costs are the key advantage of smaller firms. In a more competitive environment, flexibility and adaptability are the key traits of any successful economic activity. Small firms can easily change their product profile and fill the gaps that larger firms take time to detect or find too costly to service.

The flexibility in SSI sector is due to various reasons. First, because of their nature, change is easier to administer in a small industry. Second, small industry is typically run by an entrepreneur with few hierarchical levels, so decision making is quicker. Third, the incentives for success or failure of the activity undertaken directly by the entrepreneur. An immediate impact or otherwise is also seen. The flexibility can be exploited much better if the unit is located close to the center of demand.

Small Scale Sector is less capital intensive and more employment-generating sector. SSI require relatively low level of capital investment per unit of output and employment, use local skills of artisans and other technically trained and educated people, meet local demand for a large variety of products and services that can be setup in a dispersed manner (Vasudevan, 1998).

2.1.6 State Intervention and Protection for Industrial Development

Protective support is not only provided to village or to modern small scale industries but also to large scale ones, whether they are in the public sector or the private sector. Fiscal concessions, trade restrictions, barriers to entry, pricing of products and licensing of operations, to name a few, have been resorted to immunizing, this also helped the large scale industries from competition from outside. The extent or degree or support differed from time to time, but the fact is that competitiveness of the Indian industry, irrespective of the scale of operation, has not improved in any significant measure in the last 50 years in the international market.

In order to ensure equitable distribution, the state, as the principal agency acting on behalf of society as a whole, assumed direct responsibility for the development of industry. The state's direct involvement in the development of industry resulted in the formation of a dominant public sector and heavily regulated private sector. To enable the government to control the course of industrial development, public utilities and industries that were essential but required heavy investment were reserved for the

public sector. The private sector was subjected to controls and regulation through the Industries (Development and Regulation) Act, 1951 and various policy instruments were used to guide private sector industry into socially desired patterns. Some of these policy instruments were industrial licensing, capital issues control, price controls and distribution controls. Of these industrial licensing has been the basic and most comprehensive instrument that has acted as a big barrier to entry and thus has given assured market to the few existing industrial units.

As regards external policies, these were guided by the principle of import substitution, which in turn had been prompted to some extent by the strategy of self – reliance but to a major extent by the scarcity of foreign exchange. The continuing and often acute shortage of foreign exchange involved the use of policy instruments like import licensing, quantitative restrictions on imports and high tariffs rates. In addition, there were restriction in foreign direct investment, import of technology and foreign collaborations of industrial units.

All these policies together provided complete protection to Indian industry by eliminating the scope of foreign as well as internal competition. Within this sheltered environment, small scale units have been protected further through measures such as reservation of certain products for exclusive production in the small scale sector, reservation of some the products produced in the sector for purchase preference by government agencies, supply of scarce materials, input price concessions like lower interest rates and numerous fiscal measures such as excise duty exemptions and other tax concessions. In general the trade and industrial policies that India adopted till 1990s insulated Indian industry from competition, domestic as well as foreign. Within this generally insulated market environment, small scale units were further protected from competition from large scale units through numerous protective measures. In addition, geographical and product market segmentation gave small scale units isolated sheltered markets. Small scale industrial units, mostly being producers of lower quality but cheaper products, cater mainly the price sensitive and quality insensitive market segment. Product market segmentation exists in India for numerous consume items. Under development of infrastructure like transport created sheltered

local markets for small scale industries. The only competition these units have so far faced is competition due to the overcrowding.

2.1.7 Special Focus on SSI by the Government

The process of liberalization of economy since 1991 has created many opportunities for growth as well as thrown many challenges to the SSI Sector. In the recent phase of globalization each and every Sector of the Indian economy is in the process of being integrated in to the world class market. SSI Sector also has been exposed to the challenges of opening of the economy. The Sector could achieve greater sustained growth by increasing technological capabilities and creating sustained competitive advantage in the environment of increased competition and rapid technological changes.

In 1991 Government of India announced a separate industrial policy, which had measures for development of small, tiny and village enterprises as a sequel to the financial sector reforms initiated in July, 1991. In the subsequent years many measures have been taken for development of the sector viz., (i) Setting up of National Renewal Fund to protect the workers affected by technology upgradation and modernization, (ii) promulgation of the 'Interest on Delayed Payment to Small Scale and Ancillary Industrial Undertaking Act, 1993 for mitigating the delayed payments problems of SSI, (iii) launching of Integrated Infrastructure Development Scheme and the Single Window Scheme of SIDBI, (iv) Setting up of Technology Development and Modernisation Fund in SIDBI and the Entrepreneurship Development Institute in some States, (v) Investment limit for tiny sector has been raised to Rs. 0.2 million and to encourage the tiny sector, larger share i.e. 60 % of the total advance to SSI Sector to these units has been stipulated, (vi) raising of the composite loan limit to Rs. 2.5 million, (vii) raising of collateral free loan limit to Rs. 0.25 million, launching of the Credit Guarantee Fund Trust Scheme which covers collateral free loans up to a Rs. 0.05 million, (viii) setting up of Technology Bureau for Small Enterprises in SIDBI, and (ix) raising the investment limit to Rs. 0.5

million in certain selected sectors like garments, hosiery, hand tools etc. for enabling technology upgradation to make the units in these sectors competitive to face the challenges in the international markets. These initiatives were accepted as a landmark in the direction to impart more vitality and growth impetus to the sector (Khanna, 1998).

To provide more focused attention on the development of SSI, the Government of India created a new Ministry of Small Scale Industries and Agro and Rural Industries in October, 1999. The Government came out with a comprehensive policy package for small scale and tiny sector was announced by the Prime Minister. The policy package included support on policy, fiscal, credit, infrastructural, technological and quality improvement and marketing and measures for streamlining inspection / rules and regulations, entrepreneurs' developments, facilitation of prompt payment, rehabilitation of sick SSI units, promotion of rural industries and improving data base.

During the last decade various committees viz., Nayak Committee, 1991, Abid Hussain Committee, 1997, S. L. Kapur Committee, 1998, and Dr. S. P. Gupta Committee, 1999 have looked into the problem of SSI Sector. Majority of the recommendations of these Committees were relating to opening of specialized SSI branches, simplification of loan application forms, computation of working capital on projected turnover method, launching of new Credit Guarantee Scheme, delegation of adequate powers to branch managers for sanctioning ad hoc limits up to 20 % of sanctioned loan limits, raising of composite loan, conducting of third census of SSI etc. have been accepted and implemented (Anita, 2001).

2.1.8 Reasons for Promotion of Small Scale Sector

Policy makers in independent India have always recognized that small scale industries contribute to the material progress of the country. In the famous Mahalanobis Model, widely discussed and debated in the mid – fifties as major contribution to planning for growth, village and small scale industries were given a special place, in that they formed one of the vital parts of the four sectors into which the economy was classified

in the model. The discussions during that period of time, however, were somewhat emotionally charged on the specific role of small scale industries. For some, combining 'village' and small scale industries was essentially an appeasement of the nationalist – adherents of the Gandhian ideology. Some questioned the rationale behind the support to the 'ambar charkha' on technological and economic efficiency grounds. There were, on the other hand, many who considered that a number of small scale firms could well act as ancillaries to larger firms and be the needed medium for large scale industrialization. Some felt that given the emphasis on heavy industries within the organised industry segment of the Mahalanobis Model, there is no option but to ensure that consumer goods are produced not only by agriculture but also by village and small scale industries. For many, this argument meant that small firms are capable of producing a larger quantum of consumer goods than before to meet the possible increase in demand that would arise on account of the spurt in incomes, generated by fresh investments in heavy and basic industries. It is also taken for granted that small firms would, in the process, create additional employment opportunities. Implicit also is the assumption that small scale industries are less capital intensive and more labour absorbing. This is regarded as an important gain of promoting small scale industries, given the country's resources endowments, namely labour abundance and scarcity of capital. To some, small scale industries, being suppliers of inputs to larger industries, will be set up in the regions where large basic and heavy industries are set up (Vasudevan, 1998).

The emphasis placed on the SSI sector in the industrial development of the country is due to its high employment generating capacity and low investment requirement. This led to the adoption of policies for its promotion. Such promotional policies include, among others, product reservation, infrastructure support, directed and concessional credit, tax concessions, special assistance in procurement of equipment and material in short supply, quality control and market network etc. It is now important to examine the extent to which the policies, programmes and institutions which evolved over the past four decades or so for providing government support for the promotion of SSI have achieved their objectives. It is necessary to consider the need for reforms

in the existing policies, if any, and design new policies which will facilitate the growth of this sector in the light of international experience and recent economic policy reforms. In fact, the Government of India did set up an Expert Committee on small enterprises in December, 1995 under the chairmanship of Dr. Abid Hussain. The committee submitted its report in January, 1997 and some of its recommendations have already been accepted and implemented.

The consequence of the deliberate State intervention has been the inadequate appreciation of the need to have superior technical, quality of the products for absorption abroad, although it is generally agreed that the quality of goods produced for the domestic market was much lower than that required for absorption abroad. The policy implication of situation is that besides promoting R & D domestically, technology may need to be either imported or emulated through technical collaborations, if the Indian economy has to be integrated with the rest of global economy. This is possible only if there is an all – out national effort at improving the quality of Indian products, some of which would be absorbed in the domestic markets as well.

2.1.9 Management of SSI

Small industry has been considered one – man business has or one – man show. One – man business may be the best in the world if the man is bit enough to control everything. But, the one – man may be good in one or two disciplines such as financial management, but poor in other operational areas like human resource, production and marketing management. This boils down to inefficient functioning of the business. Some research studies report carried out by banks and the financial institutions conclude that the majority of industrial units fall sick due to management, differences within management, or dishonest management, all called mismanagement.

The concern of the small enterprise development in India had generally been expressed in terms of the parts rather than the whole. Technology, credit, raw

materials, etc. had often been highlighted as the problems and several public institutions, ranging from Government agencies down to FDIs, justified their own role as a problem – solver rather than as active agents of change. Therefore, the felt imperative of today is to have a clear vision on small enterprise economy, which could positively contribute to the employment target recently announced.

2.1.10 Credit Flow

The sector has always been finding it difficult to cope with limited credit support from the banks and financial institutions (FI). Historically, the banks and FI consider SSI account as high risk exposure due to liberal policies adopted by the government which led to many defaulters resulting into Non Performing Assets (NPA) (Neelamegam et. al., 2000) . National Institute of Bank Management (NIBM) has carried out a study of non-performing assets with public sector banks in 2002. The data shows that of Rs. 54,773.16 Crore NPAs are with the PSU banks, out of which large industries constitute Rs. 11, 498.10 Crore, medium scale industries constitute Rs. 8,654.69 Crore and small scale industries Rs. 10,284.97 Crore. (So far, the Government of India has not formulated any formal definition for medium scale industries). The figures mentioned in the table below clearly indicate that NPAs in the banking sector is not solely contributed by the large scale industries, substantial contribution to this problem is made by the medium scale and small scale industries, too.

There has been a lot of discussion at various forums at national and regional level that there is a need to explore alternate source of finance. With the new credit policy in vogue external commercial borrowing is now possible for the SSI sector, too. The non – PSU banks such as Citibank has indicated that its future growth strategy would be powered by enhancing business with emerging local corporates (ELCs) or the SME segment. Similar support is expected from the other FI and non PSU banks in future, too.

Summary of NPA as on March 31, 2001 is shown in Table 2.6.

Bank	Gross NPAs	Large Industries	Medium Industries	Small Industries
State Bank of India (SBI)	15874.97	2625.53	3691.61	2898.42
SBI Associates	4717.72	1268.67	536.98	886.62
Bank of Baroda	4185.72	1771.51	-	731.72
Punjab National Bank	3460.10	1037.29	467.21	568.88
Bank of India	3434.11	788.47	951.91	481.41
Indian Bank	2359.07	483.59	283.32	401.84
Canara Bank	2242.89	341.15	201.04	703.63
Union Bank	2056.33	324.37	-	514.2
Dena Bank	1928.26	-	812.3	261.82
Allahabad Bank	1821.31	272.87	529.17	262.46
India Overseas Bank	1631.40	601.55	-	319.76
United Bank	1411	425.75	-	242.99
UCO Bank	1284.02	273.64	-	176.95
Total	46406.90	10214.39	7073.54	8450.70
%		22.01	15.24	18.21

Table 2.6 - NPAs as on March 31, 2001 (in Rs. Crore)
(Data Source : NIBM, 2002)

2.1.11 Micro Finance

The micro finance models in Bangladesh have made waves across the globe both in the academic and planning circles. The micro finance models in Bangladesh, despite a few weakness, demonstrated a number of strong positive attributes in terms of operational simplicities, better accessibilities, wider outreaches, emphasis on women empowerment, and availability of a wide range of credit and non – credit services. After crossing over their infancy stage, they have emerged as alternative players in the rural financial credit market of Bangladesh (Jha, 2002). With restricted outreach of the formal credit agencies in India, micro finance models in line with that of Bangladesh may offer a few lessons to deal with the credit related issues of SSI and also tackle the twin problems of mass poverty and unemployment. (Singh, 2000)

2.1.12 Challenges & Issues in the Current Business Scenario

The major problems faced by SSI Sector relates to availability of loan without collaterals, delay in getting the loan, high cost of funds, delayed payments, marketing problems, technology gaps, WTO related issues, sickness, etc. (Vasudeva, 2001).

Change in Business Environment

The business environment has changed drastically since the 1990s due to new economic policy. The radical shift in the Indian economic policies partly occurred due to its own macroscopic crisis and partly as a consequence of the global trend. The world over the business environment is changing fast. Three features of this change are of critical importance to industrial units. First, there has been a shift, during the past two decades in the economic policies of nations, especially developing nations, from 'policy regulation' to 'market orientation' exposing their industrial units to greater market competition. Second, globalization in the sense of increasing integration of world economies is taking place, resulting in intensifying the market competition. Thirdly, the past few decades have experienced rapid technological developments in numerous areas. All these developments have changed the methods of doing business drastically (Bhavani, 2002).

The remarkable shift in the economic policies of many developing nations from 'state intervention' towards 'market orientation' was apparent from the early 1980s. In India, a major reform process has been under way since July, 1991 to liberalise the regulations on domestic economic transaction. Some of these reforms are the abolition of licensing requirements for investments for a majority of industries, opening of hitherto reserved areas of public sector to the private sector, reduction in price controls, and reforms in capital markets. All these policy reforms are taking away the closed and assured markets of Indian industry, exposing it to greater market competition. Though the reforms are yet to touch the policies directly relating to the small scale sector, new economic policies have already exposed this sector to market competition indirectly. For example, overall reduction in excise duties has automatically reduced the major benefit of the small scale industries i.e. excise duty exemption. Finance sector reforms have squeezed the benefits of lower interest rates, credit guarantee schemes and priority sector lending. De – licensing along with the reduction in price controls has taken away the special advantage of obtaining scarce raw materials at nominal prices. Feeling the pressure of competition, large scale

industries are trying to expand their markets by getting into the lower end as well as rural segments of the product market for many consumer goods and thus opening the sheltered markets of small scale units created by the product and geographical market segmentation (Brouwer, 1999).

The Government has set up an inter-ministerial task force to review the present scenario for funding venture capital in knowledge-based industries in the small scale sector. The 10 - member task force set up by the Minister of SSI will identify 'sunrise' sectors within knowledge-based industries in the SSI sector. It will review the existing regulatory, tax and legal environment for venture capital industry and suggest measures for facilitating the spread of venture capital options including issues related to exit route for venture capital invested in small enterprises. The group will also suggest a role for the government in providing a conducive atmosphere for promoting venture finance for small enterprises.

Sources of Finance

A research study funded by the University Grants Commission was undertaken by Alagappa University to study equity financing of small industries. It examined the composition of funds sources in small industries, the entrepreneurs' knowledge on equity financial schemes and relative performance of small industries with strong and weak equity.

The study reports that steps have been taken by the government agencies through equity schemes to bridge the gap of deficit contribution of entrepreneurs while approaching for loans. Such type of assistance is normally made as soft loans, which carries only service charge for the first five years and nominal interest subsequently. Small industries, although dependent on institutional finance in the start – up period of the business, could not benefit much due to the weak nature of their viability. Finance is available to small – scale industries also from commercial banks, state financial corporations, friends and relatives, private financiers like moneylenders and

non – banking financial companies, and more recently from development financial institutions, which are now engaged in direct term financing, too. The study identified various sources of funds and the level of assistance from such sources to small industries. The Table below indicates data on sources of finance in the study.

Sl. No.	Sources of Finance	Total *
1	Banks and financial institutions only	74 (49.3)
2	Friends and relatives	9 (6.0)
3	Private financiers	9 (6.0)
4	Banks / FI and friends and relatives	11 (7.3)
5	Banks / FI and friends and private financiers	18 (12.0)
6	Friends and relatives and private financiers	1 (0.7)
7	All the sources	4 (2.7)
8	Own funds only	24 (16.0)
Total		150 (100)

Table 2.7 - Sources of Finances of Sample Small Scale Industrial Units
 (* Figures in brackets represent the percentage to the total)

Generally, raising funds through debt is cheaper as compared to raising of funds through equity sources. This is because interest on debt is allowed as an expense for tax purpose. However, this is not always true in the case of small industry. When a SSI borrower resort to private financiers' loan with high rate of interest which may range upto 60 % per annum, he will be in a position to deduct only that part of interest which is legally permissible and the remaining has to be met out of his profit. Even allowing all interest payments as deduction will not be healthier for a unit if it suffers from weak equity. Hence, proper balancing of debt – equity is needed.

Although certain sources of equity seems to be costly compare to debt, for a small industry which normally does not tap the capital market, equity generally refers to the entrepreneurs' own funds, retained earnings and the money collected from friends and relatives (without interest). The best form of financing a small industry as a running concern would be equity finance. But at the start – up period, the appropriate channel of financing to be chosen is the banks or financial institutions.

Small Industries Development Bank of India (SIDBI) through its direct finance and refinance schemes encourages small units to be competitive with large scale units. But these endeavour do not reach majority of SSI units. The main reason for this is that,

most of the small units are tiny in nature. Only 14 % of the sample units had the knowledge of the equity financial schemes of SIDBI.

Type of industrial unit	Numbers		SSI Sick Units	
	March, 1998	March, 1999	March, 1998	March, 1999
Potential viable units	18,686	18,692	455.96	376.96
Non – viable units	1,99,634	2,71,193	3,296.58	3,746.07
Viability not decided	3,216	16,336	104.10	190.45
Total	2,21,536	3,06,221	3,856.64	4,313.48
Units under nursing programme	13,063	12,759	281.19	194.91
Units under nursing programme as a % of potentially viable units	69.9	68.3	61.7	51.7

Table 2.8 – Sickness of Small Scale Industrial Units
(Data Source : RBI, 2000 - 01)

The venture capital financing which was one of popular source of finance during late 90s is also under a change phase. Professional entrepreneurship, skill base and knowledge focus are the key features. (Thakkar, 2000)

Credit Related Issues

Finance is regarded as life – blood for industry. Availability of funds from external sources particularly from banks also seems low as indicated by a much lower credit – deposit ratio. This is coupled with problems like no easy approach to the institutional finance due to lack of necessary collateral to produce cumbersome procedure involved in availing of it, getting meager funds than required and most importantly, delay in the sanction and disbursement of such meager funds

At present the limit for collateral free loan to tiny sector is Rs. 0.05 million and that for other SSI units is Rs. 0.01 million. This limit has since been raised to Rs. 0.05 million for other SSI units also. Many small scale entrepreneurs are facing difficulties in providing collateral security as per the requirements of the financing banks. The

problem is addressed to a certain extent with the introduction of the Credit Guarantee Fund Trust Scheme under which collateral free loans up to a limit of Rs. 0.25 million are guaranteed.

The present guidelines provide for a time limit of a fortnight for disposal of loan application up to Rs. 0.0025 million and 8 to 9 weeks for amounts beyond that. Further reduction in the time taken for disposal of application is under consideration.

The high cost of borrowing was a major constraint affecting the growth of the sector. The Bank Rate changes by the Reserve Bank combined with CRR and repo rate charges have emerged as signaling devices for interest rate charges. The reduction in Bank Rate announced in the last Monetary and Credit Policy or outside the policy from time to time has resulted in a consequential reduction in the lending rates. Banks have now the flexibility to offer lending rates on a fixed rate or on a floating rate. In the Union Budget – 2003, the Union Finance Minister has announced credit to the SSI sector from the PSU banks at the interest rate of $\pm 2\%$ from PLR (Prime Lending Rate) with an expectation that the reduction in interest rates will help the SSI units to procure funds at lower costs than what was prevailing in earlier years.

Period of operation of the units (in years)	Decrease		Upto 100%		100% to 200%		200% to 300%		300% to 400%		400% to 500%		Above 500%		Total	
	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E
Below 1	-	-	6	5	-	1	-	-	-	-	-	-	-	-	6	6
1 to 3	1	1	21	20	2	3	1	-	-	1	-	-	-	1	25	26
3 to 5	1	-	15	10	6	8	2	2	1	3	-	-	1	2	26	25
5 to 10	2	-	21	12	9	7	6	7	-	5	1	3	4	9	43	43
10 to 15	-	-	7	2	-	2	1	2	3	1	1	1	1	5	13	13
Above 15	-	-	6	5	3	1	2	1	2	3	5	4	19	23	37	37
Total	4	1	76	54	20	22	12	12	6	13	7	8	25	40	150	150

Table 2.9 - Increase in Capital Employed and Equity Over the years ('C' denotes capital employed, and 'E' denotes equity)

The study noted that a majority of 50.7 % units sustained less than 100 % growth in capital employed throughout their period of operation, excluding 2.7 % of the units whose capital employed had been eroded due to loss or diversion of funds. That is, only 46.6 % of the sample units sustained growth over 100 % of capital employed.

But on the other hand, 63.6 % of the sample units witnessed more than 100 % equity growth over the year. Equity growth showed a gradual increase as the life of the unit prolonged. Even though at certain slabs of growth in terms of capital employed / equity, the number of units that experienced 'equity growth' appears to be lesser than the number of units that experienced growth in capital employed, yet the growth slabs in terms of capital employed or equity, the number of SSI units in equity growth showed an increasing trend as against the number of SSI units with growth of capital employed.

% of profit	Equity only	Equity with banks / FIs funds	Equity with private financiers & friends and relatives' funds	Equity with other sources of funds	Total
Loss	1	11	1	4	17
Below 5 %	5	17	4	6	32
5 to 10 %	4	13	3	9	29
10 to 15 %	4	11	3	6	24
15 to 20 %	2	4	4	4	14
20 to 25 %	3	4	1	1	9
25 to 30 %	-	3	2	1	6
30 to 50 %	2	6	2	1	11
Above 50 %	3	5	-	-	8
Total	24	74	20	32	150

Table 2.10 - Comparative Analysis of Profit Earning Capacity of SSI Units with Equity and Borrowed Funds

Analysis was made to find out the profit earning capacity of the sample units. The earning capacity of the units was measured in terms of profit (i.e. earnings before interest and tax) as a percentage of sales. The sample SSI units were grouped into units with 100 % equity throughout the period of operation and units with borrowed funds. The study revealed that loss / erosion of net worth was relatively very low in 100 % equity SSI units than in units with outside borrowings. That is, only one unit with 100 % equity among the sample units incurred loss, whereas, the units that incurred loss with outside borrowings were 16 in number constituting 10.7 % of the total sample. This is a clear indicator that the success rate of SSI units with 100 % equity was greater than that of the SSI units with borrowed funds.

Delayed Payment

Considerable delay in settlement of dues / payment of bills by the large – scale buyers to the SSI units adversely affected the recycling of fund and business operation of SSI units. Though the Government has enacted the Delayed Payment Act, many of the SSI units are reluctant to pursue cases against major buyers. The Act since amended in 1998 has made it compulsory that the payment of SSI suppliers should be made within 120 days. Further the Department of Company Affairs have issued notification in February 1999 amending Schedule VI of the Companies Act, 1956, to make it obligatory on companies to disclose in their balance sheets the outstanding dues owed by them to SSI for a sum of Rs. 0.01 million or more which are outstanding for more than 30 days. To improve the plight of SSI entrepreneurs due to delayed payments, steps for strengthening and popularizing factoring services without recourse to the SSI suppliers may have to be thought of seriously.

The banks have also been advised about sub – allotting overall limits to the large borrowers specifically for meeting the payment obligation in respect of purchase from SSI. It is expected that these measures will improve the situation of delayed payments.

Government of Maharashtra is enacting a law under which the large companies shall have to mention in their balance sheets their dues to small scale industries. A special task force appointed by the State Government has recommended that large companies should be forced to make public, the information dues to SSI units.

The task force mentioned above also wants the Government to set up a statutory mechanism on line of BIFR for the small scale sector as well.

The Government of Madhya Pradesh is also in the process of bringing an act for rehabilitation of sick SSI to deal with non – BIFR cases.

Marketing

Marketing is considered to be a major gap area for the SSI as some of the units are very small and so their outputs individually. Adopting consortium approach could best solve the marketing problems of the SSI sector. Besides finance for marketing related activities, dissemination of requisite information on demand pattern, futuristic trend, etc. could be made available by the Development Institutions / SSI Associations, etc. (Patnaik, 1997)

WTO & Global Competition

Globalization whether taken in a limited way in terms of 'multilateral trade liberalization' or in the broader sense of 'increasing internationalization of production, distribution and marketing of goods and services' has resulted in the opening up of the markets leading to intense competition. The WTO (World Trade Organisation) regulates multilateral trade requiring its member countries to remove import quotas and other import restrictions, and to reduce import tariffs. In addition, countries, especially the developing countries, are asked to stop subsidies to exports as well as to domestic goods. India has also committed to bring down its tariff rates in a time bound manner.

As a result every single individual enterprise in India, small or large, whether exporting or servicing the domestic market, has to face competition. The process has already begun as many reserved items of SSI have now been placed under open general license (OGL). This opens up the possibility of direct competition in the domestic market with the imports of better quality goods from developed countries and cheap products from the other less developed countries. In addition, changes in the trade policies have taken away the special advantage of the SSI in their supply of imported materials through government agencies at nominal prices.

The 1990s have already witnessed the entry of many multinational companies in areas such as automobiles and electronics industry. To be able to compete with imports or

multinational corporations in the domestic market or to export successfully without any external support, Indian industrial units, small and large, need to improve their productivity and quality, to reduce costs, to go for higher performance products and better services, all to be delivered simultaneously.

Equally important are the non – trade issues of WTO such as TRIM, TRIPS and the stringent sanitary, environment and labor standards. Some of the multilateral agreements on these issues like that TRIM intensify competition further and others either threatens to take away the comparative advantage of Indian industries or to enhance the competitive advantages of new technologies. In the case of trade related investment measures (TRIM) the Uruguay Round identifies all those TRIM that are inconsistent with the GATT provisions for which the WTO later set a time target for the countries to remove these measures. With implementation of the agreement on TRIM, Indian input supplying units like that of auto components do not automatically get their market share. These units have to compete in the open market for their market shares. The agreement on trade related intellectual property rights (TRIP) takes care of intellectual property rights by enforcing patent rights and the protection of industrial designs, trademarks, geographical indications, layout design of integrated circuits and undisclosed information. It is of critical significance for Indian industrial units, as a majority of these units are involved in the unauthorized duplication of products without any formal technology transfers. The agreement of TRIP is of special importance for food and chemical industries as units in some of these industries like pharmaceuticals have been producing patented products in the country through new processes. These units could do so till now given the Indian Patent Act, 1970 that mainly takes into account the process patents for seven years and the capabilities of Indian industry to devise new processes quickly. It, however, will not be possible in future because India had to change its Patent Act so as to recognise product patent with a long (20 years) period of protection as per the agreement of TRIP. In effect, the enforcement of the TRIP agreement makes the production of any product possible either through internal innovation or through formal transfer of technologies. This makes the Indian industry dependent on multinational

corporations, as these are the prime developers of majority products, which in turn involves costs in terms of purchase of technology as well as restriction on the usage of purchased technology. SSI are the most vulnerable as these units do not have the required resources and capabilities either for innovation or for purchase of technologies. The magnitude of the possible impact of the TRIPs agreement on the SSI can be gauged from the contribution of the food and chemical industries, the potential victims of the modified Patent Act, to this sector. Food processing units constitute 16.6 % of the total number of units, 14.2 % of the fixed assets, 13.14 % of the total employment, 21.84 % of the total production and 11.40 % of total value added of the small manufacturing sector and stands first in all these respects excepting the last, where it stands second as per the second census of small scale industries. Chemical units contribute 9.48 % of the total fixed assets (third position), 12.27 % of the total production (second position) and 15.09 % of the total value added (first position) of the small manufacturing sector in 1987 – 88. Some estimates show that there are 9,000 registered and 7, 000 unregistered SSI units are producing drugs alone.

Similarly, the agreement on sanitary and phyto – sanitary (SPS) measures empowers countries to block imports from certain regions for reasons like spread of diseases. Whatever be the status of the agreements on environment and labor standard, these have already been imposed on export units by the importing agencies. While environment standards enhance the importance of new technologies, labor standards, if agreed and implanted, remove totally, the competitive advantage of having cheap labor for Indian industry, especially the SSI.

In pre – 1990, there were quantitative restrictions (QR) of about 8000 items. The figures came down to 2700 items in 1997 during the Exim Policy 1992 – 97. The Government was under obligation to lift the balance of 715 items from quantitative restriction (QR) on imports from April 1, 2001. Now the items reserved for SSI can also be imported freely in the light of removal of QR.

To face the challenge emanating from the WTO agreement, SSI units irrespective of their size, need, technology upgradation and modernization. Awareness about the implication of WTO agreement has to be created and SSI entrepreneur are to be educated in this regard. Technology is the key element contributing to productivity, quality, competitiveness and market acceptability of products. The preparation for competitiveness needs to be done by the Government as well as entrepreneurs and the corporate. (Vasudeva, 2001) The skills and competence upgradation can be successfully done through training of the workers, supervisors / managers and the entrepreneurs themselves. Considering the fund constraints with SSI Sector Government has introduced the credit linked capital subsidy scheme for Technology upgradation of Small Scale Industries under which 12 % back ended capital subsidy would be admissible on the loans advanced to the SSI by the scheduled commercial banks / designated SFCs for technology upgradation in certain select sectors. The Study Group on development of Small Scale Enterprises made a number of recommendations like setting up of a Technology Bank, providing of finance to units for entering into collaboration for technical know – how and enhance the marketability of their products concessional rate of customs duty for importing equipment for technology upgradation, programme to modernize export oriented industrial clusters, establishment of technology mission, quality assurance and testing laboratories, etc. for improving the present scenario.

On competitiveness there are three streams of literatures studied, which focus their inquiry primarily on individual firms. Some authors (Kogut, 1991, 1992, Francis, 1992) give primacy to firms competing in global markets to explain their competitiveness. Another group of authors (Amsden, 1989, Porter, 1986 and Tyson, 1992) investigates the characteristics and dynamics of an industry in domestic and world markets, industrial policies and regulations to understand their level and sources of competitiveness. The third group (Bartlett and Ghoshal, 1989, Prahalad and Doz, 1987, Prahalad and Hamel, 1990) focus on individual firms and their strategies for global operations, resource positions to identify the real sources of their competitiveness. The economic meaning of is defined as ‘the competitiveness of a

firm is the competitive advantage it has over its rivals in the market or markets it operates in. (Sen Gupta, 1997) Competitive advantage, as Porter, an economist turned strategic theorist, puts it, 'grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm's cost of creating it. Value is what buyers are willing to pay' (Porter, 1985). Kay, another economist and part time strategic theorist, develops the concept further, 'the key measure of corporate success is added value – the difference between value of a firm's output and the cost of firm's inputs'. A competitive advantage is something that one firm has over another. Where no explicit comparator is stated, the relevant benchmark is the marginal firms neither add value nor subtract it. In order to measure competitive advantage or added value it is necessary to make a charge to the firm for the capital employed in the business (Kay, 1993).

While discussing the success of Japanese multinational firms some authors (Fruin, 1992, Hamel and Prahalad, 1998, Womack, et al, 1994) argue that apart from the contribution of the external factors organisational learning, effective building, mobilization and motivation of human resources, achievement of layers of competitive advantage through continuous development of capabilities and competence to move from low cost position to industry technology leadership by incremental process and product innovation have also contributed a great deal to their rapid and overwhelming success in the global market. Other than its inter – organizational characteristics competitiveness of a firm depends critically on a variety of external factors such as government policies, institutional and industry infrastructure, availability of factors such as finance and information, cultural heritage of the nation, inter – organizational linkages with other firms and with supporting institutions such as R & D laboratories and universities of so many variables makes the subject of competitiveness extremely complex (Chaudhuri and Ray, 1997).

With gradual abolition of system of licensing through liberalized economic and industrial policies, it has become imperative for firms to formulate entry strategies

based on more market oriented considerations. The organisations need of focus more attention to careful evaluation of entry strategies, response from rivals and dynamic considerations. (Sen, 1997) On exit strategies, a research on pharmaceutical industry concludes that probability of plant exit decreases with increasing size and reduced costs. Characteristics of firm also have important influence on exit strategies. Hence, survival of organizations under competitive environment to a large extent depends on 'internal' factors with better management, cost control and effective use of resources. ((Madanmohan, 1997)

2.1.13 Technology and R & D

Technology Strategy

The broad objective of technology strategy is to guide an organization in acquiring, developing and applying technology for competitive advantage. A firm's technology strategy is also expected to serve its overall strategy in developing and exploiting firm specific advantage. In this sense, it is contingent on the firm to ensure a consistency between technology and business strategies. A firm's technology strategy is often seen as a set of choices about the relative emphasis on – (a) cost versus quality, (b) broad versus narrow product market focus, and (c) technology leader versus follower status (Basant, 1997). At firm's level strategic choices get translated into a variety of decisions which cut across functional boundaries. MacAvoy's (1990) summary of these decisions brings out the complexity of the processes involved in identifying a technology strategy of the firm –

- Selection, specialization, and embodiment
- Level of competence
- Sources of technology
- R & D investment level
- Competitive timing.

R & D : Case Study of Karnataka

The nature and magnitude of R & D in small industry in Karnataka have been studied (Bala Subramanya et. al., 2002) on issues such as number of firms carried out R & D, reason for R & D, specific objectives, sources, dimensions, intensity as well as achievements. In addition, the role of external support, particularly that from government promoted institutions and inputs devoted for R & D such as personnel and capital were also examined.

The majority of the firms in the non – tiny sector have performed one or the other kind of R & D activity coming under the identified dimensions. As many as 53 % of the non – tiny firms come under this category and more than 47 % have undertaken R & D informally. Firms having formal R & D department accounted for about 5 % of the total, which is comparable to that for the OECD countries (Freeman and Soete, 1999). Out of the firms having 16.66 % are registered with the Department of Scientific and Industrial Research (DSIR), Government of India. Thus it is clear that though majority of the non – tiny firms have done R & D they have done it informally.

Factors influencing R & D

In the Indian context, the Government has been pursuing the path of liberalization and globalization since 1991 through de-licensing of industries, dismantling of controls and regulations for existing and new investment, removal of constraints for foreign investment, radical reduction of tariff barriers for imports and phasing out of quantitative restrictions. This had intensified local competition and exposed domestic industry to international competition. As a result, responding to technological changes and satisfying the expectations of customers have become decisive for a SSI firm to survive and grow. This assumes special significance because in the meantime there has been an implicit shift in the thrust of small industry policy from protection

towards competitiveness (Bala Subramania, 1998). It is in this regard that it is prompted small firms to engage in R & D activities.

Sl. No.	Possible Dimension
1	Developing new product
2	Developing new process
3	Changing product performance / quality by technically efforts
4	Using alternate / new raw material
5	Changing product shape / dimension to suit customer / market needs
6	Modifying existing machinery
7	Adopting new methods of fabrication, testing, operation, etc. for the first time
8	Solving commonly encountered problems in a novel way
9	Developing new testing facilities
10	Correcting faulty design of an equipment
11	In – house innovation (other than classified above)
12	Getting engineers / technicians trained for development work

Table 2.11 - Possible dimensions of R & D in SSI

Based on analysis of the survey data it is found that competition, technology change, self – motivation and user signal are the primary factors which drove small firms to undertake R & D in both non – tiny and tiny sectors. Of these, competition appeared to be the most important factor followed by self motivation, technology change and user signal in the non – tiny sector whereas in the tiny sector technology change, user signal and self – motivation are the most important factors in that order, after competition.

External factors (such as competition, technology change and used – signal) are more important in influencing small firms to go for R & D than internal factors like self – motivation. This is not surprising, given the changes that have taken place nationally as well as internationally.

Objectives of R & D

The most prominent objectives of R & D as mentioned by the SSI entrepreneurs are quality improvement, cost reduction, satisfying customer / market needs, overcoming process problems, exploiting an opportunity in the market for a new product and expansion / diversification of the firm concerned.

The objectives of R & D activities are very much in line with the factor that promoted small firms to go for R& D. Competition being the most important factor which prompted small firms to undertake R & D. quality improvement and cost reduction are the primary objectives of R & D in SSI. User signal being the other prominent factor which forced small firms to do R & D. satisfying customer / market needs is the other significant objectives of R & D in SSI.

Sources of Technological Support for R & D

An insight into the process of R & D shows that while some firms may have in – house technological capability, others might rely on external support in carrying out R & D. Moreover, internal innovative capacity and the small firm’s potential for utilizing and exploiting external sources might be complementary in certain contexts. It would be of interest to know the relative importance of internal and external sources of support for R & D in SSI. Self - effort and in – house are the major sources of R & D in SSI.

Dimensions of R & D

It is observed that small firms are often better placed than large to react quickly and efficiently to changing pattern of market demand and to take advantage more easily of the opportunities opened up by innovative developments in production and other operational processes. They are likely to enjoy good internal communications facilities relatively rapid adaptation to changes in the external environment (University of Cambridge, 1992). Therefore, it would be appropriate to explore the nature of R & D activities carried out in small firms. Changing product performance / quality, solving commonly encountered problems and changing product shape / dimension are the three most significant feature of R & D activities carried out in small industry sector in Karnataka.

What is more important is the contribution of SSI in terms of product and process innovations i.e. development of new product and new process may be considered

'radical innovations' whereas the rest of the R & D activities may be 'incremental innovation'. On the whole, it appears that 'incremental innovation' is the striking feature of R & D in SSI as they could mean either improving quality / performance or changing product shape / dimension or solving a common problem in a novel way or modifying machinery or doing other innovation in – house, etc.

R & D Inputs - Personnel and Expenditure

There are two kinds of inputs for R & D, personnel devoted R & D effort and expenditure incurred for training / consultancy or equipment / testing facility, etc. or cost of labor devoted for R & D shows the firm's commitment to innovation and R & D (University of Cambridge, 1992). R & D expenditure is one of the most commonly used indicators of innovative activity (University of Cambridge, 1996). R & D expenditure could be for training / consultancy, investment on equipments / testing, etc. and / or labor spent on R & D effort. While small firms could quantify their expenditure incurred for training / consultancy and investment made on equipments, testing, etc. relatively easily, the quantification of total expenditure comprising cost of material inputs was not easy. Total expenditure includes payment of wages and salaries to full – time R & D as well. Still, a significant number of firms in both tiny and non – tiny sectors declared that they did not incur any expenditure on their R & D activities. R & D expenditure for 1998 – 99 for the non – tiny sector reveals that nearly one – fifth firms did not incur any R & D expenditure. More than 45 % spent in the range of Rs. 1000 – Rs. 0.1 million and 36 % firms spent in the range of Rs. 0.1 million – Rs. 1 million.

R & D Achievements

The most noteworthy outcome / achievement of R & D in SSI sector is that more than three – fourth of the firms, which have performed R & D activities have achieved quality improvement due to R & D. About two – thirds of the firms in both the sectors could reduce the rate of rejection of output. If these two factors could be construed as

the major indicator of competitiveness, then it is justifiable to conclude that R & D has enabled a majority of the SSI firms to enhance their competitiveness.

Finance for Technology Upgradation

SSI serving as ancillaries to major industrial groups offer vast scope for venture capital in India. Major industrial units in their endeavor to upgrade their technology expect their ancillary small units to keep up the upgraded quality standard. Small industries may find it hard to switch over to new technology so frequently and in that event they may lose a major client and may ultimately collapse. Venture capitalists can be the best substitutes in many of these areas and they can salvage the firms from the crises by providing not only equity but also managerial expertise. Such type of assistance to a small industrialist who may not have much outside connection would be immensely useful. Though there is vast scope for SSI in the high – tech areas to avail of venture capital assistance yet, many small units could not benefit out of it for the obvious reasons that majority of them are either not aware of such facilities or they are in the non – tech businesses.

2.1.14 Information Management & IT

Information is one of the important resources. It is to be managed just like any any other resource (Majumdar, 1996). With the advent of the computer and communication technologies, more efficient alternatives of information management are available. These new technologies not only enable firms to acquire accurate and up to date information but also provide it faster. In addition, the new technologies can store, process and retrieve a variety of data forms ranging from simple number to video images.

The issues and possible IT approaches are discussed in detail.

Issues on IT

A time based competition with a movement towards mass customization is evolving. The business challenges have become multifaceted. The SSI need to respond to these changes with effective measures. IT can help improve all these attributes, but due to budgetary and logistic constraints, SSI need to priorities where and how to use IT. The judicious use of IT represents the identification of priority directions, priority form and priority level of IT usage in any manufacturing SSI.

To identify these priorities, it is important to appreciate the key changes in business environment. In order to achieve effective management of IT in manufacturing companies, it is important to appreciate both the conventional practices and what are the changes occurring in the more progressive companies that have embraced the new concepts. The development of IT – supported business processes to integrate with different enterprise functions towards business goals is becoming the primary endeavor of management. Information management is no longer independent. The new competitive strategy rests on an effective integration of the two aspects.

Further, the use of IT in manufacturing SSI is increasingly motivated by factors such as expanding global markets, intensifying global competition, mounting pricing pressures and eroding profit margins, accelerating changes in IT, escalating time – to – market pressures and shortening product life – cycles. Meanwhile, factors such as the needs to meet the challenges of mass customization, Total Quality Management, demanding customers, competition among the supply chains, and Business Process Reengineering are prompting many companies to adopt IT – enabled solutions to enhance their competitiveness.

Global Directions & Vision

An IT – facilitated vision for the manufacturing SSI in the future is influenced by the following factors –

- Increased identification of new value propositions : Towards ‘customer delight’
- Agile manufacturing focus : Dynamic response to rapid changes in the market place
- Integrated approach towards system problems : Use of system focused models and tools
- HRD efforts towards learning organisations : IT facilitated knowledge management
- Supply Chain Management : enabled by IT Decision integration
- Product diversification and mass customization : flexible automation
- Judicious use of IT in enterprise : focusing on flexibility, integration and automation
- Proactive and dynamic response to change : Proactive planning and control
- Re-engineering businesses with new value propositions : IT enabled e-businesses
- Improved methodologies to enable Change Management : Enterprise and demo models.

In the new business environment, information systems to be used in industry must offer capabilities to compete on cost, quality, delivery, flexibility and effective new product introduction. These are termed as competitive priorities or manufacturing performance objectives. The multi – faceted competition demands simultaneous achievement of several selected priorities in accordance with the value propositions above – mentioned.

The previous surveys regarding judicious use of IT in manufacturing have highlighted some interesting requirements in manufacturing SSI –

- Phased development and investment in IT solutions is available.
- SSI prefer value focused IT investments with affordable risks, i.e. less costly and with more proven benefits.

- Many SSI encountered negative experience in their initial IT investments. Hence, they are now more cautious and need more convincing examples (with visibly significant benefits) to convince them for further investments.
- There is a lack of knowledge and / or expertise within the SSI on It usage. Many SSI tend to get trapped in the 'join the bandwagon' effect.
- SSI must remain more flexible than larger chain players. It is expected that they could offer dynamic response than lager units.
- The control and coordination occupy most of the time and costs in company management. Proactive control strategies and systems focused measures and needed to identify bottlenecks.
- The pitfalls of larger units must be overcome by ways and means to enhance their capabilities to respond dynamically to any changes imposed in the supply chain. As such, they need to explore more aggressively on the benefits of supply chain management and information sharing.
- Given the financial constraints, risk factors can only be tackled one or several at a time by SSI. Traditional mindsets tend to overpower new, progressive ideas and wrong directions get prioritized.
- The turnover of IT manpower is relatively high. The manufacturing SMEs required external support in manpower development. Demo models are required in the training and re – training of professionals on the effective use of IT.

Figure 2.1 shows an IT model proposed by Wadhwa (2002) for the SME.

The manufacturing SSI have little knowledge about the prospective IT options; their knowledge about the expected benefits on the business performance is limited. The SMEs require locally applicable case studies and continuing education and support to embrace the right ideas in the right place and at the right level. Enterprise models embedded with rich case experience are needed.

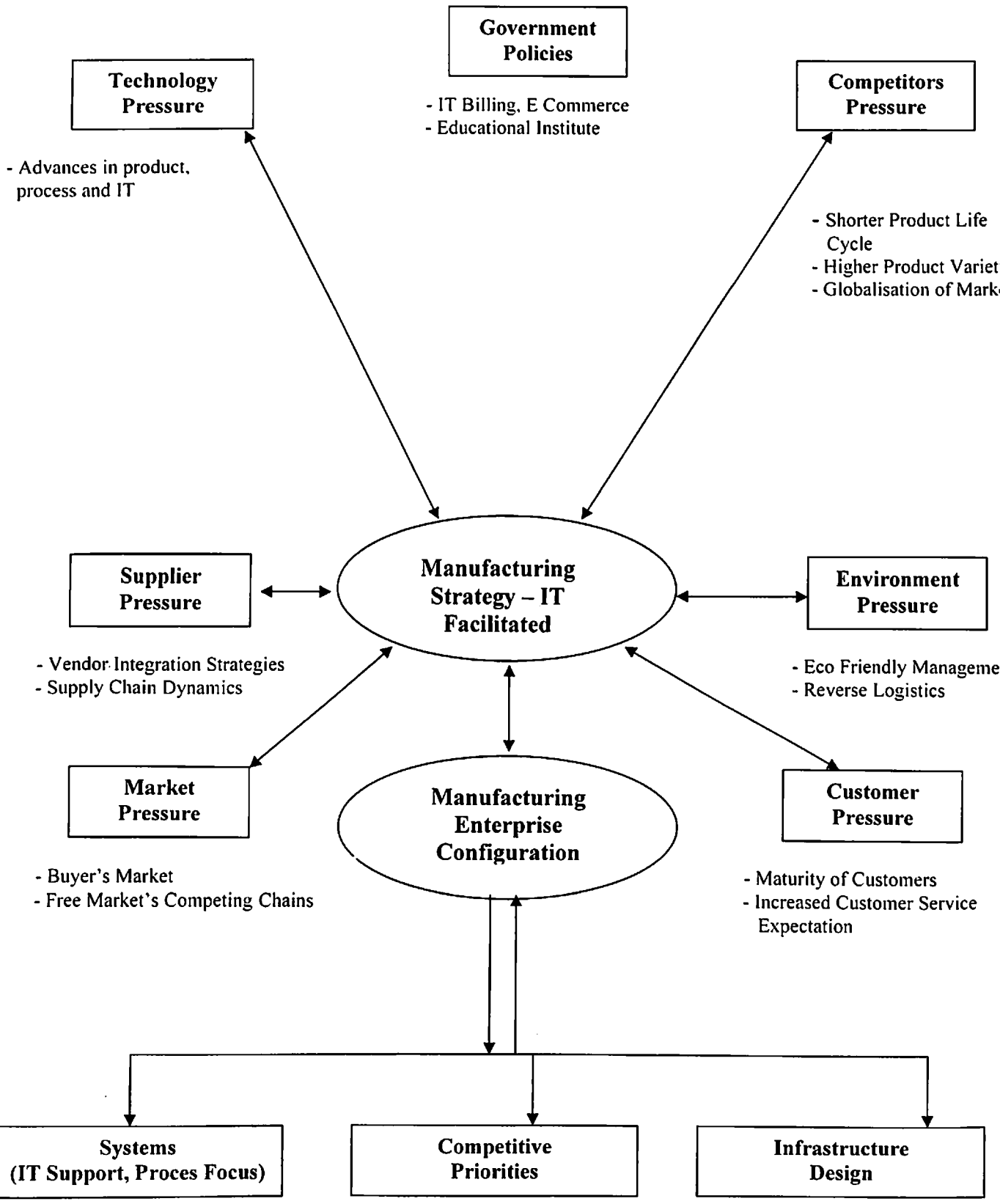


Figure 2.1 – IT Framework in SSI

There is a need to transform the businesses from marketplace to marketpace, using the strengths of IT. (Singla, 1999) This also calls for developing IT leadership.

2.1.15 Business Performance of SSI

A study was conducted on small scale industries at large, and a detailed analysis was carried out to study the implications of the changing context with reference to the small scale units in three industries namely, garments, electronics and auto components (Bhavani, 2002). Of these, garments being a reserved product till very recently, this industry has only small scale units. Both electronics and auto components industries have a large number of small scale units. In addition, all three industries have developed into global commodity chains at the international levels, which have significant implication for the small scale units. The important characteristics of the selected industries were product composition, nature of the market served, technology used, industry structure and their likely future with special emphasis on the position of the small scale units.

The ongoing changes in the business environment and possible ways of improving competitive strength and commercial viability of Indian SSI were examined in the changing scenario. The analysis indicate that while liberalization has exposed all industrial units including small units to market competition to a greater extent, globalization intensifies market competition by allowing import and multinational corporation into India is relatively easy. In order to withstand competition, Indian industries especially the smaller ones need to improve their productivity and quality, reduce costs and go for higher performance of products and better services (Vasudeva, 2001). This means substantial improvement in various dimensions of technology, namely, automation or mechanization, organisation and information. SSI not only need to upgrade their technologies but should also keep track of the changes in technologies. Strengthening of internal innovation capabilities, integration with global supply chain and capability to fulfill the customers' expectation on quality,

cost and delivery are major challenges before the SSI. Adoption to modern management theories and practices like TQM and ISO 9000 are also essential.

On policy front the study suggested that there is a need for a major revamp so as to encourage the growth of SSI. It requires elimination of protective measures and strict enforcement of time – bound promotional concessions. The time bound support plan would not only protection to start an industrial unit to establish a firm base but also enable the government to help more number of industries over a period of time. Overhaul of policy measures for making information and finance available, removal of hurdles like labor legislation and inspector raj, and provision of basic infrastructure are the requirement for growth of the SSI. The industry association and private organisations should be allowed by the government to play important role in technological upgradation.

The study concludes that all the external support including policy initiatives has a meaning only when the individual SSI are motivated. The industry associations and the government have to play a meaningful role in educating the SSI on changes taking place in the external environment and the technology in order to change the attitude, and to instill trust and confidence in the SSI.

Analysis & Remedies to deal with Sickness

While analyzing the reasons of sickness in a separate study (RBI, 2000), and in order to strengthen the process of credit flow following suggestions are made –

- There is a need to convert the State Level Inter Institutional Committee (SLIIC) in each state into statutory bodies endowed with statutory and administrative powers to enforce their decisions on bankers.
- There is a need for looking after of all potentially viable sick units by specialized branches.

- There is a need on part of the banks to report separately the figure of those sick SSI which are neither defunct nor closed nor have been set up under government sponsored schemes.
- Banks have to change their internal information and reporting system to collect, collate and report correct statistics relating to sick SSI.
- Specialized SSI branches have to come forward for adopting innovative schemes viz. credit cards, factoring and venture capital to cope up with the technological and other advancements taking place all around.
- There is a need to revamp the technical and financial consultancies to help the industry generate new project profile.
- The government has to come forward to set – up national level research institute to ensure reliable and timely information to SSI.
- There is a need to make banking process as transparent as possible to reduce customer grievances and redress them on time if need be. Because, they cannot forget the fact they are entering an age of never satisfied customer.
- It is very much necessary to speed up the recovery process because recovery of old / outstanding amounts of banks is very much essential if fresh credit has to flow into the sector.
- There is a need to appoint / train bank officers especially for the purpose of recovery through legislative measures.

2.1.17 New Economic Order

External environment has great influence on the ways of doing business, customer's expectation, supply chain management, value chain, customer relation management, operations etc, which has undergone major change since more than a decade. The basic issue, which is being dealt, is change in strategy in the changing economic scenario in view of the new economy. (Joshi, 2001) The mass production is backed by consumerism, in which a major focus is on customers and customization. This has become possible because of technological support. As a consequence now the

companies are more accountable towards their customers to supply quality products at appropriate price and on time delivery.

At this juncture, there was emergence of knowledge based economy, which is also called 'new economy'. The blue collar workers are being replaced by knowledge workers. There is a partnership between people and people. The basic tool is information technology. The knowledge becomes embedded and this is converted into intellectual property. The key success would be developing, sharing knowledge and ultimately converting into intellectual property. This intellectual property becomes asset for the organisation. The business will have heavy dependence on information technology to be competitive. (Joshi, 2001) The business process will undergo transformation and conventional business needs to be reengineered.

The new economy is strong and resilient. At the same time we are experiencing dramatic growth, we are experiencing deflationary pressures. The companies need to reinvent. The labour, too will pay a price. Many workers will be required to learn new skills or find new jobs altogether (Sahlman, 1999).

The success of new economy is based on teamwork, inter connection, shared knowledge, speed, consistency, precision, reliability, etc. Old economy can be transformed by embedding the information technology, which will give competitive advantage to the old economy and finally covert it closer to new economy. One will have to develop totally new competencies to make the business success. This will have impact on strategies, structure, business process, system and culture. The internal environment will go sea change. Product innovation, market strategies, financial gains are more likely to be regarded as means to an end. The functional boundaries would ultimately vanish to meet the competition.

Networked SSI

SSI lose out on the strengths obtaining from bigness in terms of financial sustainability, depth and range of products, marketing clout, and brand and bargaining power when compared with their competitors. But, many innovative ways have been practiced by SSI to ward off these disadvantages; the most successful of which is the concept of industry clusters. Whether one looks at clusters of packaging industry in northern Italy or hosiery mills of Ludhiana in north India, one can see this concept in action. In clusters one finds that the whole town and all its population whether young or old, rich or poor, is working like one big networked company. Clusters like companies have their own life they rise and fall. For example, textile towns of Surat in Gujrat and Bhiwandi in Maharashtra, are typical of industry clusters, which for diverse reasons are in varying degree of decay or retreat.

Global Supply Chain

Increasing internationalization of production, distribution and marketing of goods and services has given rise to global commodity chains. These chains are networks of business units of various sizes beginning from the stage of raw materials supply to production, marketing and retail of any product being located across countries. These commodity chains can either be producer – driven or buyer – driven. Producer – driven commodity chains can be seen for capital and technology – intensive products like automobiles and electronics. In these chains, manufacturers of the final product are the major driving force. In contrast, buyer – driven commodity chains exist for products that are as such design and marketing intensive but labour – intensive in the manufacturing stage like that of textile garments and leather. Here the retailers and the merchandisers control the chains. The presence of global commodity chains makes it essential for the industrial units, to be a part of the chain in order to access the markets. So far, Indian industrial units, especially the small units, are operating in isolation, which can not continue any more. However, to get into the international

production and trade networks, individual units have to satisfy the buyers' standards in terms of price, quality and delivery schedules. (Siddiqui, 1998)

With the entry of major global companies primarily focusing on assembly, global practices too are being slowly infused in the value chain of production, both in the upstream and downstream activities. With structural changes in the dynamics of assembler – supplier relations, the location of proposed sub – assembly suppliers have assumed critical significance which may result in development of exclusive 'technology parks' for developing assemblies. Also proliferation and visibility of global networks have increased their entrepreneurial power and influence to dominate business activities. There would be, therefore, an imperative need for evolving a framework for developing and managing people of SSI who are comfortable with the strategic and operational paradoxes embedded in global firms and who are capable of harnessing the cultural diversity (Sastry, 1999).

The emergence of large MNCs in the last couple of decades which have distributed different activities in their value chain in different part of the globe and are operating in multiple nations has prompted researchers to explore factors that have led to their competitive advantage. A group of scholars basing their research on these firms have emphasized the role of factors internal to the firms such as firms' strategies, structure, competencies, and capabilities to innovate, and other tangible and intangible resources for their competitive success (Bartlett and Ghoshal, 1989, Doz and Prahalad, 1987, Hamel and Prahalad, 1989, 1990). The essence of their argument is that, as the environmental factors are more or less uniform for all competing firms, competitiveness arises or results from management, leveraging, and stretching of resources (Hamel and Prahalad, 1993).

Change in Strategies, Business Processes & Operational Systems

There have been numerous organisational changes taking place. The organisation of a production process involves plant layouts, materials management, work allocation,

production schedules, quality management, inventory control, and so on. Some recent developments in the area of organisation include Total Quality Management (TQM), Just – In – Time (JIT), new standard for scrap management, machine reliability, inventory control etc. (Mody, et. al., 1992). Also, increasing number of consumer preference for variety has changed the ground rules of competition from the mass production of standardized products to flexible, specialized and customized products and thus altered the ways of organizing the production system. For instance, the plant layout is being changed from long narrow assembly lines comprising specialized machines to a cluster of all purpose machines arranged like cells in which different families of products are manufactured. Accordingly, changes are required in production schedules and work organisations such as multi – skilling and multi – tasking. (Kaplinsky, 1989, 1998)

With changing environment, from regulated economy to liberalized situation, business strategies of Indian business have changed to a large extent. The strategies are to be shifted from power corridors of government to market place. The shifting of business, consolidation, mergers, de - mergers, selling and purchasing of business, restructuring organisation, shifting thrust to market product development, strategic alliances, tie up as well as break up, joint venture formation, thrust on R & D, opening business arm outside the visible strategies move in Indian industry. The other visible strategic move has been in human resource management. Corporate governance, increase in shareholders value, concern about environment etc. are some of emerging trend in Indian business. Hence the strategic move has been –

- Economies of scale by consolidation
- Thrust on core business, in other words expand the business globally where corporate has strength rather spreading resource thin
- Upgrading products and technologies to ensure customer satisfaction with quality and reliable products and services
- Reduce product development time and cycle time to bring efficiency
- Cost effective solution, cost reduction and increasing value to customers

- Closer understanding of customer's requirement and ensuring customers loyalty on going basis
- Down sizing, de – layering and business process re – engineering to ensure efficiency in operations to service the customer
- Deployment of techniques like Total Quality Management (TQM), Six Sigma, Activity Based Management, etc.
- Strategic alliance with Indian & Foreign companies, joint ventures with foreign companies, start new business or revamp existing business. Many Indian Companies are giving controlling interest to foreign companies.
- Foreign companies are trying to create whole time subsidiaries; as a result many Indian companies are selling their shares to them.

Vast macro – social changes increasingly bind countries into interdependent communities of nations, but between these there remains a patchwork of regulatory and cultural barriers. This requires paying careful attention to the paradoxes created in the design of corporate structures and the maintenance of multifaceted company culture. The companies will have to increasingly invest in other skills to support their core strength which would require an interaction among corporate strategies. These network – strategy interface issues and the strategic relationships created in a global production network would bring more complexities in understanding the relationship between cost and values as competitors in a network would be often sharing common network facilities and infrastructure.

Need for Process Focused Enterprise

A process enterprise is the organisational form for a world in constant change. Duke Power, electric utility arm of Duke Energy, has learned becoming a process enterprise is more than a matter of establishing new management posts and rejiggering responsibilities. As lines of authority become less clear – cut, the way managers interact with one another and with workers, also has to change. Style is as important as structure. The unit heads have to negotiate with the process owners to ensure that

the process designs are sound, the process goals reasonable, and the resource allocation fair. In a process enterprise, the process owner has responsibility for the design of the process, measuring its performance, and training the frontline workers who perform it, but the people who perform the process still report to the unit heads. That kind of split in authority may be hard for many executives to imagine, but there are companies that are making it work today.

Process management is not merely a way to address specific problems – poor quality or high costs. It is a platform for capitalizing on new opportunities. Just as important as having smooth, efficient processes is being able to redesign those processes on the fly. The processes must change their shape as markets change, as new technologies become available, and as new competitors arrive.

2.2 STATES UNDER STUDY – MADHYA PRADESH AND MAHARASHTRA

This section specifically deals with the reasons for selecting Madhya Pradesh and Maharashtra as representative states for study. In almost all economic and industrial research works and surveys Madhya Pradesh is considered to be under – developed, the data also supports to conclude that growth in Maharashtra has been significant. The sections described below provide a data supported view on the above.

2.2.1 Effect of Economic Reforms on Economic Performance

According to the Economic Survey, 2002 on the movement of state domestic product and relative share state in aggregate SDP of the major Indian States and the Union Territories in nineties shows that the country has changed little during the reform years. The economic landscape of many states has changed during the reform years. The gross domestic product has grown at a higher rate during the nineties, especially when compared against the performance immediately before the reforms. The states with greater economic strength have gained at the cost of the poorer ones, thus adding

to the regional disparity. In other words, prosperous States have prospered further while poor ones have become poorer. Only 5 states, Maharashtra, Uttar Pradesh, West Bengal, Tamil Nadu and Andhra Pradesh together accounts for nearly half of the aggregate domestic product of the major Indian States. Bihar, Assam, Orissa, and Madhya Pradesh have witnessed a decline in its share in aggregate SDP since the reforms. Maharashtra the top ranker recorded a near 1 % point increase in its share in aggregate SDP during period – up from 13.96 in 1990 – 91 to 14.96 in 1999 – 00. Madhya Pradesh and Andhra Pradesh are the only states which were in the top five bracket of SDP growth rate in 1990-91 but have displaced to the lower bracket.

The data shows that the rate of growth of the SDP in Madhya Pradesh is very slow as compared to the national average, too. Historically, Madhya Pradesh has maximum number of SSI units which were later taken over by Uttar Pradesh. Gujrat, Maharashtra and Karnataka are some of the states of the most industrially advanced states in the country. Liberalization has thrown up opportunities best exploited by the residents of these states. Larger industry has also grown in these states and has pulled SSIs along with it. The table below shows the economic performance of Maharashtra and MP in last 20 years -

	1999-00	1998-99	1997-98	1996-97	1995-96	1993-94	1990-91	1980-81
Net State domestic product at current prices in Rs. (Crore) (New Series)								
Maharashtra	212216	185119	170700	155680	140730	101767	59325	15473
Madhya Pradesh	86385	79052	70546	65166	56631	45887	31602	8357
Per Capita net State domestic product at current prices in Rs. (New Series)								
Maharashtra	23398	20466	19275	17825	16379	12290	7612	2492
Madhya Pradesh	10907	10161	9234	8689	7705	6537	4798	1609
Share in aggregate net state domestic product (%)								
Maharashtra	14.95	14.36	15.03	15.18	15.80	15.44	13.96	13.45
Madhya Pradesh	6.08	6.13	6.21	6.36	6.56	6.96	7.44	7.26

Table 2.12 - Economic Performance of Maharashtra & Madhya Pradesh
(Data Source : Economic Survey, 2001 – 02)

2.2.2 Monetary Policy

Although there have been several studies as to assess the impact of monetary policy on the national economy, there has been little investigation of the interrelationships among sub – national economies and associated feedbacks from policy shocks. One analysis reveals that the response of different states to monetary policy shocks is, in fact, quite distinct. The size of a state's response to a monetary policy shock is positively related to the share of manufacturing in the NSDP (net state domestic product), which may be viewed as evidence favoring an 'interest rate channel'. The analysis also provides support for the fact that certain states, containing of small firms, tend to be more responsive to monetary policy shocks than states with a smaller concentration of the same, which, in essence, is testimony to the existence of a 'broad credit channel'.

The Indian Issues

The majority of the regional studies in the Indian situation have focused on examining the issue of state finances (Venkataratnam, 1968, Bagchi et. al., 1992), widening interstate disparities (Kurian, 2000), their macroeconomic performance and differential inter state inequalities (Ahluwalia, 2000), and source of differences in per capita state domestic product (Dasgupta et .al., 2000), variation in size, income and structural characteristics of states (Shand and Bhide, 2000), and dispersion of per capita income of state vis – a – vis the national average (Chuadhuri, 2000). The Reserve Bank of India has also been bringing out the status of state finances annually since 1950. Since the nation comprises of several states with not only differential growth patterns (Ahluwalia, 2000) but also differential abilities to respond to monetary policy shocks, it would be of interest to understand the extent of such reactions at the state – level and this aspect, is the predominant concern of our day.

A study of 14 major Indian states namely Haryana, Punjab, Rajsthan, Bihar, Orissa, West Bengal (WB), Madhya Pradesh (MP), Uttar Pradesh (UP), Gujrat, Maharashtra,

Andhra Pradesh (AP), Karnataka, Kerala and Tamil Nadu was conducted (Nachane et al., 2002). The sample period of the study was 30 years i.e. from 1969 – 70 to 1988 – 89, the objective of the study was to study the regional impact of monetary policy, bank nationalization period was not considered in the study. The table provides an overview of the structure of the net state domestic product (NSDP) at four representative time points encompassing the time period under study (1969 – 99). As is evident, at the all – India level, while the degree of industrialization has increased over the period, certain states have witnessed a greater degree of industrialization vis – a – vis the all India average. Illustratively, during 1969 – 70, while the industrialization at the all – India level as percent of NDP was 21.3 %, the same for Orissa was merely 12.5 % as compared to Maharashtra at 33.8 %. Although the extent of industrialization went up during 1989 – 90 to 24.7 % at the all – India level, states like Rajasthan and Orissa continued to lag behind their more developed counterparts like Maharashtra and Gujrat.

STATE	ACTIVITY	1969 – 70	1979 – 80	1989 – 90	1998 - 99
Maharashtra	Agriculture & allied	30.1	27.6	24.8	18.2
	Industry	33.8	35.4	34.4	31.5
	Services	36.1	37.0	40.8	50.2
Madhya Pradesh	Agriculture & allied	59.0	41.2	43.5	35.1
	Industry	17.0	26.1	24.5	26.2
	Services	24.1	32.8	32.0	38.6
All India (as percent of NDP)	Agriculture & allied	47.6	39.8	34.5	28.5
	Industry	21.3	22.9	24.7	23.7
	Services	31.1	37.3	40.8	47.8

Table 2.13 - Structure of NSDP in different states (as percent of statewide NSDP)
(Data Source : Economic and Political Weekly, 2002)

STATE	1969 – 70	1979 – 80	1989 – 90	1998 - 99
Maharashtra	5.9	5.7	7.4	8.7
Madhya Pradesh	4.5	5.1	5.6	6.6
All India (as percent of NDP)	5.4	6.0	5.9	5.7

Table 2.14 - Share of unregistered manufacturing in NSDP (as percent of statewide NSDP)
(Data Source : Economic and Political Weekly, 2002)

This apart, various states have differing degree of formalism in their economic activity. As regard the role of industry mix, the Table shows the share of unregistered manufacturing in NSDP in concerned states at the four benchmark time points mentioned above. Without loss of generality, unregistered manufacturing would indicate the dominance of small units in a particular state. As compared with all – India average of 5.5 – 6.0 % over the entire time span covered, certain states have a relatively high proportion of such firms. Notable among these include Haryana and West Bengal (especially in the latter half of the 1980s and the 1990s): among others, Maharashtra and Tamil Nadu have had a significant proportion of unregistered manufacturing in NSDP, although for the latter half of the 80s. The same for Karnataka has also remained at a level, albeit with a significant fall in 1989 – 90.

YEAR	HARYANA	PUNJAB	UP	BIHAR	ORRISA	WB	MP	KERALA	TN
1	0.76	1.95	6.72	0.26	0.01	3.23	4.61	1.10	0.03
2	2.35	6.83	4.65	2.03	0.02	4.78	2.90	2.11	0.30
3	2.51	7.00	4.61	2.22	0.04	7.38	3.45	2.12	0.52
4	2.52	7.13	4.71	2.22	0.04	7.30	3.51	2.10	0.52
5	2.58	7.11	4.71	2.22	0.04	7.29	3.53	2.12	0.55

Table 2.15 - States where monetary shocks have less significant role in statewise output variance : proportion of statewise output variance explained by monetary shocks (percent)
(Data Source : Economic and Political Weekly, 2002)

YEAR	RAJSTHAN	GUJRAT	MAHARASHTRA	ANDHRA PRADESH	KARNATAKA
1	29.94	36.57	11.59	28.85	28.83
2	24.90	31.65	11.45	27.25	24.46
3	23.87	30.03	11.89	26.96	23.72
4	23.75	29.94	11.96	26.77	23.54
5	23.73	29.90	11.97	26.79	23.49

Table 2.16 - States where monetary shocks have a significant role in statewise output variance : proportion of statewise output variance explained by monetary shocks (percent)
(Data Source : Economic and Political Weekly, 2002)

The evidence is corroborated when we consider the penetration of banking and insurance in the sample states. States like Maharashtra, Gujrat and to a lesser extent, Kerala, Tamil Nadu and West Bengal presence in banking and insurance as evident from the share of these sectors in NSDP vis – a – vis the all India average. For instance, during 1998 – 99, while the share of banking and insurance in NSDP for Maharashtra was 12.0 % , the same for Gujrat, Kerala and Tamil Nadu was 7.2, 7.4 and 9.4 %, respectively. As compared to this, the penetration of banking and

insurance in states like Rajasthan, Bihar, Madhya Pradesh and Uttar Pradesh witnessed a declining trend over the period.

Conclusion : The result of analysis on these issues reveal that a core of states responding to monetary policy is a pro – active fashion than several other states. Combining this with the earlier information on the concentration of manufacturing and the degree of financial deepening across states, it is clear that those states which have a greater concentration of manufacturing units or are relatively intensively banked tend to be more responsive to such shocks. The conclusion supports to the earlier theoretical discussion that leads us to expect, viz, broadly speaking, states with a heavy concentration of manufacturing enterprises and greater financial deepening tend to be more sensitive to monetary policy shocks than relatively under – banked / less industrialized states (Nachane et. al., 2002). They are, however, certain exceptions to the observed attributes of some of the states.

2.2.3 Effect of Economic Reforms on Madhya Pradesh and Maharashtra

The amalgam of a more open trade regime and a liberal set of domestic policies were expected to propel growth in the industrial sectors. Though the precise channels of interface between policy regime and expected outcomes are theoretically well mapped out, it has found little support on the empirical front. The proponents of economic reforms in India however, found it convenient to by pass this and an important outcome of the liberal policies, the issue of widening inequality among states. The initial optimism aroused among the states conveyed by the abstract arguments surrounding ‘openness and growth’ and exploiting a more liberal regime to foster productive activities seems to dry up in the accelerated second phase of reforms. A growth process likely to witness ‘catching up, foregoing ahead and falling back’ seems to be conspicuously absent among Indian states denying any symptoms of convergence.

More importantly, the growth process seems to be caught in a set of centripetal force tending to keep it in certain confined pockets. This is clear from the fact that five states namely, Maharashtra, Gujrat, Karnataka, Andhra Pradesh and Tamil Nadu, consistently register high levels of growth. This pattern remains unaltered in spite of successive 'generations' of reforms. Clearly, early movers have an advantage in the growth process, but the structural adjustment programme intended to change the existing production structure was expected to bring about changes in this structure as well. The micro – adjustments considered to be the harbingers of enhanced growth seem to be too focused, confining their impact to certain regimes. The current euphoria in the name of development of the information technology industry too seems to suffer from the same problems.

The policies, however, resulted in irreversible changes in the industrial sector by way of altering the structure and composition. The structure changed in terms of emergence of a new set of 'sunrise' industries depending more on knowledge as input apart from physical capital and labour. Composition changed with the emergence of a new class of industrial entrepreneur in the 1980s. This is reflected in the growth of non – government companies, which satisfied the conditions of modern medium and small scale industries whose contribution to output growth and exports have grown by leaps and bounds. The oligopolistic structure changed to the extent of accommodating this set of medium and small scale firms embracing new dimensions of competition among them. Thus the rivalry for higher shares in the market and profits encompassed new instruments departing from the conventional forms of price competition.

Apart from this, competition also assumed new height as regions and states started to compete for investible funds and resources. This, hidden in the initial phase, became more pronounced with the subsequent changes in the policy regime, as the emphasis turned towards a market mechanism for the efficient allocation of resources. The overarching set of guideline announced by the central government's policy decisions, amended from time to time, with regards to setting up, expansion and upgradation of industrial units withered slowly to give more room for the states to maneuver with the

existing policy framework. This intensified competition among states for investment. The result is often lopsided growth, with some sectors and regions registering faster rates of growth while the others fall behind in the process. The point about regional disparity needs no emphasis given the spate of self – explanatory available empirical evidence. Eyeballing the data on per capita net state domestic product (NSDP) clearly reveal that the state with the highest per capita income, Punjab, has an NSDP almost five times that of Bihar, which has the lowest per capita NSDP. The point to be noted is that despite a decade of economic reforms there exist wide disparities in regional growth / development, which might get worse given the nature of policies pursued, especially with regard to industrialization, unless the state equip themselves to improve their competitive positions. An examination of industrial activities across the state will buttress this argument.

A shrinking public sector allows more space for private initiatives whose considerations for investments are private rate of returns. The data shows that private sector investments tend to flow to some states, depriving others of the opportunity to catch up. It is clear that nearly 60 % of the investments of the private sector in manufacturing have come to 6 states. In the reform era we observe that the proposals for new industrial units prefer the already industrialized states. 5 states accounts for of the total LOIs and IEMs. Maharashtra alone accounts for 20 % of the total new proposals.

Apart from the number of IEMs and LOIs and the investments the industrial units bring employment generation, too. Some of the often cited plausible reasons can be classified into 3 broad categories, (a) the rate of return, (b) infrastructure attraction and (c) the tension between centripetal force and the centrifugal forces. As all these 3 factors crucially depend on the competitiveness of the state, the enhancement of the competitiveness becomes a prerequisite for the attraction of investment.

Economic geography too provides an explanation for the concentration of activities around certain locations. Two approaches have gained popularity in recent times; the

first emphasises the role of inherent features of the landscape in shaping development process. In the second one, activities tend to concentrate in certain locations as a result of the tug – of – war between a set of centripetal forces that promote and a set of centrifugal forces that oppose concentration of specific locations. The set of centripetal forces as described in Krugman (1998), comprises forward and backward linkages in production and increasing returns in transportation; the set of centrifugal forces includes factors immobility and land rents.

STATES	TOTAL PROPOSED INVESTMENT	PROPOSALS UNDER IMPLEMENTATION
Andhra Pradesh	8.08	7.46
Arunachal Pradesh	0.29	0.23
Assam	1.22	2.53
Bihar	2.11	2.99
Delhi	1.22	1.20
Goa	0.71	0.25
Gujrat	11.54	15.12
Haryana	1.40	0.66
Himachal Pradesh	1.85	2.07
Jammu & Kashmir	0.96	1.46
Karnataka	8.09	9.96
Kerala	3.82	1.45
Madhya Pradesh	5.60	7.62
Maharashtra	11.89	14.64
Manipur	0.07	0.08
Meghalaya	0.03	0.03
Mizoram	0.12	-
Nagaland	0.01	0.01
Orissa	8.76	4.87
Punjab	2.02	1.37
Rajsthan	2.69	3.15
Sikkim	0.03	0.07
Tamil Nadu	11.01	5.11
Tripura	0.04	0.07
Uttar Pradesh	5.20	4.78
West Bengal	5.15	4.90
Union Territories	0.07	0.11
All India	100	100

Table 2.17 - Statewise distribution of investments (percentage)

(Source : CMIE, Monthly Review of Investment Projects)

The role of the state assumes importance in order to enhance the rates of return by improving infrastructure facilities, to equip the region with more of centripetal forces and influence potential investors by improving the investment climate. The state's role is not limited to that of provider in the new era. It needs to combine both the roles

of a provider and facilitator. This is necessitated by the interplay of market forces in the allocation of resources for which the states need to be equipped with certain elements of competitiveness. For a firm of industry the concept of competitiveness translated into action resulted in higher market share, while in the context of a state or an economy the concept when operation should result in more than one outcome.

2.2.4 SSI after Reforms

Almost a fourth of all new SSI granted permanent registration number between 1995 – 96 and 2000 – 01 have been in Tamil Nadu. After that follow Uttar Pradesh, Kerala, Gujrat, Maharashtra. Gujrat, Maharashtra and Karnataka are some of the most industrially advanced states in the country.

State	SSIs set up till 1995-96	New SSIs 1996 onwards
Tamil Nadu	10	23
Uttar Pradesh	15	16
Kerala	07	14
Gujrat	06	09
Maharashtra	05	09
Karnataka	06	09
Madhya Pradesh	12	09
All other states & Uts	40	10

Table 2.18 - Relative share of SSI in the States (%)
(Data Source : Development Ccommissioner – SSI, Government of India)

The table below shows investment status in the states after economic liberalization.

STATES	IEMs			LOIs			TOTAL IEM + LOI
	Numbers	Investments	Employment	Numbers	Investments	Employment	
Maharashtra	19.97	23.02	20.57	14.68	11.66	15.59	19.55
Gujrat	13.58	17.21	12.91	11.95	19.19	7.79	13.45
Uttar Pradesh	9.71	8.40	9.28	10.50	9.46	13.21	9.77
Tamil Nadu	8.90	6.41	8.31	17.62	10.04	14.98	9.60
Andhra Pradesh	6.46	7.22	6.31	10.91	9.68	9.50	6.82
Haryana	6.11	3.10	5.50	3.91	3.91	6.85	6.08
Madhya Pradesh	5.64	7.69	6.94	3.47	3.47	4.26	5.54
Rajsthan	5.04	4.08	5.70	1.54	1.54	1.93	4.85
Punjab	4.74	4.39	6.73	4.36	4.36	6.09	4.70
West Bengal	4.40	3.51	4.16	3.78	3.78	2.41	4.24
Karnataka	3.65	4.54	3.51	8.84	8.84	8.42	3.83
Kerala	1.05	0.90	0.99	2.40	2.40	1.74	1.10

Table 2.19 - Statewise break up of IEMs and LOIs in some selected states (percentage of the total proposals) (Data Source : Economic and Political Weekly, March, 2001)

Liberalisation has thrown opportunities best exploited by the residents of these states. Larger industry has also grown in these states and has pulled SSIs along with it.

State	No. of unit	Non-Traceable	Non - Responding	Non-SIDO	Working	Closed
Andhra Pradesh	54762(5.55)	0.66	0.08	0.60	71.60	27.05
Assam	8290(0.84)	19.15	1.21	4.82	53.44	20.89
Bihar	53602(5.43)	3.78	0.73	1.52	65.98	27.97
Gujarat	58328(5.91)	4.22	2.47	0.45	60.00	32.85
Haryana	48493(4.91)	2.76	1.84	3.71	48.42	43.27
Himachal Pradesh	10836(1.10)	4.82	0.34	4.04	64.44	26.36
J & K	14631(1.48)	4.57	3.69	2.13	62.06	27.55
Karnataka	59469(6.03)	4.21	1.67	0.14	68.14	24.60
Kerala	38030(3.85)	0.18	0.06	1.20	67.62	30.93
Madhya Pradesh	124553(12.6)	7.19	0.88	2.27	61.19	28.48
Maharashtra	50589(5.12)	5.87	7.24	6.04	9.25	21.60
Orrisa	13892(1.41)	12.29	1.28	0.51	59.95	25.96
Punjab	94544(9.58)	17.24	2.91	0.35	54.48	25.02
Rajsthan	50001(5.07)	2.99	1.05	1.13	58.95	35.88
Tamil Nadu	83267(8.43)	0.38	0.45	0.64	68.71	29.81
U.P	95285(9.65)	4.08	0.79	0.00	56.01	39.10
West Bengal	94362(9.56)	7.52	1.22	2.12	49.59	39.54
Delhi	18293(1.85)	13.03	3.52	0.20	55.69	27.56
All India	986861(100)	5.78	1.62	1.54	60.17	30.89

Table 2.20 - Statewise Details of SSI

(Data Source: Economic and Political Weekly, 1999)

CRITERION	EXAMPLES
Competitive Assets	
Factor costs	Wages, material prices, etc.
Human resources	Educational skills, quantity and quality of the labour force
Industry infrastructure	Related and supported industries
Technological factors	Investment in R & D, etc.
Demand factors	General environment in the economy
Government	Supportive, incentives, facilitating
Intangible asset	Brands, relationships and intellectual properties
Leadership	Vision, values and ethics
Competitive Processes	
Strategic management	Formulation of strategies
Implementation	Feasible projects, employee involvement, etc.
HR development	Skill upgradation
Technological management	Collaboration, technology transfer
Synergies	Networks and linkages
Competence building	Alliance and knowledge management
Competitive Performance	
Higher productivity	
Human resources	Higher levels of employment
Quality	
Lower costs	
Financials	Higher rate of return on investment
Technological	More patents
Intangibles	Perception of investors

Table 2.21 – Criteria for Competitiveness
(Adopted from Momaya and Ajitabh, 2000)

2.3 BUSINESS LIFE CYCLE

2.3.1 Strategic Management in different stage of the Life Cycle

Evolution of organizations works continuously in a market place. Organisations experience movement through the life cycle if are to grow, and that it is a primary challenge of management to recognise when the management style and structure need to change in order to develop the organisation (Daft and Steers, 1986, Peters, 2003).

Competitive advantages differ across the stages of the market life cycle. The market life cycle is a conceptual model which suggests that markets can evolve through stages typically labeled introduction, growth, maturity and decline. As markets move from one life cycle stage to another, strategic consideration change. The change ranges from rates of innovation to customer price sensitivity to intensity of

competitive rivalry and beyond. Strategy must be adjusted to meet the new market conditions from one stage to the next.

Characteristics	LIFE CYCLE STAGES			
	Introduction	Growth	Maturity	Decline
Overall market growth	Building rapidly, but on a small base	Faster than GNP	Equal or less than GNP	Decreasing
Product technology	High level major product innovation, dominant designs not yet established	Dominant design emerges, emphasis placed on product variety	Small incremental innovations, many based on cost savings vs. performance improvements	Little or no change in product
Production technology	Emphasis places on flexibility, process not fixed until dominant design emerges	A dominant design emerges, production process can become more specialized	Emphasis on efficiency, most likely stage for automation	Little or no change in process
Pricing patterns	Prices are high but volatile	Prices decline rapidly as cost fall and competition rises	Prices decline slowly as productivity allows costs to fall	Prices stable
Promotional efforts	Target innovators and try to build awareness of product	Build brand awareness	Taller promotion to a variety to market segment	Limit market, largely depend in inertia to maintain viable level of sales
Entry and exit	A few pioneers begin to explore the market	Many firms scramble to enter what appears to be a promising market	As market is saturated, growth slows and shakeout begins	A few survivors remain to serve the market
Nature of competition	Limited, focus is often inward, looking toward product rather than toward competitors	Growth may mask success of competitors	Competitive rivalry peaks as competitors try to survive the shakeout	As shakeout is completed, survivors seek to deescalate competition
Capital investment requirements	Substantial, needed to support initial creation of business and / or product	Peak period, needed to fund growth	Reinvestment as needed to maintain viability	Minimal, may in fact disinvest by selling off assets
Profitability and cash flow	Unprofitable, substantial negative cash flow	Profitable, but cash flow may still be negative	Profits declining, but larger investment level may mean cash flow is strong	Profits are low, cash flow is small (either negative or positive)
Sales Growth	Slow	High	Slow	Negative

Table 2.22 – Characteristics of Life Cycle Stages
(Adopted from Dess & Millar, 1993)

There is another school of thought about market place concept; the companies which believe in excellence create their own market place. Such companies are driven by innovation and learning approach. (Peters, 2003)

In other words market life cycle provides a useful framework for studying business – level strategic formulation because it provides shorthand for the numerous differences in strategic situations and the behaviour appropriate to each. The product life cycle and technological life cycles are well known and important concepts that we have attempted to build into our consideration of an overall market life cycle.

While it is clearly a useful concept, there are two caveats to bear in mind when considering the market life cycle. First, the market life cycle is not intended to be used as a short – run forecasting device. Strategists find it more useful to consider the market life cycle as conceptual framework for understanding what changes might occur over time rather than when they are likely to occur. Second, industry life cycles are reversible and repeatable. The different phases of life cycle model are explained as under.

Introduction Phase

The equation below sets down the basic economist's empirical model of entry, derived primarily from Orr (1974), with the predicted causation shown in parenthesis.

$$E = f(\pi, BE, GR, C)$$

where, E = entry, π = profits (+), BE = entry barrier (-), GR = growth (+) and C = concentration (-).

Entry of the *i*th industry is assumed to take place following a rise in the expected post – entry profitability of entrants to that industry. Entry is deterred by barriers such as the existence of scale economies, product differentiation, restricted access to unique inputs, etc. Finally, highly concentrated industries are assumed to exist where to minimize the possibility of entry. Entry is therefore expected to be low when

industrial concentration is high. Acs and Audretsch (1989) conclude that there is little reason to assume that the small firm entry is an exact replica of large firm entry. Indeed Acs and Audretsch show that small firm entry, which is primarily by new firms, does differ in one major respect. They showed that incidence of small firm birth is lower in highly concentrated industries, whereas that of small firm births appears to be greater. This suggests that large firms have a relative advantage in entering concentrated markets. They also show that those industries in which innovation plays an important role are more accessible to large than to small firms.

Growth Phase

The growth stage of a market's life cycle is often associated with glamour and success of the life cycle. Demand for the product or service may be growing faster than the industry is able to supply it (Dess & Miller, 1993). There is less price pressure, exciting advances are being made in new technologies, and sales volume (if not profits) soars. Consequently, we often make basic assumptions about the benefits of growth that turn out to be untrue. The three most common of these assumptions are – one might think it is easier to gain share in growth markets, we often assume that there is less price pressure in growth markets and we expect developing critical technical expertise to be easier in the growth phase. For rapid growth the elements entrepreneur, the firm and strategy, all three need to appropriately match with each other (Storey, 1997). This indicates a major focus on growth related strategies.

Maturity Phase

Market in the mature stage of their life cycle has four characteristics in common. First, a lack of continued growth, which means that for not all the firms those entered the market, the growth stage can be supported. Second, most of the key technology no longer benefit from patent protection. Third, cumulative experience can no longer provide an important advantage to any one competitor, since experience has reduced costs to the point that further reduction are difficult. Finally, there are few obvious

forms of differentiation that are not already being pursued, so there is a growing trend to compete on the basis of price (Dess & Miller, 1993).

As it enters this phase, the market is beginning to stagnate, and a shakeout looms as a likely possibility. This situation does not allow much opportunity for establishing a strong competitive advantage relative to the competition. It is difficult to gain an advantage that other competitors can not copy, and the size of any particular competitive advantage is likely to be small relative to differences seen in other stages. As the market matures, the size of pricing and differentiation advantages among competitors typically decreases. Still there is strong evidence to support the case that if an advantage can be realized, the returns to the competitors in this market can be impressive.

A study of 64 businesses scattered across 8 such mature hostile environments supports these points (Storey, 1997). The majority of competitors of these markets were unable to achieve and maintain any important competitive advantage. The return on investment in many of these firms was far below the cost of capital, meaning that they could not economically continue to invest in their future. As market matures and declines, there is a tendency for the basis of competition to drift away from product differentiation and premium pricing, and toward price competition and commodity - like products. However, moving towards competition on the basis of pricing may not be the best strategy. Research in both United States and Europe indicates that as market mature, competition on the basis of differentiation is preferable to price competition.

The strongest competitive position is a combination of advantages. But as data from research on these mature markets indicates, competing on the basis of differentiation achieved by quality alone can lead to good performance levels. It also has the advantage of minimizing the threat of a price war in the market.

Decline Phase

Most market will eventually be threatened by the development of substitute products, satiated demand or changing customer needs (Porter, 1985). Consequently, they will face a period of decline. Often the market virtually disappears, as was the case with wooden boats, horse – drawn farm implements, and mechanical adding machines. Other survives with a reduced demand, such as the market for home sewing machine or typewriters. In either case the decline of the market means the majority of competitors will face curtailed operations and possible shutdown. Yet, there are some firms that survive and even thrive against these odds. Profits can reach record levels provided the firm responds to the change in the market.

Strategic management in the decline stage of the market life cycle must accurately assess an individual firm's viability, and this again reduces to an examination of what competitive advantage the firm can maintain (Dess & Miller, 1993). Where the firm's competitive advantage is sufficiently strong, the appropriate strategy may be one that positions the business as a long – term survivor of an otherwise disappearing market.

Decline Process of Organisations

The process of decline starts with the environment and / or in the characteristics of the organisation. The managerial inadequacies to restore the fit between the two start the decline the process in the organisation. Khandwalla (1989) identifies inadequate management as the primary cause of the decline of firms. He emphasises appropriate corporate governance and timely intervention by other stakeholders such as financial institutions, regulatory bodies, and employees to ensure organisational health. Decline process could be understood from stage theory of decline that suggests five stages, namely blind, inaction, faulty action, crisis and dissolution (Weitzel & Johnson, 1989). These stages can be conceptualized in terms of action choices. The action choices available to managers under declining conditions are –

- Inaction i.e. not to take any action in anticipation of natural cure of the problem or death.
- Action for turnaround of the organisation.
- Dissolution i.e. closing the organisation having no hope for its revival.

The major factors which influence the failure of a business can be summarized as follows –

- Size
- Age
- Ownership
- Sector
- Past performance
- Macroeconomic conditions
- People / Management
- Location
- Business in receipt of state subsidies
- Firm type.

2.3.2 Models

Arthur D. Little Company's Matrix

Arthur D. Little Company's matrix links the stages of the product life cycle with the business strength. On vertical axis, the businesses are classified with respect to their business strength - weak, tenable, favorable, strong or dominant. Along the horizontal axis four stages in the life cycle - Embryonic, Growth, Mature and Decline are marked.

BUSINESS STRENGTH	Dominant	B U I L D	B U I L D	H O L D	HARVEST
	Strong				
	Favored				
	Tenable			UNACCP T - ABLE ROI	UNACCP T - ABLE ROI
	Weak				
		Embryonic	Growth	Mature	Decline
	INDUSTRY PRODUCT LIFE CYCLE				

Figure 2.2 – Arthur D. Little Company's Matrix

In the Embryonic and Growth stages the businesses are recommended for Build strategy, except when the business strength is weak. For Mature stages business with Dominant to favorable strength, Hold strategy is recommended. Harvest strategy is proposed for business in Decline stage, with Strong or Dominant position. For weaker businesses in Mature / Decline stages unacceptable ROI is marked.

Patel and Younger's Approach

To provide financial implications on product mix and for providing a practical approach to strategic planners Patel and Younger have suggested a frame of reference for strategic development. This framework, applicable at business level as well as corporate level, gives explicit guidelines for assessing the strategic position of a company. It helps formulating appropriate strategies and implementing them at the operational level.

The strategic guidelines at the strategic business unit level are obtained in terms of possible combinations of the 'Industry Maturity' and 'Competitive Position of

Business'. The key measure of the current performance and a good guide to its future potential is its 'internal deployment' of funds.

Competitive Position →	Dominant	Strong	Favourable	Tenable	Weak
Industry Maturity ↓					
Embryonic	All out push for share Hold positions	Attempt to improve position Push for share	Selective or all out of share Selectively attempt to improve position	Selectively push for position	Up or out
Growth	Hold position Hold share	Attempt to improve position Push for share	Attempt to improve position Selectively push for share	Find niche and protect it	Turnaround or abandon
Mature	Hold position Hold share	Hold position Grow with industry	Custodial or maintenance	Find niche and hang on or Phased withdrawal	Turnout or Phased withdrawal
Decline	Hold position	Hold position or Harvest	Phased withdrawal	Phased withdrawal	Abandon

Figure 2.3 – Patel and Younger's Approach

2.4 BUSINESS EXCELLENCE

2.4.1 Need for Model

In a study conducted in Karnataka, John Brouwer (1999) concludes that India has to evolve its own model of development. Quoting Dr. M. S. Swaminathan, the world acclaimed agriculturist, he mentions that "we are on the brink of sustainable life lines and unacceptable poverty". Hence a new model should measure industrial success also in terms of a contribution to the society. In other words a model should be built on concepts from both the global and indigenous knowledge systems.

2.4.2 Business Model for Excellence

A good business model is essential to every successful organisation, whether it is a new venture or an established business. Business models, though, are anything but arcane. They are heart, stories that explain how enterprises work. A good business model answers Peter Drucker's age - old questions – who is the customer ? And what does the customer value ? It also answers the fundamental questions every manager must ask – how do we make money in this business ? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost ? (Magretta, 2002)

The term 'business model' first came into widespread use with the advent of personal computer and spreadsheet. Before the personal computer changed the nature of business planning, most successful business model were created more by accident than by design and forethought. By enabling the companies to tie their marketplace insight much more tightly to the resulting economies – to link their assumptions about how people would behave to the numbers of the a proforma Profit & Loss (P & L) spreadsheets made it possible to model businesses before they were launched. When managers operate consciously from a model of how the entire business system will work, every decision initiative, and measurement provides valuable feedback because they tell whether the model works. If the business model fails to achieve the results as expected, this indicates that there is a need to reexamine the model. When the business models do not work, it is because they fail either the narrative test (the storey does not make sense) or the number test (the P & L does not add up) (Magretta, 2002).

In most of the business the cost precedes the revenues as because anyone can buy the product, we got to build that. A successful business model represents a better way than the existing alternatives. It may offer more value to a discrete group of customers. Or it may completely replace the old way of doing things and become the standard for the next generation of entrepreneurs to beat. Catering a business model is, then, a lot like writing a new story. At some level, all new stories are variations on

old ones, reworkings of the universal themes underlying all human experience. Similarly, all new business models are variations on the generic value chain underlying all businesses. Broadly speaking, this chain has two parts. Part one includes all the activities associated with making something – designing it, purchasing raw materials, manufacturing, and so on. Part two includes all the activities associated with selling something – finding and researching customers, transacting a sale, distributing the product or delivering the service. A new business model's plot may turn on designing a new product for an unmet need.

The irony about the use of the concept of business model is that when used correctly, it actually forces managers to think rigorously about their businesses. A business model's great strength as a planning tool is that it focuses attention on how all the elements of the system fit into a working whole. It is not surprise that, even during the Internet boom, executives who grasped the basics of business model thinking were in a better position to lead the winners.

Visionary companies do not have profit maximization or maximizing shareholders wealth as their primary objective. These companies are guided by certain core ideologies. They have a well defined mission or vision statement that guides them. Visionary companies are mostly third wave companies. Alvin Toffler has made an interesting difference between the first – wave, second – wave and the third wave – companies. The first wave companies were built in the agricultural age. Second wave companies grew during the industrial age, and these are built for growth and not for change. The third wave companies are flexible, creative and innovative. In third wave companies quality plays a major role. It not only applies to the product, but also is pervasive throughout every part of the organisation. Philip Kotler was of the opinion that having high quality will not be enough, it must be offered at a lower price. (Magretta, 2002)

Business model is not the same as strategy. Business model describe, as a system, how the pieces of a business fit together but they do not factor in one critical

dimension of performance i.e. competition. This aspect is dealt under strategic management. (Magretta, 2002)

Progressive organisations work on a self designed business model, and not only keep pace with the external environment but also lead the change through a vision. The major characteristics that are common to visionary companies are that they are people oriented and value driven companies (Mehta, 1998). The vision is given by a leader who also leads the way to ensure that the vision is translated into action which in turn leads to results. The leaders of these companies have more emphasis on team building. It is important to review opinions of some of the visionary leaders. Warren Buffet said, 'the leaders must develop a social architecture that encourages bright people'. Kenichi Ohmae has said, 'organisation and people are synonymous'. Visionary companies are essentially driven by values and ethics, which are hallmarks of the organisation. Prahalad feels that 'the energies of the whole company must be mobilized around strategic intent'. According to Tom Peters, 'innovative companies are essentially adroit at continually responding to change of any sort in their environment (Mehta, 1998). These companies are flexible. They transform and adapt to the changing environment'. Visionary companies are able to hit upon the right end of marketing and technology.

2.4.3 Strategy based on Business Model

Every viable organisation is built on a sound business model. But a business model is not the same thing as a strategy, even though many people use the term interchangeably today. Business models describe, as a system, how the pieces of a business fit together. But they do not factor in one critical dimensions of performance – competition. Sooner or later – and it is usually sooner – every enterprise runs into competitors. Dealing with that reality is strategy's job.

Drawing a strategy canvas is not, of course, the only part of strategic – planning process. At some stage, numbers and documents must be compiled and discussed. But the details will fall into place more easily if managers start with the big picture.

Completing a four steps of visualizing strategy i.e. visual awakening, visual exploration, visual strategy fair and visual communication will put strategy back into strategic planning, and it will greatly improve chances of coming up with a winning formula.

A competitive strategy explains how we can do better than our competitors, and doing better, by definition, means being different. Organisations achieve superior performance when they are unique, when they do something no other business does in ways that no other business can duplicate. To see the difference between a strategy and a business model, one should look at Wal – Mart, the company topping the Fortune – 500 list. The idea of Sam Walton was to offer lower prices than conventional departmental stores by slashing costs. And so the basic business model for discount retailing took shape – first, strip away the departmental store’s physical amenities such as the carpeting and chandeliers. Second, configure the stores to handle large numbers of shoppers efficiently. And third, put fewer salespeople on the floor and rely on customers to serve themselves. Do these things well, and you could offer low prices and still make money. Wal – Mart’s key strategy in Walton’s own word, ‘put good sized stores into little one – horse towns which everybody else was ignoring’. Wal – Mart took a different approach to merchandising and pricing than its competitors did – that is, it promised customers a different kind of value. While competitors relied heavily in private label goods, second – tier brands, and price promotions. Wal - Mart promised national brands at everyday low prices. To make this promise more than a marketing slogan, the company pursued efficiency and reduced costs through innovative practices in areas such as purchasing, logistics, and information management (Magretta, 2002).

Clarity about business model has also helped Dell Computers in another way, as a basis for employee communication and motivation. As explained earlier, because a business model tells a good story, it can be used to get everyone in the organisation aligned around the kind of values the company wants to create. Stories are easy to grasp and easy to remember (Magretta, 2002). They help individuals to see their own

jobs within the larger context of what the company is trying to do and to tailor their behaviour accordingly. Used in this way, a good business model can become powerful tool for improving execution.

2.4.4 Business Model Creation and Modification

When a company faces a major disruption in its markets – one that could fundamentally change the business – the way its managers perceive the disruption influences how they describe it to the rest of the organisation, how they allocate resources. If the managers see disruption as a threat, they tend to overreact, committing too many resources too quickly. But if they see it as an opportunity, they are likely to commit insufficient resources to its development. In other words, the way managers set the context of a disruption – the way they frame it – shapes the strategy they adopt. The ability to manage the competing frames of threat and opportunity is not an easy skill to master. In fact, we suspect that it is not even possible without some adjustments to organisational structure and the processes governing new businesses funding. When an organisation first identifies a disruptive innovation, it is smart to frame it as a threat. That is because when the innovation is seen as an opportunity, resources will be allocated too meagerly. And even a clever plan to exploit a new opportunity will fail without adequate support. Framing the innovation as a threat will generate a serious commitment in the form of funding and other resources because managers, working that the innovation will weaken their position in the marketplace, will suspend traditional investment screening criteria.

When creating a new business model and identifying demand for the disruptive innovation, exactly the reverse is true. In order for managers to find unique applications associated with the innovation, they need to see it as an opportunity. If they perceive it as a threat, they will rigidly apply old models and assumptions to the disruptive innovation.

BUSINESS MODEL CREATION

		Threat	Opportunity
INITIAL RESOURCE ALLOCATION	Threat	Wrong Business Model Aggressive Commitment	Right Business Model Staged Commitment
	Opportunity	Wrong Business Model No Commitment	Right Business Model No Commitment

Figure 2.4 – Business Model vs. Resources
(Adopted from Gilbert & Bower, 2002)

Andy Grove (1997) was of the opinion that all industries will eventually face significant changes in their competitive environments that result from dramatic breakthroughs in new technologies, changes in customer demand or the rise of new competitors. He used the term ‘inflection point’ to characterize the nature of these profound, sudden changes in the environment that often spell a major crisis for firms. Inflection points are important because they signify the potential for a radical transformation of an industry’s structure. Each industry will face its own unique set of inflection points, depending on the specific nature of the technology used, the type of customer served, and the likelihood of new competitor entry. Nevertheless, the nature of these profound changes shares several common trends, including (1) the rising importance of knowledge work, (2) the growth of substitute products and service, and (3) the growing information – intensive nature of many industries’ value adding activities.

When an external threat does not bring with it a need to change underlying work routines or business models significantly, then a threat – motivated response can be effective. But when fundamental changes are required, threat – induced rigidity can be fatal. In the case of genuine disruptive innovations, a lot of things do need to be reworked - cost structures, business models, customer networks, and product applications, at a minimum. But if threat is the sole motivation, the company’s natural

inclination is to push harder along previously successful paths. To paraphrase philosopher George Santayana's description of fanatic, the organisation doubles its effort, having lost sight of its direction. The irony is that most disruption creates a net growth in the economy. By nature, disruptive innovations start new markets and attract new customers. A disruptive innovation that is initially framed as an opportunity is just as likely to be mismanaged, but usually in different ways. Because the organisation does not feel threatened, no one feels the need to change. Hence, recognizing the need to simultaneously manage competing frames is the key to effective response (Gilbert & Bower, 2002).

2.4.5 Business Excellence Models

Generally the companies which adopt Total Quality Management (TQM) focus on creating economic value over the long-term. The results are influenced by margins, sales growth, market share and productivity. The key parameters, which the companies use to evaluate their performance, are cash flow, return on capital employed, sales, profits, margins, capital investments and market share. The data on performance is extracted from Profit and Loss Account (reveals how profit was made during the year), Balance Sheet (it is a statement of what capital is tied up in the business at the end of each year) and Cash Flow Statement (it shows the way cash has been generated by the company's operations, what has been invested during the year, and how the financing of the company has changed e.g. through raising debt to issuing shares). Evidence of a focus on long-term value creation would be provided if the application includes the financial parameters where they are relevant to the company. For example investment in Research & Development and Training tend to be important for most of the industries. The financial performance parameters are shareholder returns, value added per employee (or unit of pay), value added per unit of sales, sales per employee, sales per capital employed, and working capital per unit of sales, R & D investment, training investment and liquidity.

Companies which achieve excellence focus on simple processes, people and customers. Eight attributes which emerged as characteristics of excellence are, a bias

for action (i.e. analysis followed by action), close to the customer (i.e. learning from customers), autonomy and entrepreneurship (i.e. practical risk taking), productivity through people, hands on – value driven (i.e. focus on quality, service, cleanliness and values), stick to the knitting (i.e. staying close to the known businesses), simple form - lean staff, and simultaneous loose tight properties (balancing between centralized and decentralized approaches). (Peters, 2003)

Deming Prize is the first-ever recognition award in the field of quality. The Prize had been established in the year 1951 by Union of Japanese Scientists and Engineers - JUSE in commemoration of Quality Guru Dr. W. E. Deming's distinguished services. The Prize is awarded to individuals or groups who have contributed to the development and dissemination of TQC (Total Quality Control). Deming Application Prize is awarded to those companies which have achieved distinctive results by implementing TQC. The Prize primarily focuses on process management, and does not explicitly address the business results. The Malcolm Baldrige National Quality Award and EFQM (European Foundation for Quality Management) Model of Total Quality Management are comprehensive in nature and are based on the business results. These Models comprise of all aspects of business and the process management.

Malcolm Baldrige National Quality Award (MBNQA)

MBNQA is an annual National Quality Award to recognise US companies for business excellence and quality achievement. The Award was created to foster partnership among the private sector and the Government in USA. It is open for companies from manufacturing, service and small business categories; one award under each category may be conferred in a given year. The responsibility of the Award is assigned to Department of Commerce. NIST (National Institute of Standards and Technology), an agency of the Department manages the Award Programme and ASQ (American Society for Quality) assists in administering the Programme. Board of Overseers, which is appointed by the Secretary of Commerce and consists have

distinguished leaders from all sectors of the US economy, evaluates all aspects of the Awards Programme. The Board also assesses how well the Award is serving the national interest. The Board of Examiners evaluates Award applications, prepares feedback reports and makes Award recommendations to the Director of NIST. The Award Examination is designed not only to serve as reliable basis for making Award but also to permit a diagnosis of each applicant's overall management system. The Examination is carried out in four stages, namely independent review and evaluation by at least five members, consensus review and evaluation for applications that score well in the first stage, site visits to applicants that score well in the second stage and Judge's review and recommendation. The Board consists of members from business and quality experts primarily drawn from private sectors. The Board members also contribute to information transfer activities among managers and entrepreneurs. The Award recipients are required to share information on their successful performance and quality strategies with other US organisations.

Core Values and Concepts

The core values and concepts are the foundation for integrating customer and company requirements. The core values and concepts of MBNQA are as follows.

Customer Driven Quality -

Customer driven quality is a strategic concept. This is directed towards customer retention and gain in market share. It demands constant sensitivity to emerging customer and market requirements, and measurement of factors that drive the customer satisfaction and retention. Development of technology, rapid and flexible response to customer and market requirements is the other focal areas. The success factors include reduction on errors and defects and thus removal of cause(s) of dissatisfaction. These elements help in building customer relationship and also to customer retention.

Leadership –

Senior leaders of the companies are expected to set direction and create a customer orientation, visible and clear values and high expectations. Reinforcement of values and expectations requires personal commitments. The leader's basic values and commitments need to include areas of public responsibility and corporate citizenship. The actively gets involved in creation of strategies, systems and methods for achieving excellence and building capabilities.

Continuous Improvement and Learning –

Achieving the highest levels of performance requires a well-executed approach to continuous improvement. Improvement should be a part of daily work and the problems should be eliminated at their source. Involvement of people, R&D efforts, customers' input and benchmarking are essential for improvement. Improvement may be of several types such as enhancing values to customer, reducing errors, defects or waste, improving cycle time, improving productivity and effectiveness in use of all resources and improving overall performance and leadership position in fulfilling public responsibilities as a role model in corporate citizenship.

Employee Participation and Development –

Success of an organisation largely depends upon increasingly on the skills and motivation of its people. Employee's success depends increasingly on having meaningful opportunities for to learn and to practice new skills. Companies should focus on education, training, and opportunities of continuous growth. The opportunities include classroom and on-the-job training, job rotation, and rewards for proven skills. Major elements of which need attention is integration Human Resource Management (HRM) – selection, appraisal, recognition, training and career growth, aligning HRM with business plans and strategic change processes.

Fast Response –

Success in competitive environment demands shorter cycle time for new or improved product. Faster and flexible response to customers is a critical requirement. This generally calls for simplification of organisation and work processes. This should simultaneously improve quality and productivity.

Design Quality and Prevention –

Strong emphasis should be placed on design quality issues and waste prevention. Cost of prevention of problems at design stage is much low than the cost of correcting problems, which occur later. Design quality includes creation of robust products. Concurrent engineering supports coordination and integration of functions and activities from basic research to commercialization. Environmental issues also play importance in manufacturing.

Long Term view of the Future –

Market leadership requires a strong future orientation and a willingness to make long-term commitments to all stakeholders, the public, and the community. Plans, strategies and resource allocations need to reflect these commitments and changes anticipated in various areas of operations.

Management by Facts –

A modern business management system needs to be built upon a framework of measurement, information, data and analysis. Facts, data and analysis support a variety of company performances, improving operations, and comparing company performance with competitors' or with 'best practices' benchmarks.

Partnership Development –

Companies should seek to build internal and external partnership to better accomplish their overall goals. Internal partnership might include those that promote labour-management cooperation, such as agreement with unions on training, development, etc.. External partnership may be with customers, suppliers, and educational organisation for variety of purposes including education and training. Strategic partnership is one of the important alliances. Partnership might also permit the blending of a company's core competencies or leadership capabilities with complementary strengths and capabilities of partners, thereby enhancing overall capability, including speed and flexibility.

Corporate Responsibility and Citizenship –

Corporate responsibility refers to basic expectations of the company – business ethics and protection of public health, safety, and the environment. Corporate citizenship refers to support leadership and support – within reasonable limits of a company's resources – of publicly important purposes, including the above mentioned areas of corporate responsibility.

Result Orientation –

A Company's performance system needs to focus on results. Results ought to be guided by and balanced by the interests of all stakeholders – customers, employees, stockholders, suppliers, and partners, the public, and the community.

Award Criteria

The core values and concepts are embodied in seven categories, the total model comprises of 1000 points. The details are as follows –

Leadership –

Senior leadership sets directions, creates values, goals, and systems, and guides the pursuit of customer values and company performance improvement. This carries a weightage of 120 points, out of which 70 points are allotted to Senior Executive Leadership. It needs to take into account all stakeholders – customers, employees, suppliers, partners, stockholders, the public, and the community. Social Responsibility carry weightage of 50 points. Leadership Systems and Organisation address how the company's leadership system is translated into an effective overall organisation and management system – focused on performance. Social Responsibility and Corporate Citizenship addresses how the company integrates its social responsibilities and corporate citizenship into its business planning and performance improvement practices.

Strategic Planning –

This carries 85 points. This addresses strategic and business planning and deployment of plans, with a strong focus on customer and operational performance requirements. Strategy Development carries 40 points whereas Strategy Deployment carries 45 points.

Customer and Market Focus –

It is the focal point within the Criteria for understanding in detail the voice of customers and marketplace. The weightage is 85 points. Under this 40 points are allotted to Customer and Market Knowledge. This aspect determines current and emerging customer requirements and expectations. Customer Relationship and Satisfaction carry 45 points and addresses how the company provides effective management of its responses and follow-ups with customers.

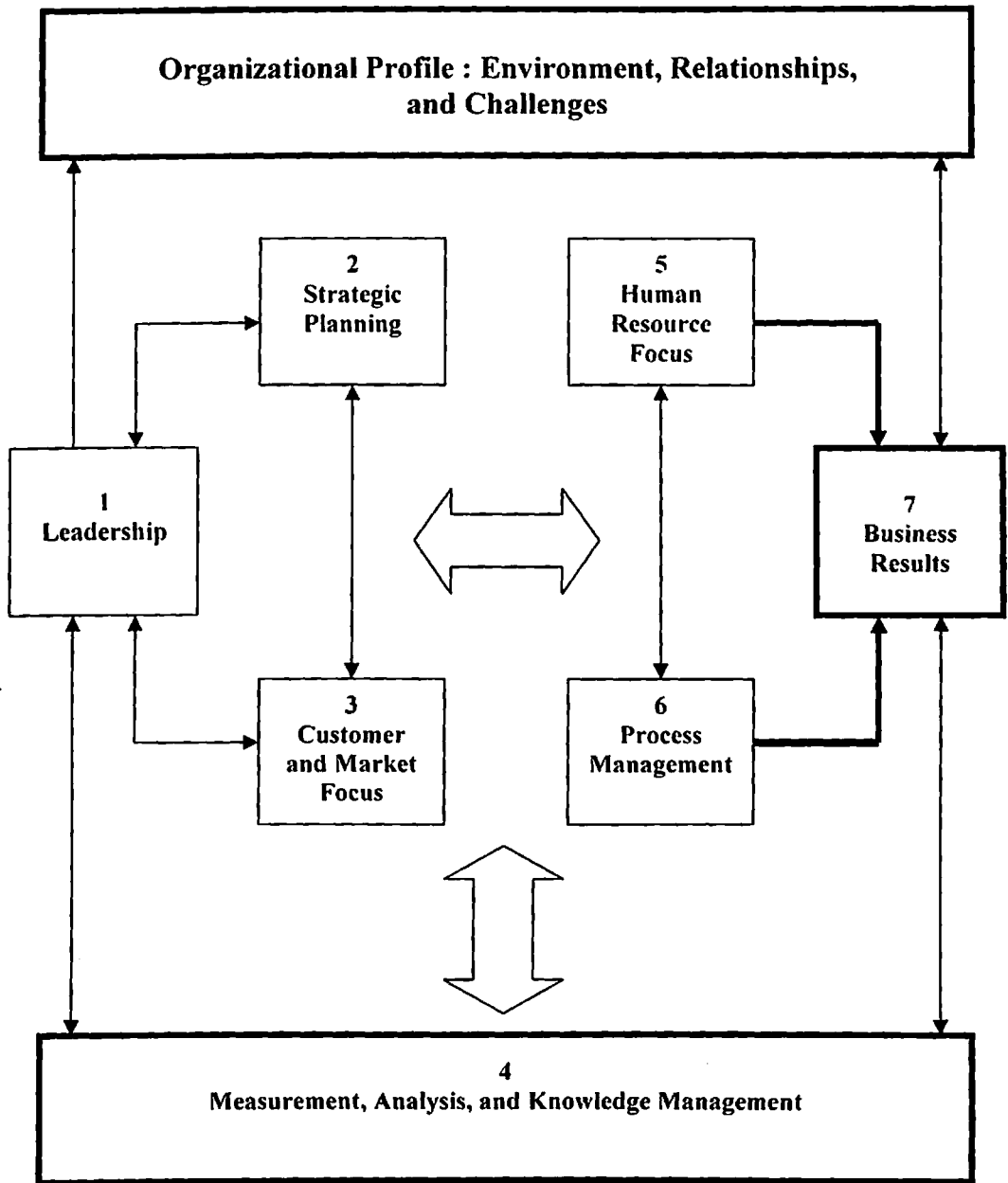


Figure 2.6.- Malcolm Baldrige National Quality Award Model, 2003

Measurement, Analysis and Knowledge Management –

This carries a total weightage of 90 points. Measurement and Analysis of Organisational Performance, and Information and Knowledge Management have been given a weightage of 45 points each.

Human Resource Focus –

This carries 85 points. Out of this Work System carries 35 points. This addresses how the company's job design, compensation, and recognition approaches enable and encourage all employees to continue effectively, operating within high performance requires effective work design and reinforcement. Employee Learning and Motivation carries 25 points, this addresses how the company develops the work force via education, training, motivation and on-the-job reinforcement of knowledge and skills. Development is intended to meet the need of a high performance workplace on an ongoing basis. Employee well being and Satisfaction is allotted 25 points. This aspect deals with work environment, the work climate and how they are tailored to foster the well being, satisfaction, and development of all employees.

Process Management –

This carries 85 points. Under this heading Value Creation Process carries 50 points, which deals with design and introduction of product and services with specific focus on rapid and effective integration of production and delivery early in design phase. This also deals with two different but related concerns – how the company maintains and how it improves key production and delivery processes. Support Processes addresses how the company designs, maintains, and improves its support service processes, it carries 35 points.

Business Results

Superior value of offerings as viewed by customers and the market place, and superior company performance reflected in productivity and effectiveness indicators is maintained. This carries 450 points. The elements of this area include Customer Focused Results, Product and Service Results, Financial and Market Results, Human Resource Result, Organisational Effectiveness Results, and Governance and Social Responsibility Results. Each result criteria carries 75 points.

The key characteristics of the Award criteria area as follows –

- i. The criteria are directed towards business results
- ii. The criteria are nonprescriptive and adaptable
- iii. The criteria support a system perspective to maintaining organization – wide goal alignment
- iv. The criteria support a goal – based diagnosis.

The linkage of the criteria to key business issues are as followed –

- i. Incremental and Breakthrough Improvement
- ii. Business Strategy and Decisions.
- iii. Financial Performance
- iv. Innovation and Creativity.

European Self Excellence Model of EFQM

In recognition of the potential for gaining competitive advantage through application of Total Quality, fourteen leading European businesses took the initiative to forming the European Foundation for Quality Management (EFQM) in 1995. Membership had grown to over 800 from most European countries and most sectors. An important element of EFQM's approach is the promotion of Self – Assessment as a key business

activity since 1992-guidance brochure have been produced to help companies in this area. Separate criteria had been created for Public Sectors and Small Businesses. In India this model had been adopted as the CII – EXIM Award (CII and EXIM stand for Confederation of Indian Industry and Export Import Bank, respectively).

Self Assessment and the Benefits

Self Assessment is a comprehensive, systematic and regular review of an organization's activities and results referenced against a model of business excellence; in the context of The European Model for Total Quality Management. The Self Assessment process allows the organisations to discern clearly its strengths and the area of improvement actions, which are then monitored for progress.

Self Assessment provides a structured approach to business improvement, which is facilitated through factual assessment. This inculcates team approach for continuous improvement and also provides a meaningful approach for TQM implementation. This provides a sound basis for diagnosis and also integrates business results with Total Quality initiative thus providing a holistic approach. Obviously it provides opportunity for creation of enthusiasm amongst the people and gives fresh impetus to their pursuit of business excellence. Internal and external benchmarking and linkage between organisational needs and the strategies and processes to deliver its objectives are specific advantages of Self Assessment.

The European Model for TQM underlines The European Quality Award and is based on the premise that People, Customer and Society results and Key Performance results are achieved through Leadership driving Policy and Strategy, People Management, Partnership and Resources Management and Processes leading ultimately to excellence in Business Results.

Award Criteria

The Model is based on 1000 points allocated 50 % (i.e. 500 points each) to Enablers and Results, respectively. The Enablers criteria are concerned with 'how' the organisation approaches each of the criteria. The Model is not prescriptive but each Enabler is broken down into a number of parts and each criterion requires a response. There may be areas which may not be relevant for a specific business, additional areas may be added as per need. The Result criteria are concerned with 'what' the organisation has achieved and is achieving. The results and trends for all Result Criteria should be addressed in terms of the organisational performance and the organization's own targets. This may also include the performance of competitors and also that of the 'best in class' organisations.

This model is useful for all types of organization, uniformly applicable for small and large organizations. This is not a prescriptive model, the elements can be modified according to organizational philosophy and needs.

Enablers

Leadership –

It carries 100 points, defined as 'the behavior of all managers in leading the organizations towards Total Quality'. This element focuses on how the executive team and all other managers inspire, drive and reflect Total Quality as the organization's fundamental process for continuous improvement. This aspect also deals with involvement in propagating Total Quality message outside the organisation and also involvement with customers and the suppliers.

People –

90 points have been allotted to this element which deals with the management of the organization's people. The focus is on how the organisation releases the full potential of its people to improve its business continuously. The detailed analysis includes people resource management, preservation and development of skill and capabilities, setting of targets and continuous review, people involvement, empowerment and communication.

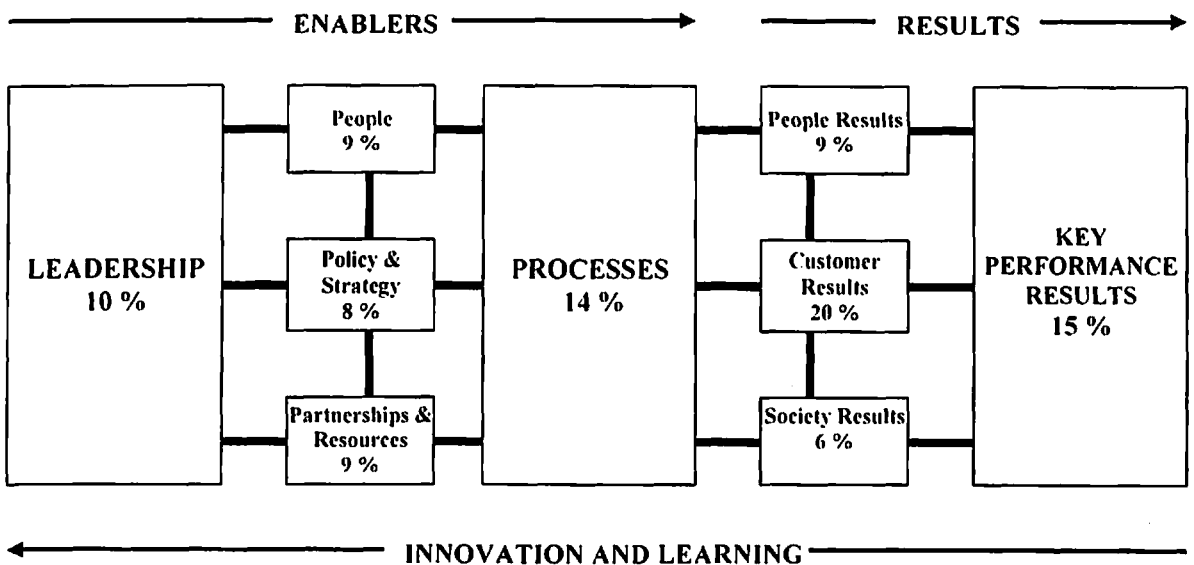


Figure 2. 6 – European Self Excellence Model of EFQM, 2003

Policy and Strategy –

This aspect carries weightage of 80 points. Organisation vision, mission, values, strategic direction and the means to achieve them defines the phenomenon. The process how policy and strategy reflect the concept of Total Quality and how they affect the formulation, deployment, review and improvement. Relevant and comprehensive information and Communication (internal and external) on policy and strategy, and review mechanism are the other key features of this element.

Partnership and Resources –

It carries 90 points and deals with management, utilization and preservation of resources and value adding partnership are the focal issues of this element. The process of effective deployment of resources in support of policy and strategy are analyzed and managed. The resources include financial, information, suppliers, material, building, equipment and application of technology.

Processes –

140 points had been allotted to this element. Process Management covers all value adding activities within the organisation. The Model focuses on identification and review for continuous improvement of the organization's activities. Criticality of the processes with respect to the business, systematic management and target setting and review of processes are the key features of the process. The other issues being considered to be important are creating an atmosphere for creativity and innovation in process improvement and the methods for evaluation of process changes and the benefits thereof.

Results

People Results –

It carries 90 points. This addresses the achievements of the organization in relation to the satisfaction of its people. The issues are the factors relating to motivation and satisfaction under the people's perception about the organization. The measures relating to people involvement are also considered under this aspect.

Customer Results –

This aspect has weightage of 200 point to indicate what the organisation is achieving in relation to the satisfaction of the external customers. The evaluation criteria address customers' perception about the organization's products and services. Also customer relation and measurement of customer satisfaction are covered under this aspect.

Society Results –

60 points are allotted to this aspect. The objective is to assess what the organisation is achieving in satisfying the needs and the expectations of the community at large including perception of the organization's approach about quality of life, the environment and to the preservation of global resources, and the organization's own internal measures.

Key Performance Result

This aspect has 150 points. The main issue is what the organisation is achieving in relation to its planned business objectives and in satisfying the needs and expectations of everyone with a financial interest or stake in the organisation. The non-financial results being evaluated include market share, supplier performance, variability and process capability, defects per unit of output or activity, waste and no-value adding activities and various measures of cycle time.

Inference on the Models

The common features are as follows –

- a. Both are based on concept of Total Quality as a basis with process management approach.

- b. Both have a criteria relationship model that shows how the elements are linked together.
- c. Both have assessment system based on 'how' (approach) and the 'what' (results), the points are equally divided between the hows and whats.
- d. Both emphasize that the end purpose is to create a more effective and efficient organisation, better attuned to the needs of its customers and the general community.
- e. Both place emphasis on measuring the outcome of improved organizational effectiveness as well as the process that contribute to this. (Majumdar, 2002)

The Models and assessment criteria are the frameworks for improvement. They should be interpreted for specific use within an organisation. The criteria are relatively open and non-prescriptive in nature and they do not aim to place all organisations within same framework.

The elements of the Models clearly focus on quality as a strategic issue. Quality Management is not seen as management of quality, it is quality of management. Quality is perceived as an integral part of day today working is built into the responsibilities of all individuals of the organisation. Quality is not necessarily seen as something new or revolutionary, it is seen as a successfully searched way of improving the quality of goods and services (Majumdar, 1997).

The Models have customer satisfaction as a core agenda. In addition, they also focus on development of own competence as a fundamental condition for success. The strategic choices based on customer and competence decides the success. The customer and competence must go together. Competence not only refers to the technological issues but also takes care of human and social processes. Hence competence is a combination of technology, human capabilities and motivational values.

The 'basics' of the organizations should be right. The basics can be defined as a combination of framing, alignment, deployment and measurement, feedback and continuous improvement. Management by facts plays a crucial role in systematic collection and analysis of data (Majumdar, 1997). Values, objectives, systems and their interdependence are directed towards organisational effectiveness.

Instead of relying on some abstract theories of TQM or other philosophy the organisation are facilitated to create their own path of excellence, which are based on 'good management practices'.

The effective management does not rely too much on prescriptive models, borrowed concepts or management fads. Hence these organizations would try to create their own management philosophy, which may be blended with time-variant elements (Majumdar, 2000). Effective leadership is essential who try to align the internal dynamics with the relevant external signals.

The effective organisations would take care of the shareholder and the society as well. In this way the process management would be aligned to the strategic choices.

The core values in all the Models are – business process focus, customer focus, people focus and the learning focus. In all cases continuous improvement is desirable. The organisation is required to create meaningful organisational values, too.

2.5 ENTREPRENEURSHIP & LEADERSHIP

2.5.1 Entrepreneurship

An entrepreneur can be defined as one who initiates, and establishes an economic activity or enterprise. Entrepreneurship, thus, refers to the general trend of setting up new enterprises in a society. Entrepreneurship is a function of several factors. Entrepreneurship is generated in a society by individuals who for some reasons,

initiate, establish, maintain and expand new enterprises. It is observed that entrepreneurs grow in the tradition of their families and the society, and internalize certain values and norms from these sources. The second factor, thus, constitutes the socio – cultural traditions emanating from these sources. The contribution from this socio – cultural factor in the process of transmission, however, gets filtered through the individual whom it seeks to influence. As a result some individuals get more influenced than others. The influence of these factors, in entrepreneurship is, thus, only indirect. In addition to these two indirectly influencing factors, two other aspects directly influence entrepreneurship. The socio – political and economic policies of the government and other financial institutions, and the opportunities available in a society as a result of such policies, may be considered to play a crucial role in exerting direct influence on entrepreneurship. The other directly influencing factor is the effective functioning of the support system which works for the development of entrepreneurs. The support system would include financial and commercial institutions; research, training extension, and consultancy services; as well as large industrial units interested in developing ancillary industries. (Pareek and Ndkarni, 1978)

Eventhough entrepreneurship is viewed here as a dependent variable, with all the four sets of factors influencing and contributing to it, it also functions as an independent variable because of the influence the individual entrepreneur is likely to exert on the socio – cultural factors like norms, values, and behavior. The entrepreneurs tend to behave differently on several dimensions, and they help in creating new norms and values in their own families, and eventually in the society.

Entrepreneurship is different from management. Entrepreneurship involves initiating changes in production, whereas management involves the ongoing coordination of the production process. This is a discontinuous phenomenon, appearing to initiate changes in the production process, and then disappearing until it reappears to initiate another change (Wilken, 1979). Entrepreneurship has at least four social benefits. It fosters economic growth, it increases productivity, it creates new technologies,

products and services (Stoner et. al., 2001). Entrepreneurship also changes and rejuvenates market competition (Acs, 1992).

Individual

The individual constitutes the most important element in entrepreneurship. The entrepreneur as an individual takes the decision to start or not start an enterprise. And it is he who strives to make it a success. It is necessary, therefore to understand the various factors which influence the individual. The three main factors which influence the individual behaviour are his / her motivational factors, factors concerning various skills that entrepreneur possess, and the factors relating to his knowledge of several relevant aspects that are likely to contribute to success of the entrepreneurial roles (Pareek and Nadkarni, 1978).

Motivational Factors

Motivational factors may be considered crucial to entrepreneurship. The inner urge of the individual to do something new, something unique, in a particular field has been found to be important factor. This motivational factor in itself has three major elements; entrepreneurial motivation, personal efficacy, and coping capability.

Achievement Motivation –

The most important motivation on which extensive work has been done by McClelland and his associates, and some others (McClelland and Winter, 1969, Hauckhausen, 1967 and Levine, 1969) is achievement motivation. Achievement motivation should better be termed as efficiency motivation. This concern for efficiency, reflects through competition with others or with one`s own standards of performance, and the urge to do something unique or to make the maximum utilization of resources around.

Power Motivation –

Power motivation is also equally important for entrepreneurship. In addition to these two motives the urge to help others which Pareek (1967) has termed as ‘extension motivation’ is also important for an entrepreneur to succeed.

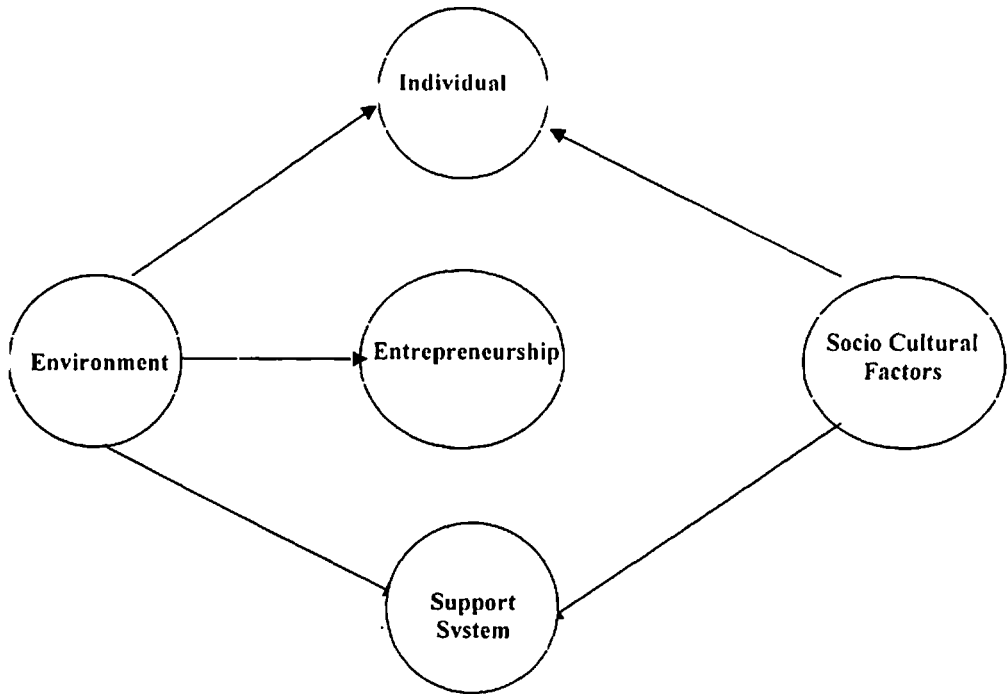


Figure 2.7 – Entrepreneurship (Adopted from Pareek and Nadkarni, 1978)

Personal Efficacy –

Personal efficacy is related to entrepreneurial motivation – a sense of being effective and having control over the situation. Individuals differ on this variable. (Pareek and Nadkarni, 1978)

Coping Capability –

Coping Capability is described as follows. While the success of the individual as an entrepreneur partly depends on his motivation and efficiency, the process itself

generates several stresses. The enterprise demands increasingly more attention, time and energy, eventually the entrepreneur may experience stress in his relations in the family. The entrepreneur takes initiatives, and works according to his own schedule. He is both 'inner directed' as well as 'outer directed'. The conflict between his urge to think of new and large challenges, and the need to pay greater attention to minor details of his existing enterprise is also likely to produce stress. (Pareek and Nadkarni, 1978)

Skills

To be successful an entrepreneur needs several kinds of skills. They constitute an important contributing factor to entrepreneurship. The three sets of skills considered to be crucial are Project Development, Enterprise Management and Enterprise Building. These skills are explained as follows. (Pareek and Nadkarni, 1978)

Project Management –

An entrepreneur plans to establish an enterprise. In order to be effective he or she should know how to conceive the project, the stages through which he should go to establish it, the information he may have to collect, the factors he may have to consider in taking the investment decisions, etc.

Enterprise Building –

Howsoever one conceives the entrepreneurial functions, the process of enterprise building is to be distinguished from the process of managing and enterprise after it acquires a distinct identity. The thought processes and the behavioral sequence of an entrepreneur who has vaguely conceived of exploiting an opportunity through an independent organisational unit are different from those of a manager who functions within the limitations of the goals and structure of an ongoing organisation. The difference arise from the very nature of the entrepreneurial function, which is to

conceive of an organisational entity, mobilize and combine the various goal – relevant factors (such as capital and human resources) for optimal results. This function also expects him to bear the subjective as well as objective risks of operating in an uncertain situation, where only his personal resources rather than the environmental and other material resources, would make the difference between success and failure.

Environment

Knowledge about the economic – political environment, more particularly about the economic policies of the government and the financial as well as commercial institutions, is crucially important for the entrepreneur. The entrepreneur should also be conversant with the taxation polices as well as the general availability of raw materials which affect his area of operation. He should also be well informed about infrastructure – transportation facilities, power, etc. in the proposed place for his enterprise. He should be conversant about the availability of assistances i.e. financial, material, etc. and should also know about the agencies to be approached in case of such needs.

Industry -

The entrepreneur makes a choice while setting up an enterprise. The choice can be more rewarding if there is a wide range of alternatives available to him. This is possible if the entrepreneur has adequate knowledge about the various alternates industries, and more detailed knowledge about the industry which he wants to set up and also about other related industries which have a bearing on the one he selects to operate. This knowledge would cover aspects like required investments, marketability of products, skills required for the enterprise, raw materials and other material needed, competitors in the filed etc. He should also know about the manufacturing processes, choice of products and about their commercial feasibility.

Technology –

Once the entrepreneur selects a particular industry, in depth knowledge about the technological aspects of that industry would be of vital importance. He should know the details about the processes of manufacture, and the various technologies available for those processes. He should also know about the costs and benefits of respective technologies so as to help him in making the appropriate choice.

Socio – Cultural Factors

Socio – cultural factors like the family background and the norms and values of the immediate social circle contribute substantially to entrepreneurial development. The values and attitudes an individual has, are a function of the socio – cultural milieu. The influence of this milieu is in terms of developing normative behaviour (norms of behaviour) in the individual. The individual works under some pressure of the values inherited from his family. Behaviour which reflect inclinations towards initiatives and risk taking, dependence or independence (self reliance), working with one's own hands on tasks requiring manual handling, etc. are a result of the socialization process in the family, the school, and the society. Behaviour rewarded through appreciation, encouragement, and other extrinsic as well as intrinsic devices get reinforced, and related values and norms develop. (Pareek and Nadkarni, 1978) Thus, training through behaviour and socialization are described below.

Normative Behaviour

The following aspects of normative behaviour are related for entrepreneurship –

Family Expectations and Pressure –

The pressure of expectations from the family plays an important role in developing entrepreneurs. When the family expects an individual to undertake some independent

work, to earn enough for the family to maintain their standard of living, to employ or involve members of the family in business, etc. the individual may respond by searching for ways of meeting such expectations and pressures. In certain cases the individual may react to these pressures even negatively. But usually positive response comes forth.

Risk Taking –

Risk taking norms are important for success of entrepreneurs. It has been reported that a successful entrepreneur takes moderate risk. He does not gamble, nor does he opt to play safe.

Independence –

Equally important is the norm of self – reliance. The value attributes to independence is important for entrepreneurship. Instead of waiting for suggestions or directions from others, an entrepreneur works out plans on his own, searches and explores resources, and experiences an inner urge to make the enterprise a success. This makes him self – reliant and independence.

Work –

Value regarding work has been found to be an important factor in the entrepreneurship. Nandy (1973) and Fox (1973) have reported that the one major factor which distinguished the entrepreneur from the non – entrepreneur culture, in two northern and southern communities, respectively, was the willingness to work with his hands – the value given to work. Non – work values of some communities prevented them from taking to entrepreneurial pursuits.

Socialization –

The value supporting or influencing entrepreneurship are developed through the process of socialization. The family and other social institutions play a crucial role in training individuals to show certain behaviour. Especially one's predisposition towards independence and initiative as well as risk – taking, primarily results from such socializing influence. (Pareek and Nadkarni, 1978)

Independence –

Training in independence has been found to contribute to the development of achievement motivation (McClelland, 1961). Overprotection and over guidance in childhood or later in the work organisation leads to dependence.

Initiative and Risk Taking –

Training in taking initiative and risk, is an important factor in promoting values which are supportive to entrepreneurship. When failure of individual gets severely punished, it is quite likely that he develops that is called 'fear of failure' motive or the motive to avoid all possibilities of failure is not to take risk. Risk – taking behaviour on the contrary blossoms when an individual is encouraged (and helped) to set realistically challenging goals and to pursue them with perseverance. If ever failure greets the effort, it is properly analyzed for improving the strategy to prevent its recurrence in future. (Pareek and Nadkarni, 1978)

Support System

Possibility of the success of an entrepreneur generally gets enhanced by efficient and effective operation of the support systems. Several agencies and organisations operate to help and support the entrepreneurs.

Entrepreneurs often have to interact with the support systems. The way these systems function may encourage or discourage them. They may reinforce one kind of behaviour. The style of working of these systems, therefore, is a crucial factor in promoting entrepreneurship. The quality of interaction with the entrepreneur is determined to a great extent by their working style role. The style will also demonstrate the norms prevailing in the organisation, norms regarding collaboration, help, result orientation etc. The support systems, thus, can promote entrepreneurship through reinforcing behaviour and adopting norms of internal working which are in harmony with it.

Reinforcing Behaviour –

Different support systems perform different roles and emphasize different organisational behaviour. Such varied emphasises on different entrepreneurial behaviour need not be viewed as conflicting. Sometimes seemingly contradictory values or behaviour may be required for entrepreneurial success. The support system, therefore, have to be clear about their respective roles, relevant activities and consequent expectations from the entrepreneur, unmindful of the apparent contradictions. Viewed in its totality, the behaviour that the support systems would seek to reinforce through their interactions with the entrepreneurs, in reality need not exert contradictory pulls. In effect what they should reinforce is the values of taking initiatives, planning orientations and risk taking coupled with personal responsibility. These values can be reinforced by all support systems irrespective of their specific roles. They can be systematically built into the evaluation and help giving procedures. (Pareek and Nadkarni, 1978)

Norms –

The norms of internal working of various institutions and organisations in the support systems may not be directly relevant to the entrepreneurial characteristics. But since these systems and entrepreneurs constantly remain in interaction, the ultimate

outcome of such interactions will invariably depend upon the internal design, the mode of internal working, the norms of operation, and the character of organisational behaviour in these institutions. If the institutions in the support system have to render useful and effective help assume considerable significance. The importance of intra - organisational norms which govern giving, receiving, and asking for help, and their relevance to their role effectiveness, can hardly be overemphasized. Emphasis on norms need not be in conflict with the emphasis on effectiveness of roles of the support systems, if these systems remain result – oriented rather than procedure oriented. Such result orientation, in case of financial institutions, while reinforcing their function of checking on processes and procedures, will not render them ineffective in their role of entrepreneurial development. Like result orientation, the norms of collaboration and help are important for ensuring a comprehensive programme of assistance and support to entrepreneurs. Proper attention to such norms and inculcation of result orientation in their functioning, indeed, has relevance for the design and development of the support system, as well as for the training of their personnel. (Pareek and Nadkarni, 1978)

2.5.2 Dimension of Entrepreneurial Effectiveness

Research based conclusion indicate that conceptualized measure of entrepreneurship orientation autonomy, risk taking, competitive aggressiveness, proactiveness and innovation are significantly higher in Organic Structure than Mechanistic Structure (George, 2000). Shah et. al. (1974) developed some indices for measuring entrepreneurial effectiveness. The instrument developed as an interview schedule measures entrepreneurial effectiveness. The instrument developed as an interview schedule measures entrepreneurial behavior of four dimensions, namely Planning Orientation, Achievement Orientation, Expansion Orientation and Operation Management. These indices are chosen after taking into account the indices used by various social scientists.

Planning Orientation

Consideration of alternatives indicating whether the entrepreneur has considered alternatives before choosing (i) the line of business, (ii) product line, (iii) location of the unit, (iv) machines and equipments, (v) technology and processes, (vi) sources of finance, and (vii) area of operation.

The information sources could be buyers, suppliers, government agencies, banks, research laboratories, literature, field visits, professional bodies, etc.

Goal setting indicated by the extent to which the entrepreneur had clarity of goals regarding (i) product line, (ii) production, (iii) quality, (iv) sales, (v) cost reduction, (vi) profits, (vii) diversification, (viii) expansion, and (ix) labour relations.

Achievement Orientation

Involvement, concern for excellence, clarity of goals, positive feeling of success, awareness of personal blocks, awareness of environmental constraints, effort for self – development, inclination for taking help, pro - activity in action, innovativeness and unique accomplishment are the measures of achievements. Also, whether these characters are reflected in their actual behaviour, need to be measured.

Expansion Orientation

The extent of expansion in the entrepreneurial activities as reflected through increased production, new products, new establishments, new partnership are the measure of orientation. Also, the thoughts attempted and achievements on all these dimensions weighted and scored.

Operation Management

Effectiveness in (i) production scheduling, (ii) line balancing, (iii) record of production and efficiency, (iv) preventive maintenance, (v) marketing efforts, (vi) sales, (vii) fixed capital investment, (viii) working capital investment, (ix) cash budgeting, (x) collection, (xi) payment, (xii) repayment of loans, (xiii) inventories, (xiv) product profitability determination, (xv) standards of cost, (xvi) efficiency index, (xvii) capacity utilization, (xviii) labour relation, (xix) use of labour, and (xx) developing personnel are measured.

2.5.3 Data Sharing on Entrepreneurial Effectiveness

Successful entrepreneurs are generally eager to share their experiences with researchers. They narrate their success stories with great involvement. Generally the entrepreneurs possess some reservation in sharing financial data, which often become impediment in objective analysis of performance.

2.6 LEADERSHIP & LEADERSHIP STYLES

According to labour market economists, self employment is probably the single most important source of new firm formation (and hence the major numerical influence upon entry rates). Labour market economists are interested in the question of occupational choice. In this sense the choice of a self – employed occupation can be considered to be little different from the choice of any other occupation. Three main influences on this decision are –

- personality
- human capital, and
- ethnic origin. (Storey, 1997)

Personality characteristics are examined by both Blanchflower and Oswald (1990) and by Blanchflower and Meyer (1991). They argued that one factor influencing the

probability of an individual starting a business is entrepreneurial vision, as reflected in the personality of the entrepreneur at young age. According to Chell, Haworth and Brearley (1991), entrepreneurs are alert to business opportunities, are proactive rather than reactive, innovative and easily bored. Indeed, the quest for psychologists to identify a group of personality traits which are capable of predicting entrepreneurial behaviour patterns has gone on for many years. Early work of McClelland (1961) pointed to entrepreneurs' need for achievement, which are more intense than that of other groups in society. Others such as Kets de Vries (1977) have pointed to entrepreneurs often having an unhappy family background, leading to their inability to accept authority or to work closely with others. This would appear to be the psychological basis for the 'hostility' and 'unforthcoming' variable of Blanchflower and Oswald. Stanworth et al (1989) have placed particular emphasis on the inter – generational entrepreneur. Curren and Burrows (1988) argued that the cultural inheritance of entrepreneurship move within families. The other factor which economists generally find important is 'human capital'. There are different opinions about this aspect. Pickles and O'Farrell (1987) are of opinion that individuals with high levels of educational attainment are less likely to enter business in UK but according to an empirical study there is consistent evidence that educational levels of attainments are positively associated in US with a move into self employment / new business formation. The other human capital characteristic which an individual brings to entrepreneurship is work experience. The individuals' managerial experience is generally thought to provide a positive incentive to encouraging the individual to become an entrepreneur (Bates, 1990). The third factor which has been argued to influence the choice between self – employment and paid employment is that of ethnic origin.

While firms may enter a market during any stage of its life cycle, studies show that the entrepreneurial pioneers who enter the market first typically gain important advantages. Competitive advantages that are gained because the pioneer was one of the first to enter a market are sometimes called 'first mover advantages'. First movers

are notable for their tendency to hold on to the competitive advantages and shares they gain as the market matures.

Good leaders are necessary for visionary companies to survive in the long run. Tom Peters sums up the qualities of a good leader, 'they concentrate on the market with just a product idea and riding the growth of an attractive product cycle'. The highest agreement on conceptualizing leadership is 'the ability of an individual to influence a group towards organisational goals.

2.6.1 Leadership

Leadership is considered as personality traits which some people had, and the others did not. (Parikh and Garg, 1976) There are almost as many different definitions of leadership as there are persons who have attempted to define the concept (Stogdil, 1990). However, leadership is commonly known as 'a process of directing and influencing the task – related activities of group members (Stoner, et. al., 2001). Leadership involves other people, unequal distribution of power, and ability to influence others through power. It manifests ability, creativity, innovation, and initiative, and imbibe confidence, cooperation, and willingness of people to work. (Pande, 2001) Leadership is involves moral and values. The best organizations are those who groom their CEOs into great leaders. Institutions are more important than individuals, that action is more important than vision, and that work is more important than managing, and finally, knowledge is more important than capital. The leaders focus on creating a learning organisation (Garvin, 1993). Leadership is generally exercised on three different levels. At the individual level, leaders mentor, coach, and motivate; at group level, they build teams and resolve conflicts, at the organisational level, leaders build culture. In most organizations, these three levels are discrete and easily identifiable. (Mintzberg, 1998)

The most commonly used measure of leader effectiveness is the extent to which the leader's organisational unit performs its tasks successfully and attains its goals. In most of the cases objective measures of performance or goal attainment are available.

such as profits, profit margin, sales increase, return on investment, productivity, cost per unit output, cost in relation to budgeted expenditure, and so on. The attitude of followers towards the leader is another significant indicator of leader effectiveness, which is related to satisfying the needs and expectation of the followers for the leader and commitment of the followers. Various objective measures of behaviour such as absenteeism, voluntary turnover, grievances, and complaints to higher management, request for transfer, work slowdown and deliberate sabotage of equipment serve as indirect indicators of followers' dissatisfaction and hostility towards the leaders. (Dhar and Mishra, 2001) Leader effectiveness is occasionally measured in terms of leader's contribution to quality of group processes, group cohesiveness, increasing cooperation and motivation, lowering conflict between members and improving the speed and quality of decision. Leader effectiveness can be direct and indirect. Direct effect refers to leader decisions and actions that have an immediate impact of what is done, how it is done, and how efficiently it is done. Indirect effects refer to leader's decisions and actions that are mediated by more intervening variables in the causal chain. Indirect effects are slower to be felt, but they are often more durable (Hunt, 1991). In a study conducted by Dhar and Mishra, 2001 in Madhya Pradesh, the factors which are significant for leadership effectiveness for manufacturing sector are, ability to facilitate, ability to influence, ability to be accountable, ability to build teams, ability to negotiate, ability to reward, ability to manage, interpersonal orientation and analytical skills.

There is a generosity and universality in what makes a good leader and even a good organisation, a good society, a good nation. These attributes are linked to the three parts of the human anatomy. The first is innovation, which emanates from the brain, the mind. The second is compassion, which emanates from the heart. The third is the passion in the belly (Mashelkar, 1999). A conscious development of internal processes of thought and emotion, and a conscious development of whatever else maybe responsible for the processes of thought and emotion, so that true effectiveness and true leadership may be achieved (Malik, 2000).

The research supports the conclusion that technical skills, conceptual skills and interpersonal skills are necessary in most managerial positions. (Mann, 1965; Katz and Kahn, 1978; Boyatzis, 1982; Jacob and Jacques, 1987) Leaders with high emotional maturity and integrity are more likely to maintain cooperative relationships with subordinates, peers and superiors. Intellectual and technical skills are considered to be threshold capabilities but high degree of emotional intelligence is essential for leadership effectiveness. The components of emotional intelligence are self awareness, self regulation, motivation, empathy and social skill (Goleman, 1998). According to N. R. Narayana Murthy, Chief Mentor of Infosys, leaders must demonstrate leadership by examples. He must sacrifice more than all others. He must demonstrate the value system. The key issue is, he becomes a leader not because he can enforce his leadership, but because every body respects him (Murthy, 1999). The traits commonly considered to be important are – policy making, planning, developing systems, monitoring performance, coordinating, rewarding, coaching and mentoring, visioning, setting standards, building culture and climate, synergizing, searching and nurturing talents, and customer orientation.

2.6.2 Leadership Styles

Akbar, 2000 has carried out a comparative study on financial performance of professional – led and owner – led companies in India, and concluded that the professional – led companies create more shareholders wealth and enjoy better support from them as compared to the owner led companies. However, the owner companies show better growth rates in accounting performance, remain small in operation and do not enjoy better production efficiency. The owner led companies follow focused strategies but the professional led companies while following diversified strategies create better values for the customers and emphasize on lower production costs. They also allocate resource to create brands and own large distribution network. Liles (1974) has reported that leadership and leadership styles are elusive concepts. The reason attributed to this is the vagueness in definition as the ambiguous results reached by several researchers. The styles are likely to be

influenced by various by culture and environment. Stodgill (1974) reviewed over 72 definitions of leadership aimed by various authors from 1902 to 1967. Almost all definitions imply that leadership is a form of social influence and an interpersonal relationship in which power and influences are unevenly distributed so that one person is able to direct and control the actions and behaviour of others to a greater extent.

Following eight forces are used to control and co – ordinate the activities of the people –

1. Leadership process
2. Motivational process such as physical, economic or ego motives and attitudes towards organisation and members
3. Communication process
4. Interaction influencing process
5. Decision making process
6. Goal setting
7. Control process, and
8. Performance goals and training.

These eight organisational variables are measured by eight sub – scales. Each item is treated as a continuous variable and measures the respondent's perception of the management in the organisations.

There are many classifications of leadership types. Max Weber distinguished between authoritarian, charismatic and bureaucratic styles. Charismatic leadership is based on personality traits such as high passion, ambition, belief in self, sense of adventure and penchant for setting personal example. Such leaders rely more on natural behaviour and less on techniques. Transactional leadership is based on relating actions to the situations and maturity of the followers. It is basically result orientation linked to focus on people in a particular situation. Transformational leader acts mainly as a

change agent, learns as he coaches and can deal confidently with complexity, ambiguity, and uncertainty. He simplifies important issues through the use of symbols and paying personal attention to individual followers. (Singh, 1998, Sabat, 1998 and James, 1996)

Many researchers define leadership as a social influence process by which a person steers the members of the group towards the goal. Leadership was measured by Leadership Grid (known as Managerial Grid from 1964 to 1991) which measures the leader's concerns for people and for production. A grid consists of vertical axis which represents the degree of 'concern for people' on a scale of 1 – 9, showing the lowest concern and 9 highest concern for people. The horizontal axis represents degree of 'concern for production' on a scale from 1 to 9, respectively representing lowest and highest concern for production. Five forms of leadership are identified on the basis of concern for people and for production.

Each set of leadership style implies a different set of assumptions regarding managing situations of production that involves people. At the lowest corner of the grid is 1,1 style. This style has minimum of concern for production as well as people. Minimum effort is needed to sustain organisation membership. Going up the grid from 1,1 style to the upper left corner is 1,9 style which a leader shows a minimum concern for production, but thoughtful concern for people, which leads to a comfortable and friendly organisation atmosphere and work tempo. In the lower corner is 9,1 style in which a leader shows maximum concern for production and a minimum concern for social, emotional and the need of the employees. Efficiency in operation is sought from arranging the influence of human elements at workplace. In upper right corner is the 9,9 style wherein leadership's concern for both people and production is the highest which leads to interdependence between the supervisor and subordinates through a 'common stake' in the organisation purpose, and to relationships of trust and respect between them. This leadership style is referred to as the team approach. In the center of the grid is 5,5 style which is a 'middle of the road' or an adequate amount of both kinds of concern is shown by the supervisor (Nayak, 1999).

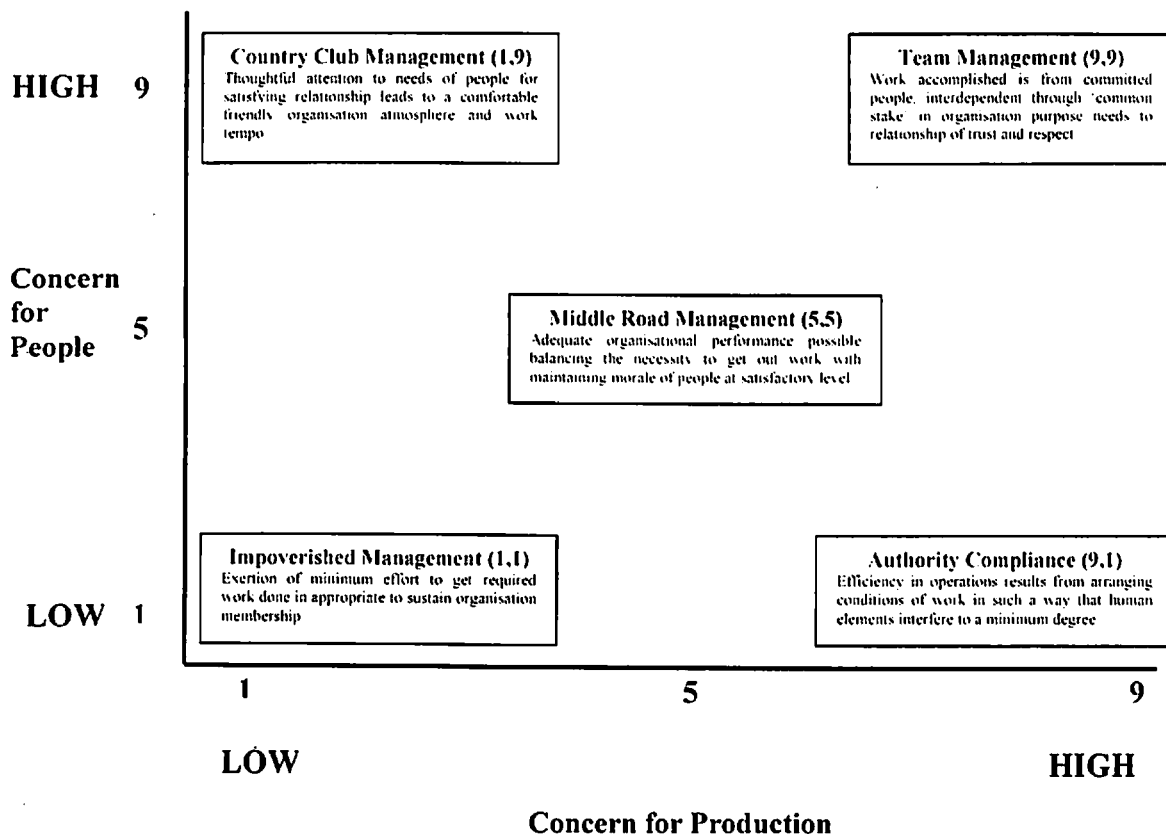


Figure 2. 8 – Leadership Grid (Adopted from Blake & Mouton, 1991)

Research on performance oriented (task) and relationship oriented (people) behaviour have shown consistent evidence that both the dimensions of behaviour are necessary for leadership effectiveness. Entrepreneurs scoring high on social power orientation will have less difficulty letting go of their leadership position than the entrepreneurs scoring high on the personal power orientation.

An entrepreneur, or a manager in a business enterprise, makes decisions in a characteristic way, it is usually termed 'leadership style' Style is a distinctive but adaptive behaviour of an entrepreneur, a manager or an administrator who behave in an adaptive relationship to an environment or a situation.

After a study on leadership and administrative structure of small enterprises, Penrose (1959) mentions that the difference in the administrative structure of the very small and the very large firms are so great that in many ways it is hard to see that the two

species are of the same genus. Changes in a firm are associated with growth. An illustration taken from Scott and Bruce (1987) of this is provided in the table below. Scott and Bruce infer that a small firm moves from Inception (Stage 1) through to Maturity, the fifth stage. At each of these stages it is assumed that the role which top management plays, the management style and the organisation of structure change, so that the butterfly as Stage 5 genuinely is fundamentally different from the caterpillar as Stage 1.

Stage	Top Managements' Role	Management Style	Organisational Structure
1. Inception	Direct supervision	Entrepreneurial individualistic	Unstructured
2. Survival	Supervised supervision	Entrepreneurial administrative	Simple
3. Growth	Delegation / co – ordination	Entrepreneurial co– ordinate	Functional centralized
4. Expansion	Decentralization	Professional administrative	Functional decentralized
5. Maturity	Decentralization	Watchdog	Decentralized functional / product

Table 2.23 – Management Role and Style in the five stages of Small Business Growth
(Adopted from Scot and Bruce, 1987)

There are four limitations of these stage models –

- a) Although, it is implied in the table, not all the firms begin at Stage 1 and move to Stage 5. This is because a significant proportion of small businesses ceases to perform fairly early in their lifetime, so they never progress beyond either Stage 1 or Stage 2.
- b) In practice, the firms may well have a management style which is more or less advanced than the stage, for example, of its organisational structure. The management roles do not move in parallel, as assumed in the table.

c) Firms may achieve a particular stage, most notably Survival, and never have any intention of moving beyond that stage. Hence, not all firms move from Stage 1 to Stage 5, even if they continue to exist.

d) Theorists such as Scott and Bruce or Churchill and Lewis (1983) assume that the movements from one stage to another are 'triggered' by a point of crisis. This aspect has remained untested.

A number of firms make no clear transition and, if they do, the transition is often in only one of the three dimensions namely, the starting resources of the entrepreneur(s), the firm and strategy. The figure below shows that each component can be considered as a variety of different elements. These components can be considered as overlapping or intersecting circles. They can not be considered as wholly independent influences. This means that less rapidly growing, no - growth or falling firms may have some appropriate characteristics in the entrepreneur, firm or strategy areas, but it is only where all three combine that the fast - growth firm is found.

Literature on leadership style in SSI and entrepreneurs shows a gap in clear evidence and prevents a possible conclusion. Even the available study (Narayanan and Venkatachalam, 1979) focuses on the leadership styles that are considered not to be native but biased towards Western prediction and probably advocated as universal leadership styles. The study aimed at studying the organisational climate and variables relating to job reactions, and looks into leadership styles of small business owner – managers shows that leadership styles are specific to Indian condition and this is known as Indian leadership style.

The Table 2.24 identifies elements within various components. The entrepreneur / resource component refers to the characteristics of the individual or individuals who provide the prime managerial resources of the small business. The entrepreneurs and their needs access to resources can be identified prior to the business being

The Table 2.24 identifies elements within various components. The entrepreneur / resource component refers to the characteristics of the individual or individuals who provide the prime managerial resources of the small business. The entrepreneurs and their needs access to resources can be identified prior to the business being established. In principle, each element could be measured or assessed prior to starting the business, although some elements are more difficult to measure than others.

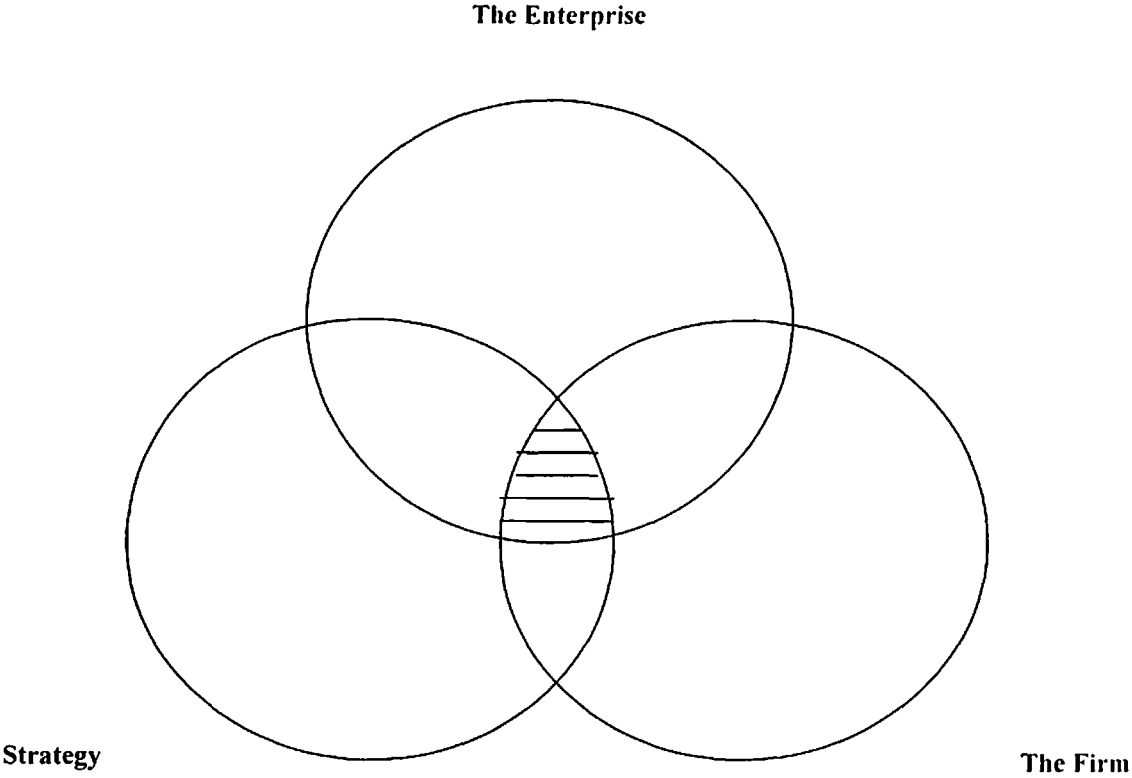


Figure 2.9 – Growth in Small Firms (Adopted from Storey, 1997)

The characteristics of the business itself, when it begins, are listed in component 2 – the firm. They are not operational decisions which are made once the business starts, since these would be included within the strategy component, although clearly it is possible to change location or legal form once the business had begun to trade. The second common characteristic of firm elements is that they are factors which are generally held constant in examining the growth performance implications of entrepreneurial characteristics. The third factor, strategy, is of prime interest. To some extent ‘strategy’ in this context can be considered as asking the question – given the

characteristics of the entrepreneurs and the firm – what managerial actions, once the firm has started, are likely to be associated with more rapid rates of growth ? (Storey, 1997)

The Entrepreneur / Resource	The Firm	Strategy
1. Motivation	1. Age	1. Workforce Training
2. Unemployment	2. Sector	2. Management Training
3. Education	3. Legal Form	3. External Equity
4. Management Experience	4. Location	4. Technological Sophistication
5. Number of Founders	5. Size	5. Market Positioning
6. Prior Self Management	6. Ownership	6. Market Adjustment
7. Family History		7. Planning
8. Social Marginality		8. New Products
9. Functional Skills		9. Management Recruitment
10. Training		10. State Support
11. Age		11. Customer Concentration
12. Prior Business Failures		12. Competition
13. Prior Sector Experience		13. Information and Advice
14. Prior Firm Size Experience		14. Exporting
15. Gender		

Table 2.24 – Factors influencing Growth in Small Firms
(Adopted from Storey, 1994)

On the role of leadership Barnard (1968) mentioned that the leader is expected to harness the social forces in the organization, to shape and guide values. Excellent companies develop cultures that have incorporate the values and practices of great leaders and thus those shared values can survive for long. Transforming leadership occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality (Peters and Waterman, 2003). It also about inspiring subordinates to excel in their performance to innovate and to achieve beyond expectancy (James, 1996).

Rao (1981) viewed Indian leadership style from three perspectives, i.e. benevolent, critical and developmental. Benevolent leaders protect subordinates, persistently tell

they should and should not do and come to their rescue whenever needed. Critical leaders take a critical approach to employees and do not tolerate mistakes, low quality or work and indiscipline. Developmental leaders have confidence in subordinates and help them to set broad goals and allow them to work on their own.

Venkatapathy (1992) reported that the perception of top management style in India significantly differs between the members belonging to the public and private organisations. he also concluded that the perception of leadership styles shows corresponding climate.

In the District of Erode (Tamil Nadu) Vektapathy and Shanmugavelan, 2000 studied the leadership styles preferred and adopted by the first and second generation entrepreneurs, respectively. The three types of leadership styles namely benevolent, critical and developmental shows various degrees of similarities as well as differences on the whole, the leadership style of the group entrepreneurs are significant because it has added information input with regard to literature. The two groups of entrepreneurs compared on benevolent leadership style remained homogenous. One reason that may be ascribed to the marginal difference is that the two groups of people have similar activity in the entrepreneurial environment. As the leaders of the two groups show that they have to encourage people and lend support to them and male the workers to identify with the projects of the functions of the enterprise. To do this they always give a helping hand of big brother not only to help workers but also to be sure of the fad that they are the persons who could lend emotional support to all kinds of activities with regard to the enterprise. It is also to be noted that both the groups have scored higher than the theoretical mean. The entrepreneurs perceived critical style as not very effective. The strategic planning, employment of various sources of resources and effective functioning at the enterprise level make them avoid the critical style of leadership. However, the results show a statistically higher level of significance between first generation and second generation entrepreneurs. The nature, type and characteristic function of entrepreneur's effort in relation to the developmental style has certain limitations. Essentially the developmental style is

aimed at long term planning enabling human resources to function effectively over a period of time. In view of better counseling and career growth the fact that the first generation entrepreneurs scored significantly higher compared to second generation entrepreneurs is sustained. Because the first generation entrepreneurs were project formulators and were aiming at long – term goal orientation, bringing effective human resources for plausible success, the nature of interpersonal relations has made them go through various kinds of situations. On the other hand, the second generation entrepreneurs were project executers and were aiming at short term or medium term goal orientation, some of these things were not helpful to second generation entrepreneurs. To conclude, the first generation entrepreneurs adopted developmental leadership style, second generation entrepreneurs adopted critical leadership style and benevolent leadership style failed to discriminate between first and second generation entrepreneurs.

Leadership is classified into six styles based on results (Goleman, 2000). Coercive leaders demands immediate compliance, Authoritative leaders mobilize people towards a vision, Affilitative leaders create emotional bonds consensus through participation, Pacesetting leaders expects excellence and self – direction, and Coaching leaders develop people for future.

In another study (Connell, 2001), the findings indicate that small company employees are more likely to be positive about their work and enjoy higher morale than large company employees. This was primarily due to the ability of small company senior management to interact more closely with employees, adopt more democratic management style and develop positive organisational culture. The management styles adopted by three large firms were generally autocratic, whereas the styles adopted by the senior managers in the smaller firms, were democratic and participative. This suggests that the large firms nurtured more autocratic management styles (as proposed by Green and Connell, 1995 and Karpin, 1995) whereas in the three smaller workplaces consultation and employee participation appeared to be a natural result of the more intimate environment. The small sample of this study serves to moderate possible implications for generalization. In agreement with findings of

this study and much of the extant literature. Pateman (1983) noted that unless employees were allowed to exercise discretion or influence in their work lives, their competence tends to be underused. Small company employees may consciously choose to work for a small firm over a large one. As Candalino and Knowlton (1994) argue, small firms may attract people who are stimulated by the opportunity to make an impact on an emerging company rather than feeling insignificant in a large one. As it is unlikely that any employee would choose to feel insignificant, these observations may have important implications for large firms wishing to improve levels of employee morale. Specially, if autocratic management styles are prevalent in large firms, managers would well advised to follow the more consultative style exhibited by the small firm managers in this study. As a result, it is more likely that a more positive organisational culture and higher levels of employee competence and morale will follow.

Jim Collins (2001) has defined an unique concept of Level – 5 leadership, based on a research on 11 CEOs. Level – 5 leadership refers to the highest level in hierarchy of executive capabilities that was identified during the research. Level 5 leader is one who blends extreme personal humility with intense professional will. Those who possess such paradoxical combination of traits are catalysts for the statistically rare event of transforming a good company into a great one. Collins concludes that Level 5 leadership is an essential factor for transforming a company from good to great, but it is not the only one. It is the combined package of Level 5 and other drivers that take companies beyond remarkable. The other key factors are summarized as follows –

- a. Great leaders focus on people first and then work on strategies.
- b. The great leaders hold both faith and fact together, all the time.
- c. Transformation does not happen at once, rather it initially it happens with radical change program with building momentum and then hitting the breakthrough point.

- d. Breakthrough requires hedging like understanding of three basic concepts, namely, what a company can be the best in the world at, how its economics work best, and what best ignites the passion of its people.
- e. A paradoxical relationship with technology – on one hand these companies do not join the technology bandwagon while on the other hand they are pioneer in application in selected technologies.
- f. They display three types of discipline – disciplined people, disciplined thoughts, and disciplined actions.

Strategic Planning

According to Mintzberg (1973), there are three basic modes of strategic planning. These were termed by him as entrepreneurial mode, adaptive mode, and planning mode with underlying orientation of as proactive, reactive, and systematic respectively. Mintzberg also referred to mixed modes for strategic planning based on different combinations of pure modes. Steiner, Miner and Gray (1982) categorization involves further sub – classifications of Mintzberg’s pure modes giving rise to five approaches for strategic planning. While the formal structured approach of Steiner, Miner and Gray is comparable with the planning mode of Mintzberg, the intuitive – anticipatory approach and entrepreneurial opportunistic approach of Steiner, Miner and Gray may be viewed as a risk based subdivision of Mintzberg’s entrepreneurial mode. Similarly, the incremental approach and adaptive approach of Steiner, Miner and Gray may be considered as further sub – divisions of Mintzberg’s adaptive mode based on risk.

The empirical study of Miles and Snow (1978) based on text book publishing, electronics and food processing industries, and voluntary hospitals on the active / passive dimension claimed that, historically, firms had been following strategic postures of four kinds – defenders, prospectors, analyzers and reactors. The classification was mainly based on risk taking ability. As a result, they claimed that basic postures were those of defenders and prospectors representing the two of a

continuum. But there is a point of conflict between the theoretical development due to Mintzberg (1973) and survey results due to Miles and Snow (1978). This conflict is centered on the adaptive / reactive mode of strategy making. On the other hand Miles and Snow had have claimed that the posture of reactors is an unstable one and vanishes out under stability. On the other hand, Mintzberg considered the reactive mode as a pure mode. The analysis based on the study shows that the mere decrease in the proportion of adaptive mode of functioning of the executives cannot support the claim that the adaptive mode is unstable and hence impure. It can only be concluded that the adaptive mode is the least preferred mode under environmental stability. Further, the entire process of mode switching can be viewed as a three – dimensional one where the respective dimension are the state of the environment, the mode of strategic planning, and the propensity of assume risk. Strategies of successful companies have focus, a strategic profile or value curve which remains visible. The value curve of innovators always stand apart (Kim and Mauborgne, 2002).

Glueck (1980) made a reference to this risk aspect while dealing with strategic alternatives but failed to identify this 3D interaction. Analysis on the 3D way has been carried out by Ray (1998). Along the first dimension, if we move from stability towards turbulence, we observe that the firms with a high propensity to take risk and with the entrepreneurial mode of strategic planning switches over to the planning mode mainly reducing thereby the level of risk by one step. Similarly, firms with a moderate propensity to take risk and with planning mode of functioning switches over to the adaptive mode in main and here again, the level of risk gets reduced by one step. Firms with a low propensity to take risk and with the adaptive mode of functioning go for a random selection of modes as the level the level of risk cannot be further reduced. One may like to describe the third situation as a trap of frenzy.

Given the turbulence, incertitude, and ambiguity of new age of vulnerability, the next set of business leaders are required to create cultures where questions and doubt have legitimacy and where being stubbornly right is folly that must be resisted (Bennis, 2002). Liberalization is making the structure for many industries fluid, the leaders can

respond to this in many ways. By understanding the company's assets and the particular characteristics of their industry, leaders can anticipate the strategies for adoption (Dawar and Frost, 1999). As the environmental state move from turbulence to stability, one can in a similar way observe that a firm moves from the adaptive to the planning mode in main.

2.7 ANALYSIS OF FAILURE AND GORWTH

2.7.1 Major Reasons for Sickness in SSI

Organizational decline starts with the change in the environment and / or in the characteristics of the organization. The managerial inadequacy to restore the fit between the two starts the decline process. (Maheshwari, 2000) The major reasons for sickness are inadequate management such as non – availability or inadequate raw material, ineffective marketing, infrastructural bottlenecks, inadequate finance and gaps in entrepreneurial skills. (Khandwalla, 1989)

Lack of knowledge and managerial expertise leads entrepreneurs to strategic pitfalls. Competences of the entrepreneurs contribute significantly to the success of the units. Many SSI units turn sick due to lack of competence on part of the entrepreneurs. Even training does not help unless the entrepreneur has the right orientation towards the process of self – enterprise. The managerial capability, knowledge, business techniques, attitudinal framework and above all, the wholehearted devotion of the entrepreneur towards the business contribute a lot for the success of a small unit.(Patnaik, 1987)

In many family - managed SSI units there is significant interference from the family members of the entrepreneurs. The personal value of the entrepreneur / leader plays a major role for success of the enterprise.

In many cases the entrepreneur does not analyze the environmental factors influencing the profitability of the business. The common perspectives are related to economical, psychological and socio – logical. (Ramana and Papaiah, 1998) The entrepreneurs are not capable to analyze the strengths and weaknesses and the external opportunities and threats. Sickness in SSI can also be attributed to mismatch between the entrepreneur and the product. Hence the skill and style of the entrepreneur plays a major role in success of SSI units.

The personal characteristics which influence the probability of survival in businesses can be classified into four categories namely, history, family background, personal characteristics and education. The categories are not independent. Amongst the relevant work history characteristics which might be thought to influence the likelihood of an individual staying in business are prior business ownership, prior managerial experience, experience of unemployment, experience of working in a large firm, work experience in the same sector, and training.

There are very few studies which have managed to incorporate more than a few of these personal characteristics of the founder into a study of small business survival, alongside other influences upon business failure identified. Notable partial exceptions to this include the study by Kalleberg and Leicht (1991), which shows that prior self – employment experience for men is associated with a higher likelihood of going out of business. However, it shows that there are no clear gender differences between survivors and non – survivors. The number of years of prior experience of the founder in the industry is not an influence on survival and neither is their age when they began the business.

A study by Bates (1990) is concerned with examining the human capital factors which influence exists from self – employment in Untied States. Whilst the study specified a relatively limited range of human capital characteristics – it includes only education levels, family business ownership experience, management experience of owners and

their age – the findings suggest that higher levels of education are associated with higher survival rates once in business.

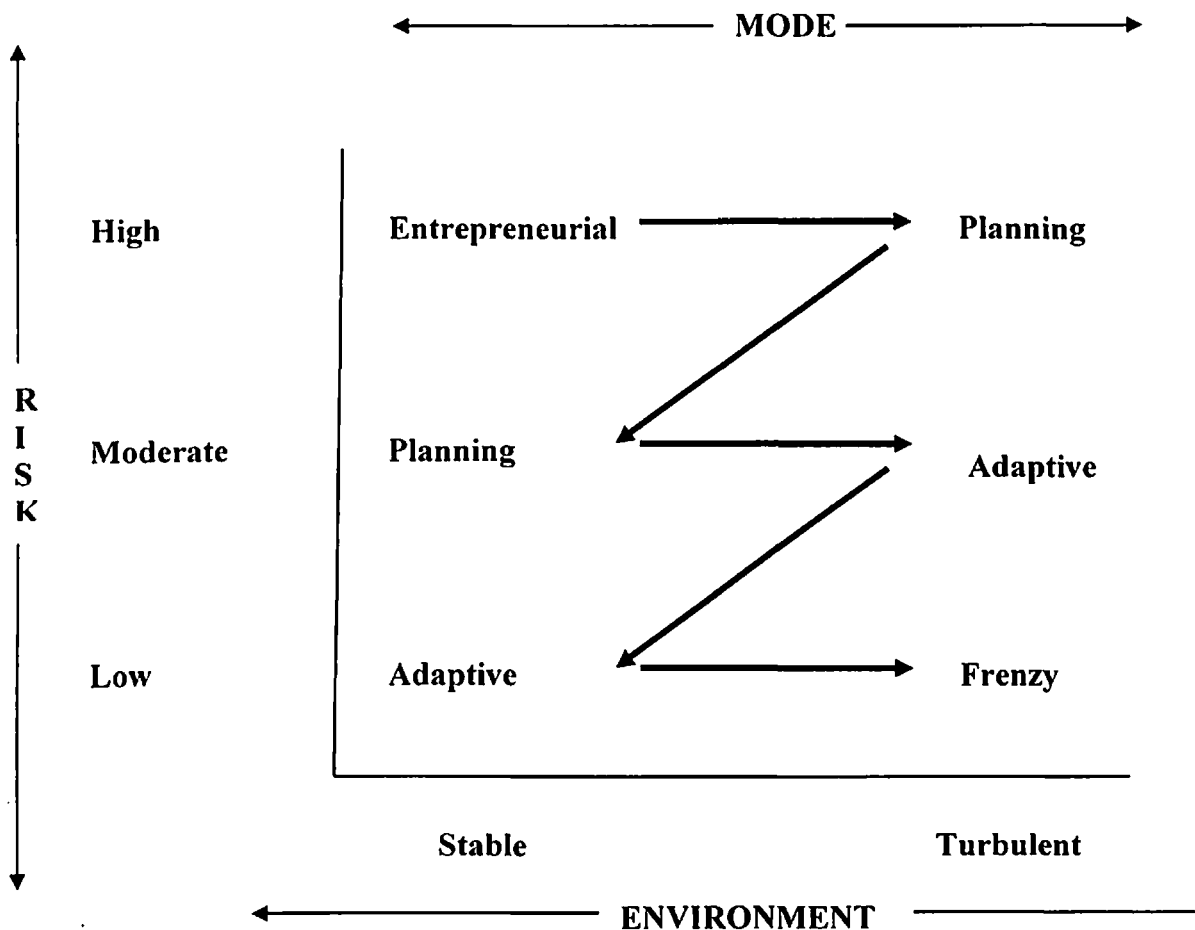


Figure 2.10 - Mode Switching Process
(Adopted from Ray, 1998)

The study of Cressy (1992) also found that the personal characteristics of founders to be relatively unimportant influence on survival rates. The only two characteristics which appeared to influence survival were the age of the proprietor and whether they had qualifications, even though employment status, gender, prior business ownership and managerial experience were all included within the equation.

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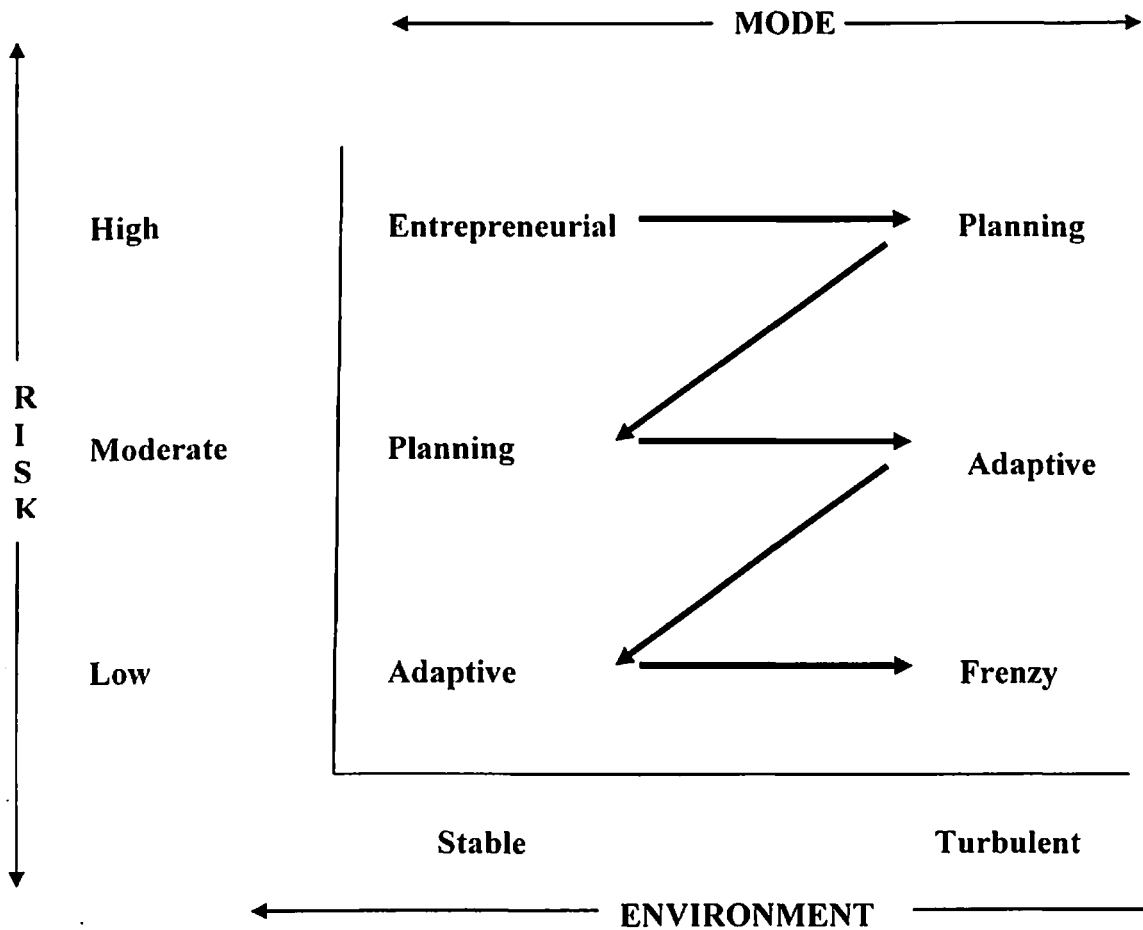


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2.7.2 Organisational Culture & Employee Morale

Dr. Julia Connel carried out a study on to report gaps on order to examine the influence of firm size, management style and organisational culture on employee morale, and hence, organisational effectiveness. Although the study was undertaken in three large (over 250 employees) and three small (fewer than 100 employees) firms based in New South Wales, Australia, it is proposed that the large / small firm comparisons will prove useful for international researchers and practitioners.

Themes relating to management style	Large Organisations			Small Organisations		
	1	2	3	1	2	3
Management Style	Democratic	Token Democratic	Autocratic	Insular / Laissez - faire	Democratic	Consultative
Management Consultation	High	Low	Non - existent	Non - existent	High	High
Management Presence	High	Low	Very Low	Very Low	High	High
Management encouragement of employee participation	High	Medium	Low	Low	Medium	High
Management action as a result of participation	High	Low	Not Applicable	Very Low	High	High

Table 2.25 – Management Style within the Firms
(Adopted from Connel, 2001)

Hall (1992) examines whether there is evidence that the owner's perceptions of the reasons for failure varies with the age of the firm. He concludes that it would appear that the owners of young firms were more likely to suffer from inadequate funding, poor products and inefficient marketing. As their companies aged, however, they were more likely to be buffeted by strategic and environmental shocks for which they do not have managerial skills to respond.

There is a long history of research into the identification of businesses which are deemed to be at risk of failure. It has derived its intellectual inspiration from the contribution of Altman and colleagues (Altman 1968 and Altman et al, 1981). They

took conventional financial ratios measuring liquidity, profitability, etc. and identified the most appropriate combination which best distinguishes failed from non – failed businesses. It was then possible to use this combination of ratios, appropriately weighed, to produce a so – called zeta – score which would provide an indicator of the extent to which an individual business was at risk of failure. Altman’s zeta score could then be calculated and applied to existing businesses to predict impending failure. This work was under criticism for several years.

Sub - categorisation	Large Organisations			Small Organisations		
	1	2	3	1	2	3
Perception of organisation fit	Mostly High	High	Low	Medium	Mostly high	High
Belief in the future of company	High	Very Low	Low – Medium	Medium	High	High
Sense of purpose / helplessness	High Purpose	High helplessness	High helplessness	High helplessness	Medium purpose	High purpose
Blame culture – present or absent	Blame culture absent	Blame culture present	Blame culture present	Blame culture present	Blame culture absent	Blame culture absent

Table 2.26 – Organisational Culture compared within the Firms
(Adopted from Connel, 2001)

First, the absence of any clear theoretical criteria for the inclusion or non – inclusion of particular ratios. The inclusion of ratios was based exclusively upon their predictive power, rather than upon a priori theorizing. The second criticism is that the models do not provide an explanation of business failure, but rather identify symptoms of poor performance and offer little insight into what actions should be undertaken to overcome these problems. The third criticism is that the analysis is based exclusively upon financial ratios, whereas there might well be other items which can better predict failure, such as sector, ownership, entrepreneurial background, firm’s age, etc., but which are not included. The fourth criticism is that the methodology used and models derived have been primarily applied from the large firm, rather than from the small firm sector.

Similar studies were conducted by Keasey and Watson (1987, 1991 and 1993) and some other factors were suggested for inclusion to study the problems of small firms. Reid (1991) examined the progress of 73 small firms in Scotland between 1985 and 1988. He found that 53 firms were still in business in 1988, he was interested to study the factors which distinguished the survivors from non – survivors. He also combined both financial ratios and a number of other, more qualitative, indices such as competitive nature of the market in which the firm operated, its size in terms of number of employees, age, whether or not it advertised, the size of its product range and its use of external debt. Reid concluded that the greater the product range and lower the levels of external borrowing, the higher the chances of the firm staying in business. The number of product groups which the firm has may also be considered as a proxy for size of its customer base. Dependence upon narrow range of customers or dependence upon a single customer or small number of customers, is clearly a major element affecting survival and non – survival.

According to North et. al. (1992) motivation plays a major role in survivors and non – survivors i.e. the desire to grow or contract. The examination of the adjustments or change which surviving firms made over a long period of time is the most important aspect of the study. Smallbone et. al. (1992) identified five broad types of adjustments or change –

- Product and market adjustments
- Production process adjustments
- Employment and labor process adjustments
- Ownership and organisational adjustments
- Locational adjustments.

The research clearly confirmed that the firms which were most active in making adjustment were most successful in terms of employing change and survival. The research also shows that development of markets was essential for most firms for both survival and growth. But for ‘achieving real growth’ active market development in

terms of both the identification of new market opportunities and increasing the breadth of the customer base are essential.

The research also drew an interesting distinction, pointing out that survival was possible with relatively conservative market strategies, but that managing the product profile was apparently necessary for both survival and growth, in the sense that firms with very different performances all made significant adjustments to the range or mix of their products. It was also the case that it was the declining firms, which undertook the fewest steps to improve competitiveness, and that, where these were taken, they tended to focus more upon reducing costs, rather than upon other dimension of competitiveness, such as quality improvement.

The researchers identified 'internal organisational adjustments' as the second most common type of adjustment characterizing surviving firms. High performing firms were most likely to point to organisational change which had enabled top management to free them from operational decision and to delegate responsibilities more extensively.

CHAPTER 3

RATIONALE AND RESEARCH OBJECTIVES

3.1 RATIONALE OF RESEARCH

In Chapter 2, the importance of SSI has been dealt in detail. SSI are needed to exist along with large organisations as they form an important link in the value chain of large organizations. The competitiveness of these SSI, especially those who are suppliers to large manufacturing industrial sector is influenced by their ability to adjust to the rapidly as per changing customers' requirements (Bakar, 2000). Also SSI provide employment to a large population and utilize the skills of those who do not get employment opportunity in either large or organized sector. But the major issue is SSI should integrate its business processes with that of the large sector.

The global business environment has undergone transformation process, the process is not going to complete rather the speed of change is going to be faster than ever before (Grove, 1997). Three major features of change are important for Indian business organisations in the present context. First, there has been a major shift from 'policy regulation' to 'market orientation'. Second, globalization has lead to an integration of world economies, resulting in market competition across the globe. Third, the technological changes have influenced to a great extent the method of business performance. (Bhavani, 2002) All the change had a direct impact on the business strategies of large organisations; also the business processes had been reengineered. It is also agreed that SSI transform them to match the pace of change of large organisations as most of them are closely linked with their large organisations' value chain (Vasudevan, 1998). The SSI are going to play a major role in bringing business of the large organisations success. This leads to a need for a comprehensive approach to management of processes of business excellence.

Survival of business depends on strategic awareness translated into implementable goals, capital and control systems (Flavel and Williams, 1996). Successful

implementation of strategies is aligned with organizational leader's effectiveness in making decisions, the effective marshalling of resources and capabilities and appropriate response to the environment (Grant, 1998).

Competitive strategy is an integral part of strategic management. This emphasises the need for developing a strong and dynamic business model for organisational excellence in by a SSI.

As discussed in Chapter 2, business moves through the life cycles, and that it is a challenge for the leaders to recognise when the management style and structure need change. Issues to be addressed in this context are business models and strategies, and leadership.

Business undergoes four broad stages of life cycle, introduction, growth, maturity and decline. And as the business move from one life cycle stage to the other, strategic considerations change as strategy must be adjusted to meet the new market conditions of the next stage. The life concept is not used for a short run forecasting device, it is useful in as a conceptual framework for understanding what changes might occur over a period of time (Dess & Miller, 1993). The focus of strategy in introduction phase is to make a noticeable entry through innovation; generally a small beginning is planned in this stage. While in growth stage the focus is on scale and efficiency improvement through implementation of various operational management techniques. At maturity stage since the growth opportunities reaches a limiting state, the major focus shifts to consolidation and cost management aspects. The companies which successfully sense the signals of life cycle stages and work on strategy planning and respond with a new approach becomes successful to redefine the growth path. In case the companies fail to respond to the needed changes, it enters into decline stage and at this stage the focus shifts to turnaround strategies or divestiture or liquidation.

As expressed in the Chapter 2, the changes can be managed with internal and external focus, both. Khandwalla (2001) has expressed that rework with internal focus is more important and can lead to improvements in the organization. Prahalad (1990 & 2002) and Ghoshal et. al. (2000) has further supported this aspect and expressed that a

planned approach in competence building may help the organizations to excel. Some of them are as follows.

Business Phase	Capabilities Required
Introduction	<ul style="list-style-type: none"> • New Product Development • Strategic Planning and Market Insight • Marketing and Sales Innovation • Alliance and Partnership Development
Growth	<ul style="list-style-type: none"> • Financial Management • Operational Planning and Management • Capital Management • Brand Management
Maturity	<ul style="list-style-type: none"> • Mergers, Acquisitions and Divestment • Consolidation and Rationalization • Cost Management

Table 3. 1 – Business Capabilities Focus
(Adopted from Dranikoff, Koller and Schneider, 2002)

Leaders play the central role in developing the excellence strategies at various stages. As the fitments of the operational strategies vary from one stage to the other, the excellence models adopted at these stages also differ. But, leadership in this knowledge era would no longer succeed on command and control and leaders would not be accepted as isolated heroes. There is going to be a community of leaders needed for growth of the SSI (Senge, 1997).

SSI has a history of protective policy support from the Government due to high employment and export potentials. Also a number of preferential credit schemes were in practice, loan melas were organised to facilitate easy flow of credit. Due to low entry barriers there has been a remarkable growth in number of SSI but on the other hand this has resulted in sickness of the SSI due to lack of business acumen on the part of the entrepreneurs. SSI also did not develop adequate capabilities to face the domestic and global competition.

Following major concerns of SSI are identified based on the literature review –

Sickness

Growing incidence of sickness of SSI is a major area of concern. When the sickness prolongs it leads to the closure of units and unemployment. Mortality of the SSI units

has been showing increasing trends. This has wider implication including locking of funds of the lending institutions, loss of scarce material resources and loss of employment. The number of sick units identified as potentially viable as a percentage of total sick SSI units is around 8. The causes of sickness are both internal and external. The major causes are limited financial resources, lack of organisational, functional and management skills and expertise, diversion of funds, diversification / expansion before stabilization, non – availability of power supply shortage of raw materials, marketing difficulties, delayed and inadequate credit, globalization and liberalization of the economy, obsolete technology, inadequate infrastructure, etc. With a view to ensuring that potentially viable sick SSI units are provided with timely and adequate assistance by all agencies concerned, there are State Level Inter Institutional Committees (SLIIC) constituted in each state involving State Governments, financial institutions, commercial banks and SIDBI. SSI Associations are also invited to attend the meetings of this committee. A sub – committee of SLIIC has also been set up in each state to examine the individual cases referred for rehabilitation.

Inadequate Credit

As discussed in Chapter 2, SSI sector contributes 18.21 % NPA of the PSU banks. The growing rate of sickness has lead to skepticism on the part of bankers towards new enterprises. This has also resulted in critical evaluation of creditworthiness and also higher rates of interests. In some cases lack of knowledge and exposure on SSI credits on the part of bankers also make the credit sanction and disbursement process difficult.

In spite of special schemes of the Government, credit flow to this sector has reduced in percentage and absolute terms. According to RBI, lending to SSI has been 7.6 % of the total bank credit in the year 2002 – 03 as compared to 8.5 % in the previous financial year. 40 % of credit has been targeted by the Government for priority sector lending out of which 18 % is for agriculture and 10 % for weaker sections of society. In spite of repeated demands from the SSI Associations, the banks have not agreed to reserve the balance 12 % for the SSI sector. Although the banks have agreed to fix up

internal targets for SSI lending and the internal check (audit) system of the banks and RBI to monitor this aspect, the real benefit is yet to be seen. RBI has also advised the PSU banks to open SSI specialized branch in each district and deploy officers specially trained on SSI credit.

To address the incidence of growing sickness in the sector the Reserve Bank has recently issued a complete set of revised guidelines drawn up on the basis of the recommendations of a Working Group constituted by it for the purpose. The major change from the earlier guidelines relates to revised definition a borrowers - account which remains sub – standard for more than 6 months or erosion in its net worth due to accumulated cash losses to the extent of 50 % during the previous accounting year and where the unit is in commercial production for last two years is categorized as a sick unit. The guidelines also cover aspects relating to monitoring, viability, incipient sickness, relief and concessions that can be extended by banks to units under nursing, time limit for implementing rehabilitation package etc. These revised guidelines will help in identifying the sick units in the early stages of their sickness and the appropriate measure of rehabilitation dose is expected to bring the units back on healthy tracks. (RBI, 2002)

Infrastructure

Infrastructure is viewed as a stock variable in physical terms, does not produce commodities directly but serves as a facilitative structure that promotes economic activities. Infrastructure growth rate should match with the growth in industrial growth. Low level of infrastructure development, for example, transport facility holds back the states from taking benefits of whatever natural advantages it has in terms of forests, minerals and climatic conditions. Most common problems faced by the SSI are – erratic electricity supply which affects production and subsequently repayment of loans, costly pollution control measures. These negatively influence the industries' competitive position due to the lack of capital and sustaining capacity in the context of entry of multinational companies with huge investments. For rapid industrial development basic infrastructural facilities like transport, communication, power, energy, etc. need top priority.

Marketing and Market Orientation

Organisational capabilities are gradually getting more emphasized as compared to market in strategic management process (Rumelt, et. al., 1994). Due to low focus on changes in the external environment the internal management process remain static which in turn lead to problems. The SSI registered with the Directorate of Industries of various states were eligible for price consideration upto 15 % for the product supplied to government and semi – government establishments and these establishments were required to make purchases from the SSI. In the event of free market concept and in absence of capability to compete the SSI purchases from the government declined over a period of time. Due to assured purchase form the government, the SSI did not build marketing and brand management competencies (Patnaik, 1987).

Quality, Cost & Technology

Competitive advantage by SSI can be derived by paying attention to technology, cost and quality. Lower cost of production and high quality of products play a significant role in global business perspective. SSI paid low attention to modernization and upgradation of technology during the last five decades. Not only manufacturing technology was not upgrades but also other business processes such as information and communication technologies were also neglected by the SSI. (Juneja, 1998)

Process Focus

As detailed in the literature review a process enterprise is the organisational form for a world in constant change. Process management is not merely a way to address specific problems – poor quality or high costs. It is a platform for capitalizing on new opportunities. Just as important as having smooth, efficient processes is being able to redesign those processes on the fly. The processes must change their shape as markets change, as new technologies become available, and as new competitors arrive. (Hammer and Stanton, 1999 and Juneja, 1998) The SSI are in the midst of a mix of opportunities and threats which could not be imagined ago. The opportunities have

brought challenges and these challenges which are centered on technology upgradation, quality and productivity have to be addressed to survive and grow (Juneja, 1998). With these emerging issues like global competition, major focus on customization and the cost pressures the SSI are required to adapt the concept of process enterprise.

All the issues discussed above leads to a need for studying the business excellence models adopted by the SSI to deal with the changes at the introduction, growth, maturity and decline stages.

Competence of People and Leader

Lack of knowledge and managerial competence leads to strategic pitfalls. This is primarily due to lack of right orientation and training.

The SSI sector is facing problem due to low focus on human resource management. This is resulting into limited number of competent personnel. (Bakar, 2000) For efficient operations of business processes skill and attitude of people, and knowledge are important factors.

As discussed, in many cases the entrepreneurs have entered into business due to intensive loan campaigns launched by the government agencies and banks. To summarize, managerial capability, knowledge, business strategy and process design, attitudinal framework and commitment of the entrepreneurs contribute to the success of the SSI. (Patnaik, 1987)

Strategic focus

The business fundamentals are based on value chain and continuously strive to deliver better value to the customers through innovative process design. As described in Chapter 2, often the entrepreneurs establish a small business to create opportunity for self employment, as a consequence to this he employs many others, too. In many cases such SSI also do not evaluate the business performance through financial

analysis. instead only regular cash flow remains the only criteria to evaluate the performance. The SSI sector lacks in reengineering approach and realignment of the business goals as per the value chain of their counterparts in the large industrial sector. SSI must not look at itself in isolation; it needs to review its role in larger context of the supply chain of large industrial sector. Only an efficient supply chain would ensure survival of the SSI supported by a sound operational policies and strategies.

In absence of internal and environmental analysis SSI do not work on change management efforts. Change efforts of SSI should be coordinated by core competence. Mismatch between the competence and the market needs leads to sickness. The SSI leaders should analyze their own performance in the context of core competence and the competence to be acquired. The SSI do not function with an 'excellence agenda'. The business expansion, economy of scale and planned diversification should form a part of growth based on core competence.

3.2 RATIONALE BEHIND SELECTING MAHARASHTRA AND MADHYA PRADESH AS REPRESENTATIVE STATES

As discussed in Chapter 2, the economic landscape of many states in India has changed during the reform years. The gross domestic product has grown at a higher rate during the nineties, especially when compared against the performance immediately before the reforms. The states with greater economic strength have gained at the cost of the poorer ones, this has adding to the regional disparity. In other words, prosperous States have prospered further while poor ones have become poorer. At present only 5 states namely, Maharashtra, Uttar Pradesh, West Bengal, Tamil Nadu and Andhra Pradesh together accounts for nearly half of the aggregate domestic product of the major Indian States. Whereas Bihar, Assam, Orrisa, and Madhya Pradesh have witnessed a decline in its share in aggregate SDP since the reforms. Maharashtra, the top ranker in the SDP recorded about 1 % increase in its share in aggregate SDP during period – up from 13.96 in 1990 – 91 to 14.96 in 1999 – 00. Madhya Pradesh and Andhra Pradesh are the only states which were in the top five bracket of SDP growth rate in 1990-91 but have displaced to the lower bracket. This

means that in post – reform era Maharashtra has recorded a net growth where as Madhya Pradesh has recorded a negative growth. The data shows that the rate of growth of the SDP in Madhya Pradesh is very slow as compared to the national average, too.

As per Table 2.18 and 2.20, historically Madhya Pradesh had the maximum number of SSI units which were later taken over by Uttar Pradesh. At present, Maharashtra and Madhya Pradesh both represents mean population (about 5.12 %), hence these states can be treated as representative state based on population. Maharashtra in addition to Gujrat and Karnataka are some of the states known to be industrially advanced in the country, whereas Madhya Pradesh represents industrially backward states. This can be explained with the help of the contribution of industrial sector to NSDP (Table 2.13). The NSDP contribution of industrial sector in Maharashtra is 31.5 % whereas this figure is 26.2 %, both are higher than the All India average of 23.7%. Since the SDP figure of Maharashtra is higher than that of Madhya Pradesh (Table 2.12), hence even if in percentage terms the – terms the difference is not very high but in absolute terms this leads to significant gap. Liberalization has thrown up opportunities best exploited by the residents of these states. Larger industry has also grown in these states and has pulled SSI along with it. (Bhandari, 2002)

3.3 RESEARCH OBJECTIVES

The primary objective of the research is to analyze the strategies adopted by SSI at different phases of business cycle with reference to the changing business environment, and the role of leadership.

The objective is to study the SSI which are in growth phase and also those which have crosses the growth and entered into maturity or decline phase. The aim is also to study the strategy of SSI which have began operating in within last two years, this was necessitated to know whether there is any difference in approach by the new unit. SSI are selected and classified in such a manner that at least one industry is there at each phase of business life cycle i.e. Introduction, Growth, Maturity and Decline. Business

excellence strategies adopted by the industries are studied and analyzed to evaluate the effectiveness. A generic business excellence model is evolved. The model can provide a broad framework of issues to be analyzed and implemented.

Total Quality Management (TQM) is taken as a basic framework for the proposed research. The TQM does not only deal with management of quality but also requires addressing quality of all aspects of management. Every organisation shall have to develop its own Business Excellence Model. Based on the Model, the dynamic features of management i.e. readiness for change, attitude towards the customer and society, and internal environment need to be managed effectively, they all form a time variant processes.

A general study is also carried out on different leadership styles in vogue. The research does not aim at prescribing a specific framework for leadership, but it aims at providing a guideline on the issues and their relative importance at different phases of business cycle. Since business conditions are not stable, it is difficult to formulate a rigid model for leadership. The extent of these issues certainly depends on the prevailing conditions. No leadership style can be termed as the best, neither any decision making style is superior to another. Each style is can be highly effective in certain conditions (Williams and Miller, 2002).. Hence, features of a most adaptable style are suggested as a guideline. They are evaluated on dynamic business environment.

The research largely covers the state of Madhya Pradesh and Maharashtra to study the commonality of issues in the light two different states in which performance of manufacturing sector are significantly different. One each SSI have been studied from Andhra Pradesh and Goa, too.

Hypotheses

Based on the major areas of concern two major hypotheses are formulated.

Major Hypotheses

- a. There is no difference in the elements of Business Excellence Models adopted by the SSI during Growth, Maturity and Decline stages.
- b. There is no difference in the elements of Business Excellence Models adopted by the SSI of MP and Maharashtra.

Both the hypotheses are tested independently for each sub hypothesis.

Sub Hypotheses

Sub hypothesis have been formulated on various elements of business excellence and leadership. These elements have identified from Malcolm Baldrige National Quality Award Model and European Self Excellence Model of EFQM.

Sub hypotheses on Finance & Credit Management -

1. Initial source of capital : brought by own sources, borrowed from banks, FI, SIDBI, privately borrowed, or borrowed from other sources
2. Source of capital for expansion : from internal savings, or bank
3. Bill discounting availed
4. Adequate credit available : from banks, or form SFC / FI
5. Adequate credit available : for exports
6. Satisfaction on cost of credit : from banks
7. Time taken for loan sanction by the banks : within one month, one to three months, three to six months, or more than six months
8. Time taken for loan sanction by SFC / FI : within one month, one to three months, three to six months or more than six months
9. Time taken for loan sanction for export finance : from one to six months
10. Time taken for loan disbursement by SFC / FI : within one month, one to three months, three to six months or more than six months
11. Time taken for loan disbursement for export : within one month one to three months, three to six months or more than six months

12. Satisfaction on single window scheme
13. Problems in credit : collateral, or awareness about collateral free loan
14. Reasons for delayed in loan assistance : collateral requirement, or reluctance by bankers
15. Need for credit rating
16. Extent of delay in payments receivables from customers : 15 days, 15 to 30 days, 30 to 45 days, 45 to 90 days or more than 90 days
17. Impact of SSI and Ancillary Undertaking Act, 1993 : improved, not improved, or not aware about the Act
18. Problems in getting credit : collateral, attitude of FI, attitude of banks, Government policies, interest rate, or repayment terms

Sub hypotheses on Financial Control –

1. Budgeting system : in practice
2. Product costing system : in practice, and in planned frequency
3. Process costing system : in practice, and in planned frequency
4. Quality costing : in practice

Sub hypotheses on People Management –

1. Independent person to look after welfare & training
2. Provision of training budget
3. Employment : time rated, piece rated, contractual, and / or casual or Badli
4. Strategic training plan
5. HR forecasting : in practice, basis – business plan, skill forecasting, and / or skill inventory
6. Functions performed by contractual workmen : unskilled work, skilled work, office work, security, canteen, and / or functional specialists
7. Contractual employment for product demand : seasonal, export, or sporadic
8. Contractual employees' training : on the job, formal induction and / or skill training
9. Data transparency on performance : product cost, process cost, and / or profit & loss

10. Data based performance analysis system : in practice
11. Basis for pay rise : owners' discretion, data based performance of production, data based performance of production & quality, annual sales growth, or others
12. Method of performance evaluation : annual performance appraisal, group performance appraisal, or general organisational performance

Sub hypotheses on Marketing Management –

1. Demand forecasting : without scientific techniques and based on targets of customers, or with the help of statistical techniques
2. Benefits of Demand Forecasting : budgeting & fund planning, material planning, manpower planning, and / or production planning
3. Frequency of wrong demand forecast : rarely, never, sometimes, very often, or every time
4. Assessment of future demand growth
5. Data source for demand growth : standard literature, survey or similar sources
6. Adequacy of existing resources for export : adequate, inadequate or can not comment

Sub hypotheses on Sales Management –

1. Sales incentives / commission : incentive, commission, after meeting targets, after getting new customer
2. Sales monitoring : linking incentive with travel bill
3. Sales personnel employment : full time – independent, or full time – on contract
4. Selection of sales personnel : direct interview, or fresh MBAs selected and trained
5. Sales training : structured
6. On line selling : future plan
7. Awareness about SIDBI scheme on marketing

Sub hypotheses on Operation Planning Process –

1. Basis for assessment of manufacturing capacity : supplier's manual, or Industrial Engineering study
2. Assessment of critical factors affecting manufacturing process
3. Material or purchase planning : carried out, frequency – once in a month
4. Production planning : carried out, frequency – once in a month
5. Revision in production plan : sometimes, due to change in customers' schedule
6. JIT : in practice, reason – customer's requirement, or inventory control

Sub hypotheses on Manufacturing & Quality Management –

1. Reason for ISO 9000 / QS 9000 / USFDA certification : requirement of customer, business from government, improvement, establishment of a documented system, or first step towards TQM implementation
2. Quality control systems in practices : incoming inspection, vendor performance analysis, second party audit, machine set up approval, first piece approval, patrol inspection during manufacturing, sampling inspection after manufacturing, or customer inspection
3. Maintenance system : preventive, predictive, or condition based
4. Reason for automation : value addition, or quality check
5. Internal audit of manufacturing and quality system : in practice, planned
6. Audit conducted by customers : carried out, scope - manufacturing and quality control systems

Sub hypotheses on Information & Information Technology Management –

1. Usage of computer : in use, purpose - routine office work, inventory record, or day – today reporting
2. Usage of internet : in use, purpose – email, or global data access
3. Usage of email : communication with customers and suppliers
4. Website : available, updated regularly

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3. Usage of email : communication with customers and suppliers
4. Website : available, updated regularly

5. Usage of ERP or similar systems

Sub hypotheses on Technology Management –

1. Technology Transfer : taken place, and cost of technology transfer – high, reasonable
2. Awareness about SIDBI scheme on technology upgradation
3. Scope of R & D in the light of WTO : innovative product development, product development through reverse engineering, improvement in existing products, innovative manufacturing process development, and improvement in existing manufacturing processes
4. Reasons for innovation or improvement : self initiated quality improvement, cost reduction, product simplification or value engineering, or facilitation in product repair or servicing, reduction in manufacturing cycle time, quality improvement for meeting the additional needs of customers, cost reduction for the existing customers, product simplification for the customers, catering to a new market segment, or product or process benchmarking
5. Support from outside agencies for R & D : engineering or technical colleges, CSIR, independent consultant, or others
6. Mode of technology search : through consultant, membership of industries association, or participation in trade mission or seminar or conference abroad
7. Expectations from the Government : subsidy for in house R & D, enhancing tax relief, creation of common facilities, or setting up of incubation lab
8. Preparedness to face WTO challenges : fully, partially, or not prepared
9. Product or process patents in possession
10. Gadgets used & knowledge preservation : CAD or similar technology, documentation to preserve the R & D efforts, indexed system for knowledge preservation

Sub hypotheses on Strategic Management / Issues –

1. Support taken from outside experts

2. Association of students for training : yes or no, reason for not accepting students - no value added work, problem creation, not interested in learning, or no such policy exists
3. TQM implementation : level of TQM implementation - only training, training & implementation – limited way, or implementation – advanced level, measurement of results of implementation - customer satisfaction with data base, customer satisfaction – without data base, quality performance parameter, value addition, six sigma implementation, productivity, training effectiveness, or others
4. Quality circle implementation : yes or no, level of acceptance of recommendation
5. Method of strategy planning : discussion with other directors, managers or other employees
6. Frequency of review of strategies & plans : quarterly, six monthly, annually, or as & when necessary

Sub hypotheses on Leader's Perception about External Environment –

1. Protection expected from Government
2. Promotional support expected : through R & D facilities, foreign technical collaboration, product standardization, or expansion of market, through financial assistance, or other methods
3. Duty barriers experienced : anti dumping duty, or countervailing duty
4. Impact on the performance due to lowering of investment limit from Rs. 3 to 1 Crore : general unfavorable, or unfavorable on technological upgradation
5. Expected investment limit : Rs. 5 Crore or 3 Crore
6. Competition from large scale industries : in India, or at international level
7. Competition as barriers : domestic, or international
8. Satisfaction on government policies : excise duty exemption, Credit Guarantee Scheme, Composite Loan Limit, Collateral Security, Credit Linked Capital Subsidy, or Back Ended Capital Subsidy

9. Satisfaction on existing infrastructure : telephone, link roads to Industrial units / clusters, general roads, power supply, water supply, effluent treatment, or space for expansion

Sub hypotheses on Change Management –

1. Change process facilitation : by a consultant, by an external agent, by CEO, or by one of the family members joined recently
2. Most important reason for change : value improvement, meeting the requirements of existing customers, manufacturing cycle time reduction, or new opportunity in the country
3. Least important reason for change : implementation of a Business Excellence Model, implementation of a ERP or similar package, anticipate change in global competition, system benchmarking, retaining skilled manpower, exploring new business opportunity abroad, process benchmarking, product benchmarking
4. Result of change process : favorable, or unfavorable

Sub hypotheses on Leadership Style –

1. Vision and Corporate Policy
2. Long Term Planning : carried out, updated - every year or as per need
3. Medium Term Planning : carried out, updated - every year, six months or as per need
4. Tactical planning
5. Customer relationship : communication every day, once in a week, once in a month, as per need, or rarely, reason - product marketing, exploring new market opportunities, exploring opportunities for new product, or to settle complaints
6. Future leadership : son or daughter, brother or sister, other relative, or other person (not in relation)
7. Transfer of leadership in case no one within the family is found suitable : readiness

8. Target for self performance
9. Communication with departmental heads : any time, frequency - daily . once is a week, once is a month, sometime as per need
10. Communication with shop floor employees : never, often on every time on every visit to shop floor, once in a day, once in a week, once in a month
11. Communication of business performance with the people : sales turnover, cost related data, profit related data, productivity related data, other data, method - verbally & informally, verbally & formally, through Notice Board
12. Socialization : method - informal meetings, official lunch / dinner, family gatherings, frequency - once in a month, once in a quarter, once in a six month, once in a year
13. Review of suggestions of quality circles
14. Resource Identification
15. Computer literate
16. Self Planning : carried out, frequency - once in a day, once in a week, once in a month
17. Self Learning Planning

CHAPTER 4

METHODOLOGY

4.1 TYPE OF RESARCH

The study is based on descriptive type of research with a primary objective of analyzing the strategies adopted by SSI at different phases of business cycle namely introduction, growth, maturity and decline with reference to the changing business environment. Prior knowledge based on published literature about the problems of the small scale sector in the light of global business environment and thus the need for efficient business performance, leads to the conclusion on descriptive nature of the research. Generic business excellence models are attempted at these stages of business life cycle. A general study on the leadership styles in vogue is also carried out. Business process elements and drivers identified from the two most widely adopted business excellence models (MBNQA and EFQM) based on Total Quality Management are made basis for studying the strategies adopted by the leaders. The strategies are evaluated for effectiveness of the styles adopted by these business leaders. Being a descriptive study, the basic assumption that no leadership style can be termed as the best holds good. Hence, features of a most adaptable model and leadership style are to be used as a guideline.

4.2 RESEARCH DESIGN

Secondary data study and survey cum interview methods have been adopted for the research. Performance on the specific industrial sector published by Reserve Bank of India was used to compare the performance of the SSI from various sectors so as to classify the SSI into introduction, growth, maturity and decline phases. This aspect is explained in detail in Section 4.7 of this Chapter. Data on business performance, processes and leadership have been collected through questionnaire survey method. This is also further explained in this Chapter.

4.3 SAMPLE DESIGN

Table 2.20 details state wise population of SSI. Madhya Pradesh and Maharashtra have been selected as primary sample frames. Andhra Pradesh and Goa have also been used because of convenience of identification of SSI in these states.

Judgment sampling method was used in the study for identifying SSI in introduction phase. The SSI which are functional since not more than two years has been placed in the Introduction Phase, business results of these SSI have not been stabilizes hence these results were not made basis for the purpose of classification.

Quota sampling has been used for the other phases of SSI. Many SSI were known to be suffering from incipient sickness or were closed, random selection of the SSI was not feasible. Also, in depth study of the SSI was aimed in the research in order to study all aspects of business performance, hence a large sample size was not practicable. A sample size of 0.05 % was selected for the study which comes out to be 124 and 50, for Madhya Pradesh and Maharashtra, respectively. As the data on Madhya Pradesh includes the SSI of Chhattisgarh state hence the number of SSI to be sampled was halved, leading to a sample size of 62 for Madhya Pradesh. Questionnaire was sent to the SSI. In addition 4 SSI from Andhra Pradesh and Goa were also sent the questionnaire. Support was taken from the Confederation of Indian Industry (CII) to identify the SSI. Follow up was made on telephone and personal visits were made at Bhopal and Indore. 28, 21 and 4 questionnaires were received back from Madhya Pradesh, Maharashtra and other states, respectively. In most of the cases financial data were not provided for which the SSI were pursued. Also, in many cases the questions were clarified to the organizations through personal interaction, when needed. Later, 17 SSI were selected from Madhya Pradesh and Maharashtra each for study which provided complete data. Also one organization each was also selected from Andhra Pradesh and Goa on grounds.

The SSI units were selected from the manufacturing sector, which were affected the most due to the liberalization process. The service sector has been excluded because

the major growth in this sector has started after the liberalization. Also, the SSI units in service sector are not very sensitive to the investment limit which forms the only basis for classifying a unit as SSI in India.

It was assured that at least one organisation is selected for each phase of business life cycle in order to study the generic elements of the excellence.

Table 4.1 summarizes the sampling related data.

State	Questionnaire sent	Questionnaire received back	Incomplete Questionnaire	Questionnaires found acceptable
Madhya Pradesh	31	28	11	17
Maharashtra	25	21	04	17
Others	04	04	02	02
Total	60	53	17	36

Table 4.1 – Sampling Details

4.4 QUESTIONNAIRE DESIGN

A list of the possible elements which influences business excellence such as resources, business processes and leadership were made. The elements of study were based on literature review and the rationale. The list was reviewed with functional specialists to establish the relevance in each functional area of business management.

Subsequently CII was approached for a final review of these elements of study. A detailed review was made with Managing Director, Nivo Controls Private Limited, Indore and the then Chairman, SME Council, Western Region, Confederation of Indian Industry. The major outcome of this review was that more focus was needed in the study on Government Policies and Credit related issues. The list of elements was modified accordingly.

A draft questionnaire was prepared based on the list of elements as discussed above. A Pilot Study was carried out with the help of the draft questionnaire with six SSI located in Bhopal and Indore.

4.5 PILOT STUDY

A pilot study was conducted on six SSI of Bhopal and Indore. A report was prepared for preliminary review with CII. A detailed review was held with Chairperson, Thermax Limited, Pune and the then Chairperson, Confederation on Indian Industry, Western Region and Deputy Director General, Confederation of Indian Industry, New Delhi. CII was interested to know the status of SSI in Madhya Pradesh to suggest measure to the Government to initiate remedial measures. Some modifications were suggested by them in the approach. The major outcome of this review was that in post – liberalization era when Government Policies are taking a shift from protection to competition, the SSI should also develop competence to be globally competitive, and the study should also highlight the major gaps in this aspect.

Further literature review was carried out to identify the aspects and issues which may highlight gaps in SSI being competitive. The sampled SSI were of the opinion that the length of the questionnaire should be reduced and be made comprehensive. Major modifications were made in the questionnaire, many elements which were found to be not important for SSI were deleted and those elements which can help in studying the competitiveness of SSI were added. The length of the questionnaire was also reduced by integrating some questions.

4.6 DETAILED STUDY

Detailed study was carried out as per the sample identified above.

Data summary sheets were prepared for every aspect and process of business excellence.

The data related to Madhya Pradesh was also summarized separately as desired by CII and a presentation was made to the Western Regional Council. The presentation session was chaired by Chairperson, Thermax Limited, Pune and the then Chairperson, Confederation on Indian Industry, Western Region, prominent invitees

who attended the session included Chairman, Boston Consulting Group - India, Managing Director, Crompton Greaves Limited, Senior Economic Advisor, CII and Deputy Director General, CII and some other CEOs. The approach and suggestions made for Madhya Pradesh was vetted by the Council. Subsequently, report based on the deliberations was submitted to the Chief Minister of Madhya Pradesh.

The data collected was summarized and analyzed as per the methodology described in this chapter.

A generic business excellence model has been evolved which clearly explains the specific strategies adopted by the SSI in various phases of life cycle. Also, specific difference in various elements of the excellence model between Madhya Pradesh and Maharashtra were identified.

Discussion on gaps in the generic model for excellence of SSI to become globally competitive has also been made. Thus comprehensive model to act as a guideline for preparing business excellence plans and strategies has been evolved. Leadership issues and styles were also discussed.

4.7 CLASSIFICATION OF SSI

The sampled SSI were segmented with respect to the growth reported in the respective industrial sector. The actual growth achieved in each sector reported under Annual Report of Reserve Bank of India for the year 2000 – 01 was referred for comparing growth of a particular SSI.

Criteria for placing a SSI in a particular phase of life cycle is explained as below and summarized in Table 4.2.

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Measurement of Growth

During the Pilot Study it was noticed that the SSI were not in a position to indicate the market size and its growth. In absence of this, the relative growth of the SSI companies could not be compared with that of the growth in the market. In order to overcome this it growth in sales turnover and growth in assets were accepted as the indicators of growth.

STAGE	PERFORMANCE INDICATORS			
	SALES	GROSS PROFIT	ASSET	LIABILITY
INTRODUCTION	The SSI is in business for less than 2 years			
GROWTH	3	3	3	3
	3	3	3	2
	3	3	3	1
	3	3	2	1
	3	3	2	2
	1	3	3	1
	1	3	3	3
MATURITY – High Low				
	3	2	3	3
DECLINE	3	1	2	2
	1	1	2	3
	1	1	1	2
	3	3	1	3
	3	3	1	1
	1	3	1	1
	1	1	3	1
1	1	3	3	

Table 4.2 – Criteria for Classification of SSI

(Note - 3 : More than the sector average growth, 2 : Same as the sector average growth, 1 : Less than the sector average growth)

As Sales Turnover = Activity + Profit and activity includes the part of the resource used in the process of conversion of input into output; this includes that part of the

asset which has been the part of the sales. In case the surplus generated as profit is ploughed back into the business then it would be reflected as increase in asset. Hence growth in sales turnover and growth in assets are considered to be the real growth indicators of the business.

Sub classification under Maturity as high or low has been done to indicate the relative importance of parameters of business performance. This aspect has not been made any basis for analysis.

Growth

The growth may be attributed to increase in sales, profit and assets, and reduction in the liabilities. Increase in profit can be attributed to improvement in manufacturing or processing efficiency and thereby reducing in process losses. The reduction in liabilities can be explained by lowering of credit period and improvement in cash flow. Hence asset creation is one of the most important reasons for growth. This is important because of the fact that assets will be further deployed for creating more productive outputs. Increase in sales is also important as this indicates success of marketing and sales initiatives in meeting the customers' requirements. This further important because the pilot study indicate marketing as one of the major gaps for the SSI.

When there is a need to increase capital employed in a SSI unit, it shows its need to raise long term funds which may be either borrowed funds or equity or both. But if there is an increase in equity, it is an indicator that the capital employed has been raised with an increase in equity, which is also indicative of the fact that the financial stability is strengthened.

Maturity

The major reasons for maturity are increase in assets and liabilities both and increase in sales but stagnation in profit. This means that more funds were borrowed, with low

capital turnover and return on investment. This does not result in increase in profit even if the sale is increasing. The other reasons for maturity are stagnation in assets and liability but increase in sales and reduction in profit.

Decline

The major reason for decline is reduction in asset. This is also supported by increasing in liabilities. The sale may increase or decrease but profit declines.

Growth generates cash, which allows a company to fund further growth without taking on excessive debt or diluting equity too much. As a result it retains both strategic freedom and investment potential. Unprofitable growth leads to exactly opposite effects. Debt swell, increasing cost as well as overall cost of capital. Gradually, the company loses its ability to pursue growth opportunities because of depressed stock prices and debt capacity externally, and dwindling cash flow and increasing cash demands internally (Ghoshal et al, 2000).

4.8 IDENTIFICATION OF PARAMETERS OF BUSINESS EXCELLENCE

The two established model of business excellence i.e. EFQM (European Foundation for Quality Management) and MBNQA (Malcolm Baldrige National Quality Award) which are popular worldwide and also adopted by a majority of organisations for TQM and for Business Excellence were studied in detail. A comparative study on EFQM and MBNQA was also made. The elements for business excellence were listed under the following categories –

Resources – primarily included financial resources

Business Processes – included the customer and sales related processes, operation planning processes, operation and quality management processes, technology management processes, information technology related processes, people management related processes and change management processes

Leadership – leaders' profile, vision, policy, policy deployment through planning, leadership styles and perception about external environment.

4.9 IDENTIFICATION OF ATTRIBUTES OF LEADERSHIP

The EFQM and MBNQA Models were taken as the basis for identification of attributes of leadership. Study was made on established and widely acknowledged leadership models and styles in Chapter 2 – Section 2.5. Aspects of entrepreneurship were also included in the study. The elements of leadership were identified in such a manner to know about the styles adopted by the CEOs. The numbers of parameters were reduced after preliminary survey as many of them were not found to be important for SSI.

4.10 DATA ANALYSIS

4.10.1 Data Analysis for various phases of Life Cycle

The homogeneity of data related to the business processes adopted by the SSI at growth, maturity and decline stages have been analyzed with the help of χ^2 - test at 5 % significance level. The frequency of occurrence is converted into proportions. The equality of fractions (proportions) is tested with the help of χ^2 - statistic. When the calculated value of the statistic is greater than or equal to the critical value, the hypothesis is accepted, to signify that the phenomenon under study is in vogue. Hence this aspect of business process could be considered to be in practice at the specific stage of life cycle.

As it is known that for testing of goodness of fit, the χ^2 – statistic as used which leads to the theoretical χ^2 – distribution asymptotically, that is for large samples. Hence while the assumption of normality of the observation is not involved in this case, it is important that the expected frequency in class should not be less than 5. When the observed frequency is less than 5 and the phenomena under study are similar in nature which may lead to some broader conclusions, the frequency of adjacent similar

classes are pooled together so that the frequency becomes 5 or more, and χ^2 – test is applied.

The expression used for calculation of χ^2 – value is as follows –

$$\chi^2 = \sum_{i=1}^c \frac{(p_i - n_i \bar{p})^2}{n_i \bar{p}}$$

where, p_i is the proportion following the phenomenon

n_i is the sample size

–

\bar{p} is the mean proportion following the phenomenon

The critical value of χ^2 for at a specified degree of freedom is obtained from the standard table.

But in case when the observed frequency is less than 5 and pooling of data and the phenomenon under study are dissimilar in nature, χ^2 – test is not applied and conclusion is drawn based on the percentage of incidence.

4.10.2 Data Analysis for States

The business processes adopted by the SSI in Madhya Pradesh and Maharashtra are analysed with the help of z - test for testing equality of two proportions corresponding to two lots, at 5 % significance level.

The z – statistic used for the purpose is calculated as –

$$z = \frac{p_1 - p_2}{\sqrt{\{ p (1 - p) (1/n_1 + 1/n_2) \}}}$$

where, p_1 and p_2 are the two proportions for the samples respectively

n_1 and n_2 are the sample sizes

–

p is the mean proportion calculated as $(n_1 p_1 + n_2 p_2) / (n_1 + n_2)$

The critical value of z for at a specified degree of freedom is obtained from the standard table.

The significance of the phenomenon under study is concluded based on z – test for proportions. Binomial proportion p is obtained as the ratio of number of successes in n repetitive trials. This is tested against the specified value of p₀, the test statistic z is calculated as –

$$z = (p - p_0) / \sqrt{\{ \bar{p} (1 - \bar{p}) / n \}}$$

The value of mean value of p is taken as 0.5, which is the minimum probability for each outcome in a mutually exclusive experiment with two possible outcomes. In case the calculated value of z statistic is found to be greater than the critical value, the phenomenon is considered to be occurring and hence conclusions are drawn to derive a generic business excellence model in favour of the phenomenon. Major gaps are also identified.

4.11 GENERIC BUSINESS EXCELLENCE MODEL

Statistical significance has been considered to be the basis for drawing a generic business excellence model. The z - statistic against each element of business excellence has been calculated at a probability value 0.5 or 50 %. The result of statistical test shows that very few elements qualify to be a part of business excellence.

The results of similar study conducted in the United Kingdom between 1989 and 1992 on small and medium scale enterprises under the auspices of Economic and Social Research Council under the leadership of David J. Storey data shows that incidence of many similar business process elements were of the magnitude of 40 % and the researchers of U. K. concluded that this is the typical behaviour of small and medium scale enterprises. The results of pilot study as a part this research work also support similar trends. Hence, the percentage incidence of the business excellence elements which were statistically not found to be significant, were reviewed again against 40 %

incidence. The frequencies of elements which were found to be minimum 40 % were also included to be a part of business excellence model with a weak association.

CHAPTER 5

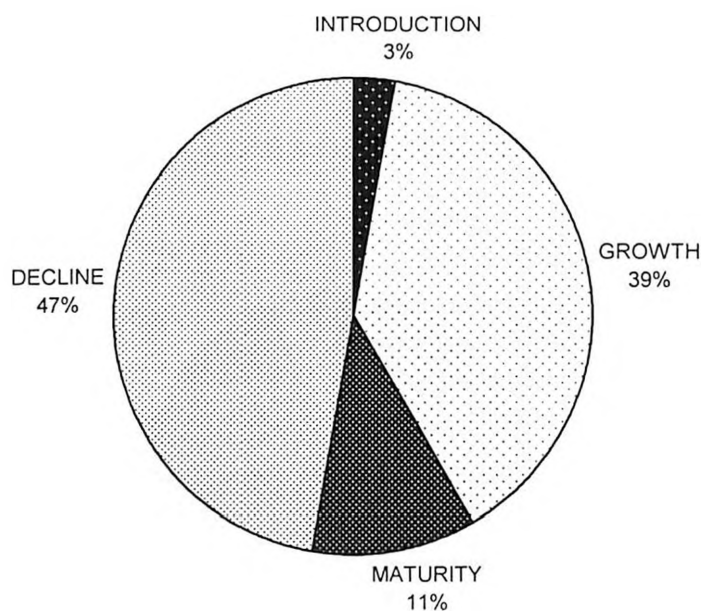
SUMMARY OF PROFILE OF THE SSI STUDIED & DATA ANALYSIS

5.1 PROFILE OF SSI STUDIED

	INTRODUCTION	GROWTH	MATURITY	DECLINE
MADHYA PRADESH	00	06	02	09
MAHARASHTRA	00	07	02	08
OTHERS	01	01	00	00
TOTAL	01	14	04	17

Table 5.1 - Organisations

CHART 5.1 - DISTRIBUTION OF ORGANISATIONS



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Proprietorship	00	02	00	06	08
	Partnership	00	01	00	00	01
	Private Limited	00	03	02	03	08
	Tiny	00	00	00	00	00
MAHARASHTRA	Proprietorship	00	04	01	03	08
	Partnership	00	00	00	01	01
	Private Limited	00	03	01	02	06
	Tiny	00	00	00	02	02
OTHERS	Proprietorship	01	01	00	00	02
	Partnership	00	00	00	00	00
	Private Limited	00	00	00	00	00
	Tiny	00	00	00	00	00
TOTAL	Proprietorship	01	07	01	09	18
	Partnership	00	01	00	01	02
	Private Limited	00	06	03	05	14
	Tiny	00	00	00	02	02

Table 5.2 – Types of Organisation

CHART 5.2 - TYPES OF ORGANISATION

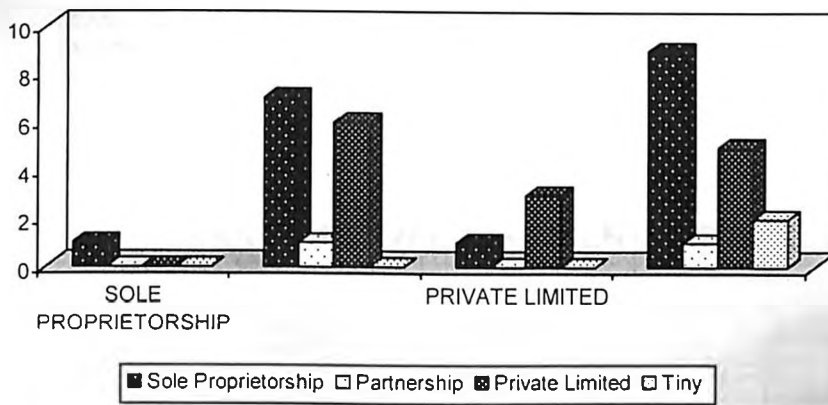
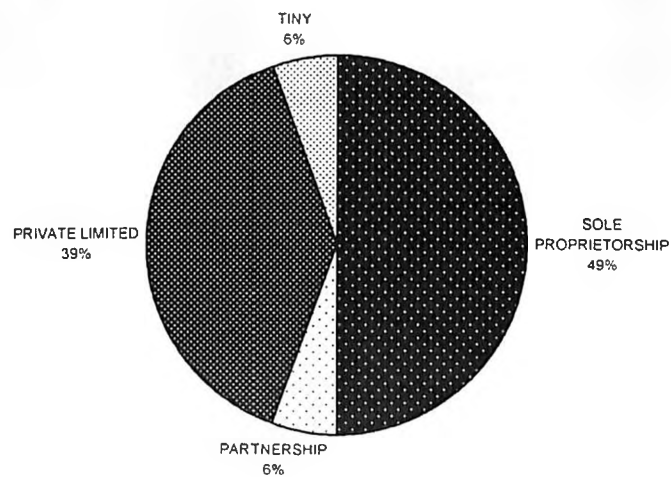


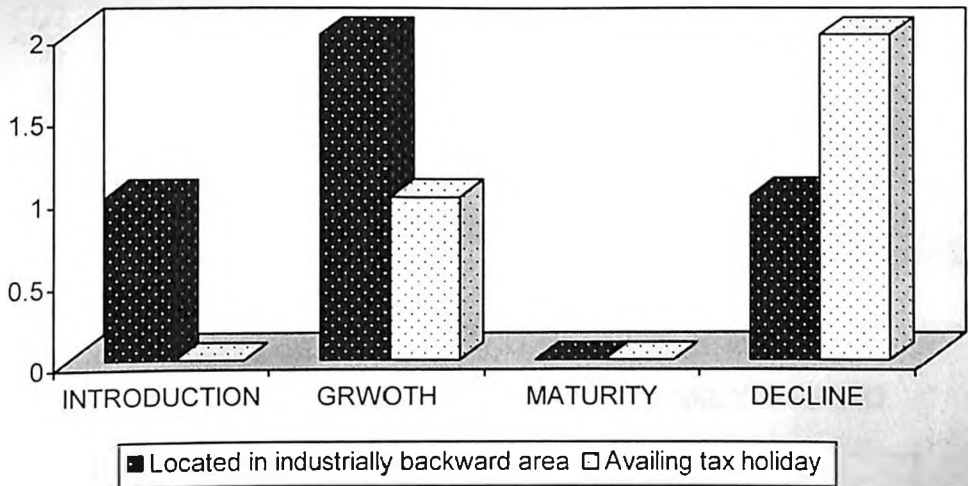
CHART 5.3 - TYPES OF ORGANISATIONS



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Located in industrially backward area	00	01	00	01	02
	Availing tax holiday	00	00	00	00	00
MAHARASHTRA	Located in industrially backward area	00	01	00	00	01
	Availing tax holiday	00	01	00	02	03
OTHERS	Located in industrially backward area	01	00	00	00	01
	Availing tax holiday	00	00	00	00	00
TOTAL	Located in industrially backward area	01	02	00	01	04
	Availing tax holiday	00	01	00	02	03

Table 5.3 - Organisations availing Locational Incentives

CHART 5.4 - AVAILING INCENTIVES



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	First Gen. entrepreneur	00	03	02	07	12
	Family owned	00	04	00	04	08
	Self established	00	01	01	04	06
MAHARASHTRA	First Gen. entrepreneur	00	05	02	06	13
	Family owned	00	05	02	05	12
	Self established	00	05	02	06	13
OTHERS	First Gen. entrepreneur	01	01	00	00	02
	Family owned	01	00	00	00	01
	Self established	01	01	00	00	02
TOTAL	First Gen. entrepreneur	01	09	04	13	27
	Family owned	01	09	02	09	21
	Self established	01	07	03	10	21

Table 5.4 - Ownership Details

CHART 5.5 - OWNERSHIP - FIRST GENERATION ENTREPRENEUR

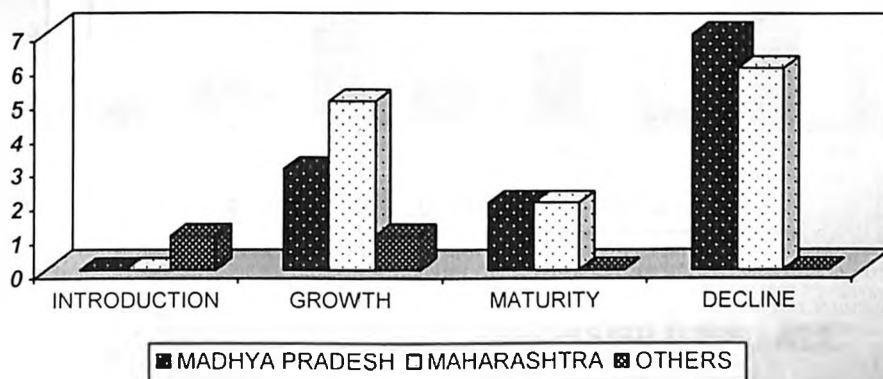
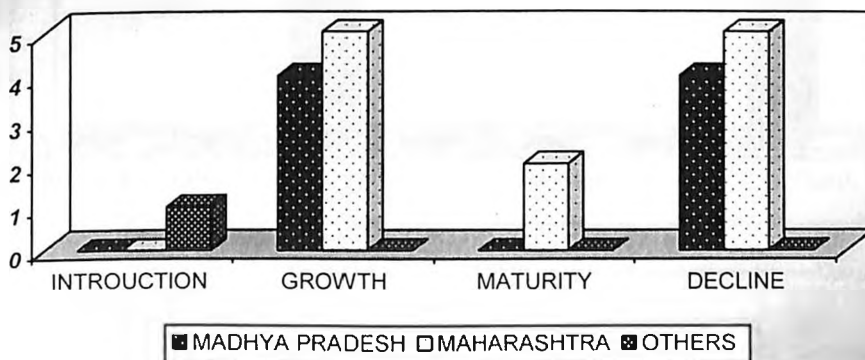


CHART 5.6 - OWNERSHIP - FAMILY OWNED



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Finance	00	03	02	05	10
	All functions	00	03	00	04	07
MAHARASHTRA	Finance	00	07	02	05	14
	All functions	00	00	00	00	00
OTHERS	Finance	01	01	00	00	02
	All functions	00	00	00	00	00
TOTAL	Finance	01	11	04	10	26
	All functions	00	03	00	04	07

Table 5.4 - Functional responsibilities of CEO / MD

CHART 5.7 - CEO's RESPONSIBILITY - FINANCE

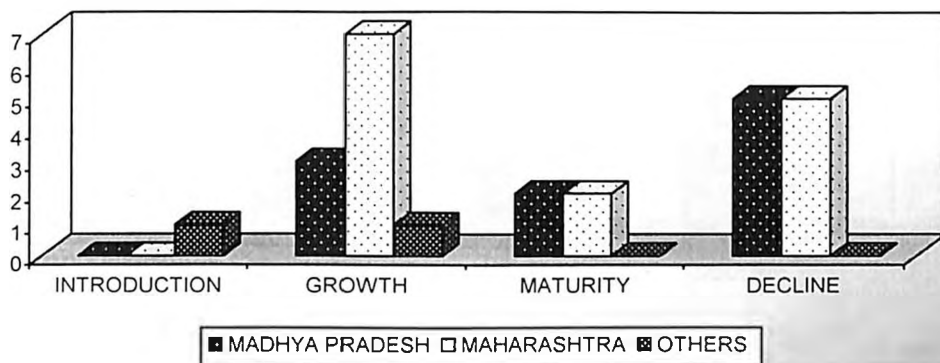
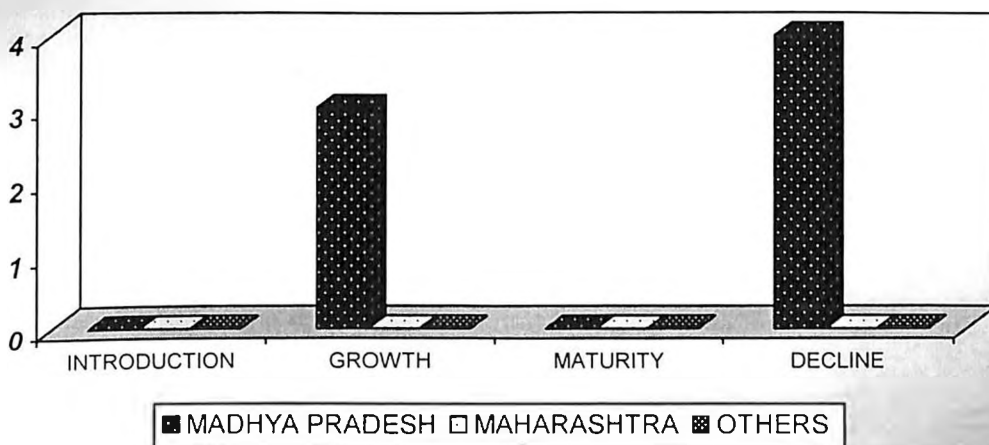


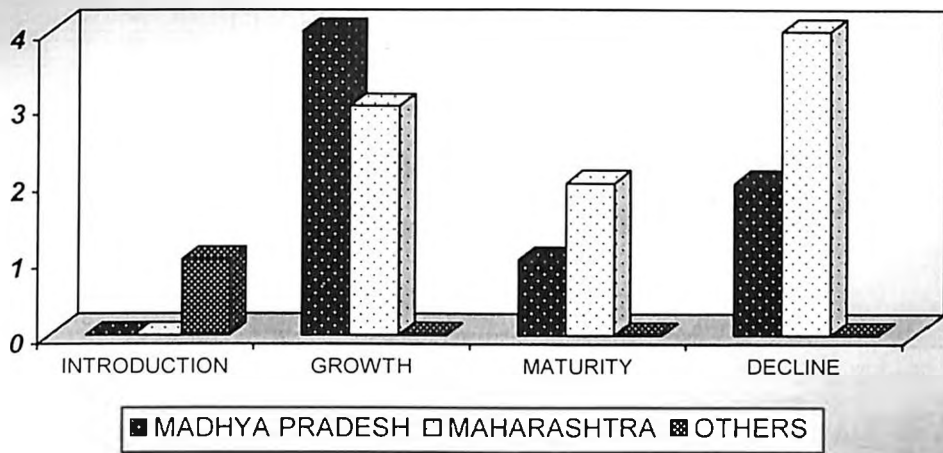
CHART 5.8 - CEO's RESPONSIBILITIES - ALL



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Relative of the CEO / MD	00	04	01	02	07
MAHARASHTRA	Relative of the CEO / MD	00	03	02	04	09
OTHERS	Relative of the CEO / MD	01	00	00	00	01
TOTAL	Relative of the CEO / MD	01	07	03	06	17

Table 5.5 - Status of other Directors

CHART 5.9 - OTHER DIRECTORS - RELATIVES



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Products	00	06	02	09	17
	Production	00	05	01	07	13
	Sales achieved	00	06	00	06	12
MAHARASHTRA	Products	00	05	02	08	15
	Production	00	02	01	05	08
	Sales achieved	00	01	01	05	07
OTHERS	Products	01	01	00	00	02
	Production	01	01	00	00	02
	Sales achieved	00	01	00	00	01
TOTAL	Products	01	12	04	17	34
	Production	01	08	02	12	23
	Sales achieved	00	08	01	11	20

Table 5.6 - Information on Business Profile

CHART 5.10 - INFORMATION ON MADHYA PRADESH

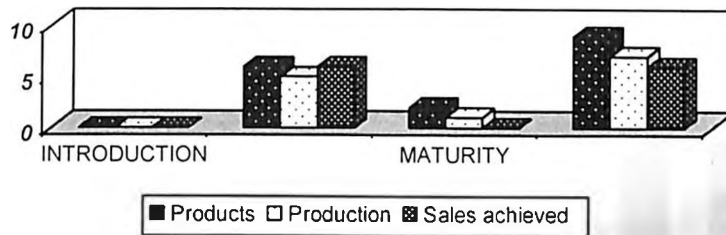


CHART 5.11 - INFORMATION ON MAHARASHTRA

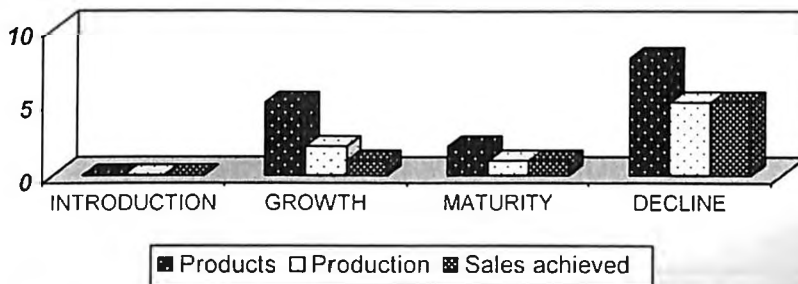
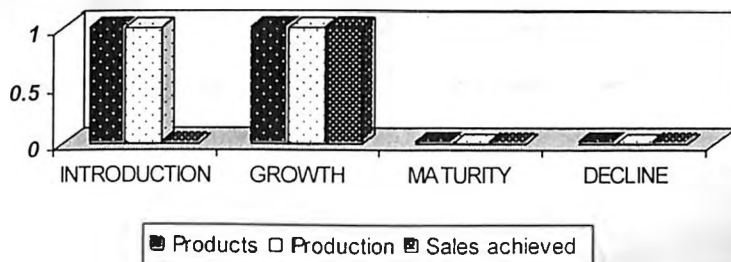


CHART 5.12 : INFORMATION ON OTHERS



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Reserved for SSI	00	00	00	02	02
	Affected due to de-reservation	00	00	01	01	02
MAHARASHTRA	Reserved for SSI	00	00	01	02	03
	Affected due to de-reservation	00	00	00	01	01
OTHERS	Reserved for SSI	00	01	00	00	01
	Affected due to de-reservation	01	00	00	00	01
TOTAL	Reserved for SSI	00	01	01	04	06
	Affected due to de-reservation	01	00	01	02	04

Table 5.7 – Impact of Reservation for SSI sector

CHART 5.13 : SSI RESERVED PRODUCTS

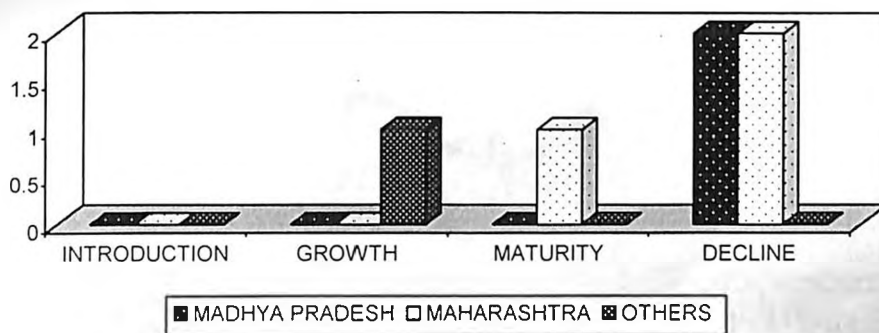
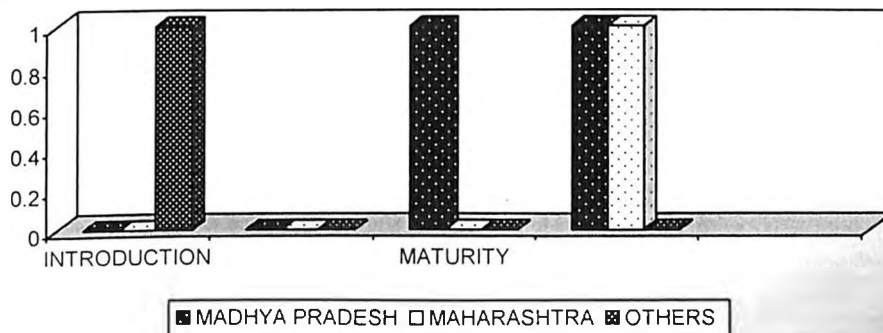


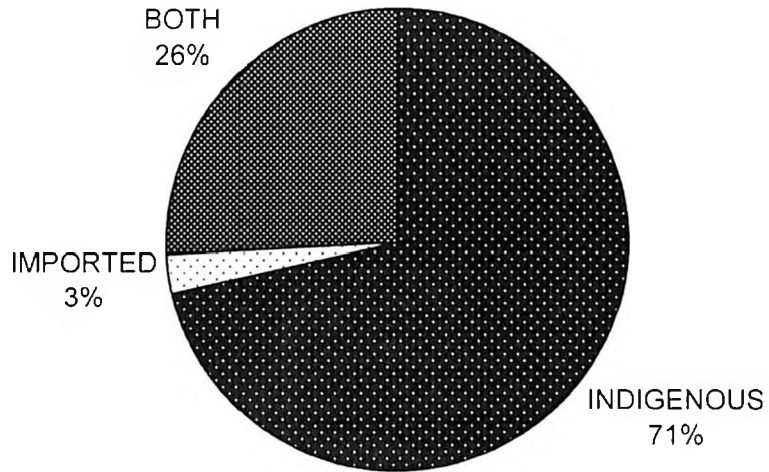
CHART 5.14 : AFFECTED DUE TO DE - RESERVATION



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Indigenous	00	06	01	08	15
	Imported	00	00	00	00	00
	Both	00	00	01	01	02
MAHARASHTRA	Indigenous	00	03	02	04	09
	Imported	00	01	00	00	01
	Both	00	03	00	03	06
OTHERS	Indigenous	01	00	00	00	01
	Imported	00	00	00	00	00
	Both	00	01	00	00	01
TOTAL	Indigenous	01	09	03	12	25
	Imported	00	01	00	00	01
	Both	00	04	01	04	09

Table 5.8 - Source of Raw Material

CHART 5.15 - SOURCE OF RAW MATERIAL



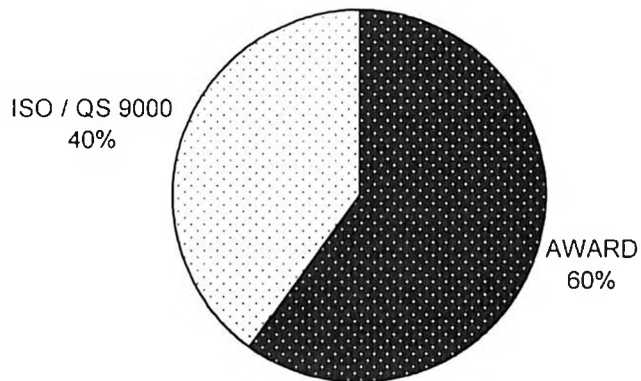
		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Technology Transfer	00	00	00	00	00
	Joint Venture	00	01	00	00	01
	Collaboration for marketing in India	00	00	00	00	00
	Collaboration for marketing in other countries	00	00	00	00	00
	Material Sourcing	00	01	00	00	01
	Manpower Sourcing	00	00	00	01	01
MAHARASHTRA	Technology Transfer	00	00	00	00	00
	Joint Venture	00	00	00	00	00
	Collaboration for marketing in India	00	00	00	00	00
	Collaboration for marketing in other countries	00	00	00	00	00
	Material Sourcing	00	00	00	00	00
	Manpower Sourcing	00	00	00	00	00
OTHERS	Technology Transfer	00	00	00	00	00
	Joint Venture	00	00	00	00	00
	Collaboration for marketing in India	00	00	00	00	00
	Collaboration for marketing in other countries	00	00	00	00	00
	Material Sourcing	00	00	00	00	00
	Manpower Sourcing	00	00	00	00	00
TOTAL	Technology Transfer	00	00	00	00	00
	Joint Venture	00	01	00	00	01
	Collaboration for marketing in India	00	00	00	00	00
	Collaboration for marketing in other countries	00	00	00	00	00
	Material Sourcing	00	01	00	00	01
	Manpower Sourcing	00	00	00	01	01

Table 5.9 - Organisational Learning and Outside Interaction

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Award or Certificate	00	01	00	00	01
	ISO / QS 9000	00	00	00	00	00
MAHARASHTRA	Award or Certificate	00	01	01	03	05
	ISO / QS 9000	00	01	01	00	02
OTHERS	Award or Certificate	00	00	00	00	00
	ISO / QS 9000	01	00	00	00	01
TOTAL	Award or Certificate	00	02	01	03	06
	ISO / QS 9000	01	00	01	02	04

Table 5.10 - Achievement & Award

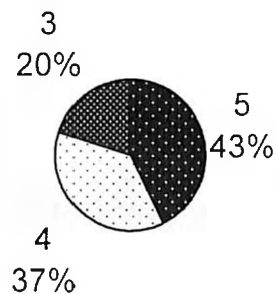
CHART 5.16 - AWARDS & ISO / QS 9000



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	5	00	01	01	04	06
	4	00	02	01	04	07
	3	00	02	00	01	03
	2	00	00	00	00	00
	1	00	00	00	00	00
	No Information provided	00	01	00	00	01
MAHARASHTRA	5	00	03	01	05	09
	4	00	02	01	03	06
	3	00	02	00	00	02
	2	00	00	00	00	00
	1	00	00	00	00	00
	No Information provided	00	00	00	00	00
OTHERS	5	00	00	00	00	00
	4	00	00	00	00	00
	3	01	01	00	00	02
	2	00	00	00	00	00
	1	00	00	00	00	00
	No Information provided	00	00	00	00	00
TOTAL	5	00	04	02	09	15
	4	00	04	02	07	13
	3	01	05	00	01	07
	2	00	00	00	00	00
	1	00	00	00	00	00
	No Information provided	00	01	00	00	01

Table 5.11 - Organisation Structure – No. of Layers

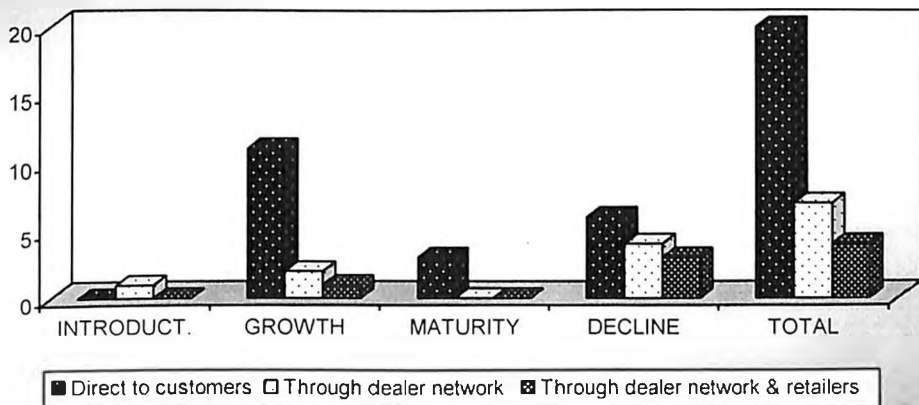
CHART 5.17 - NO. OF LAYERS IN MANAGEMENT



		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Direct to customers	00	03	02	02	07
	Through dealer network	00	01	00	04	05
	Through dealer network & retailers	00	01	00	01	02
MAHARASHITRA	Direct to customers	00	07	01	04	12
	Through dealer network	00	01	00	00	01
	Through dealer network & retailers	00	00	00	02	02
OTHERS	Direct to customers	00	01	00	00	01
	Through dealer network	01	00	00	00	01
	Through dealer network & retailers	00	00	00	00	00
TOTAL	Direct to customers	00	11	03	06	20
	Through dealer network	01	02	00	04	07
	Through dealer network & retailers	00	01	00	03	04

Table 5.12 - Sales Process

CHART 5.18 - SALES PROCESS



STATE	FREQUENCY
Maharashtra	10
Gujrat	7
Andhra Pradesh	5
Delhi	4
Punjab	4
Karnataka	2
Gujrat	2
Chattisgarh	1
Rajsthan	1
Madhya Pradesh	0

Table 5.13 - Benchmark States

accepting students for providing training – not a value added work							
Reason for not accepting students for providing training - problem creators	X	X	X	X	X	X	
Reason for not accepting students for providing training - not interested in learning	X	X	X	X	X	X	
Reason for not accepting students for providing training - no such policy exists	X	X	X	X	X	X	
TQM implementation	X	O	X	X	X	X	SSI in Growth phase are implementing TQM.
Level of TQM implementation - only training	X	X	X	X	X	X	
Level of TQM implementation - training & implementation	X	X	X	X	X	X	
Level of TQM implementation – in a limited way	X	X	X	X	X	X	
Level of TQM implementation – at advanced level	X	X	X	X	X	X	
Measurement of results - customer satisfaction with data base	X	X	X	X	X	X	
Measurement of results - customer satisfaction – without data base	X	X	X	X	X	X	

Measurement of results - quality performance parameter	X	X	X	X	X	X	
Measurement of results - value addition	X	X	X	X	X	X	
Measurement of results - six sigma implementation	X	X	X	X	X	X	
Measurement of results - productivity	X	X	X	X	X	X	
Measurement of results - training effectiveness	X	X	X	X	X	X	
Quality circle implementation	X	X	X	X	X	X	
Acceptance of recommendation of the quality circle	X	X	X	X	X	X	Due to ineffective way of implementation, the acceptance of recommendation is low.
Method of strategy planning - discussion with other Directors	X	X	O	O	O	X	In Maturity and Decline phases and in Madhya Pradesh discussion is held with other Directors for strategy planning.
Method of strategy planning - discussion with Managers	X	X	O	O	O	O	In Maturity and Decline phases and in both Madhya Pradesh and Maharashtra, discussion is held with managers for strategy planning.
Method of strategy planning - Discussion with other employees	X	X	X	O	X	X	In Decline phase discussion is held with other employees for strategy planning.

Frequency of review of strategies & plans – quarterly	X	X	X	X	X	X	
Frequency of review of strategies & plans – six monthly	X	X	X	X	X	X	
Frequency of review of strategies & plans –annually	X	X	X	X	X	X	The SSI do not follow a planned method for strategy review and redesign.
Frequency of review of strategies & plans – as & when necessary	X	X	O	O	O	X	The SSI in Maturity and Decline phase and in Madhya Pradesh review strategy plan as & when necessary.

Financial Control

Budgeting is carried out in all phases except in maturity phase. This is carried out in Madhya Pradesh and Maharashtra, both. Focus on product costing on monthly basis is significant in introduction and decline phases. In growth phase product costing is carried out without a schedule. Product costing is significant in Madhya Pradesh and Maharashtra, both but monthly schedule is followed in Madhya Pradesh only.

Similarly, process costing is carried out in all phases except in maturity phase. But this is carried out in a defined frequency is introduction and decline phases only. Process costing is carried out as per a defined frequency in Madhya Pradesh and Maharashtra.

Quality costing is significant only in Madhya Pradesh.

Business Aspect	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Budgeting system in practice	+	O	X	O	O	O	The budgeting system is in practice in all SSI except at Maturity phase.
Product Costing system in practice	+	+	O	+	O	O	Product costing system is in practice in all SSI.
Frequency of product costing - monthly	+	X	X	+	O	X	Product costing on monthly basis is in practice in SSI at Introduction and Decline phases and in Madhya Pradesh. For others, no conclusion can be drawn on the frequency.
Process Costing system in practice	+	O	X	O	O	O	
Process Costing system in practice – in a pre - determined frequency	+	X	X	O	O	O	All SSI except those in Maturity phase practice process costing in both the states. But at the SSI in Growth phase do not practice this in regular interval at a pre – determined

							frequency.
Human Resource Costing system in practice	X	X	X	X	X	X	SSI do not practice Human Resource Costing system.
Quality Costing system in practice	X	X	X	X	O	X	SSI do not practice Quality Costing system . however in Madhya Pradesh this is in practice in limited number of SSI.

Finance & Credit Management

In introduction phase the initial capital was borrowed from FI. While in growth phase the initial capital was borrowed from bank. In Madhya Pradesh, too the capital was borrowed from bank.

However, the financial resource for expansion was arranged from internal savings in introduction and decline phases and in Maharashtra thus reducing the load of debt servicing.

This further proves that the SSI in these phases are sensitive towards financial and cost of credit in order to improve profitability. However, in growth and decline phases fund was borrowed from banks, too. This is also the case in Madhya Pradesh.

Bill discounting is availed by the SSI in growth phase. Although, the scheme of bill discounting has been introduced to improve liquidity in SSI, but this has not been found popular among the SSI.

The SSI in all phases feel that adequate credit is available. This also supplements the claim by the Government and banks that sufficient funds are available for

disbursement on account of continuous reduction of SLR (Statutory Liquidity Ratio). The downward trend of interest rates is also directed to boost credit off take for productive economic activities. The SSI of Madhya Pradesh also feel that adequate credit available, which is not the case with Maharashtra. On credit availability from FI the opinion is reversed, SSI only in introduction phase agree that adequate credit is available from SFC / FI. In spite of having sufficient fund at disposal this expression indicates poor reach of SFC / FI to SSI sector.

The SSI are satisfied with cost of capital in introduction, growth and maturity phases. Also the SSI of Madhya Pradesh expressed satisfaction on cost of credit. With this we can conclude that there is an overall dissatisfaction of SSI from Maharashtra on credit offers from banks.

The time taken for loan sanction is one to three months in case of SSI in decline phase and in Madhya Pradesh. However, in introduction phase the loan sanction is reported to be within three to six months. SSI in growth and maturity phases and from Maharashtra did not provide any significant answer to this aspect, which indicates further delay in loan sanction. In case of SFC / FI SSI in introduction phase only replied to this aspect, they feel that loans are sanctioned within one month or between one to three months from SFC / FI, no significant answer in this aspect is given for banks. On loan support for financing the exports the SSI did not provide any significant data on timeliness of loan sanction or disbursement. The single window scheme which has been specifically designed for credit support to the SSI sector, has also not shown any significant contribution.

Delays in loan sanction and disbursement by banks and FI may become one of the major reasons for sickness and financial crisis, as generally it is felt that the SSI work with very low liquidity. An attempt was made to investigate the possible reasons for such delays, but due absence of data from the SSI no conclusion could be drawn. In order to create a transparent and objective credit disbursement system, SSI only in growth phase agreed for a credit rating system. It is worth mentioning that in spite of preferential policies from the Government, banks and FI viability of SSI credit still

remains a matter of concern and hence calls for further analysis. In case fund is borrowed from other sources, this adds to the interest burden.

On payment receivables from the customers from the large scale sector, the SSI in introduction phase get the payments between 15 to 30 days. The SSI in growth phase and from Maharashtra receive payment in more than 90 days. SSI and Ancillary Undertaking Act, 1993, which was another initiative from the Government to support payment realization provided relief to SSI only in introduction phase. The real application of this Act may lead to loss of business by SSI from the customers from large scale sector. The SSI in maturity phase lack awareness about the Act.

On overall problems is credit system, the SSI feel that collateral security is the major problem. Attitude of FI towards SSI is the second major problem as expressed by SSI in introduction and decline phases and SSI from Madhya Pradesh and Maharashtra. However attitude of banks is considered at third major problem as expressed by SSI in decline phase and by the SSI from Madhya Pradesh and Maharashtra. Government policy and repayment terms are the other problems experienced by SSI in introduction and decline phases and by SSI of Madhya Pradesh. Whereas, high interest as a problem is felt by SSI in decline phase, and by SSI from Madhya Pradesh. It is interesting to note that SSI in decline phase and from Madhya Pradesh have agreed that all the listed problems are significant. This leads to a conclusion about excessive dependency on credit from banks and FI rather than focusing on improving profitability and creating internal strength for improving liquidity. These SSI also did not support credit rating system, which may further prevent transparency from the fund providers.

E l e m e n t s	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Initial capital was brought by the promoters' own sources	X	X	X	X	X	X	
Initial capital was borrowed from the bank	X	O	X	X	+	X	
Initial capital	X	X	X	X	X	X	In spite of

was borrowed from SIDBI							establishing SIDBI by the Government for exclusive support to the SSI, no SSI has borrowed initial capital from SIDBI.
Initial capital was borrowed from other FI	+	X	X	X	X	X	
Initial capital was brought from private borrowings	X	X	X	X	X	X	
Initial capital was brought from other sources	X	X	X	X	X	X	
Capital for expansion was arranged from internal savings	+	X	X	O	X	+	SSI of Maharashtra have ploughed back internal savings for expansion, thus reducing interest burden.
Capital for expansion was borrowed from bank	X	O	X	O	+	X	SSI of Madhya Pradesh have borrowed from bank for expansion, thus increasing the interest burden.
Bill discounting is being availed	X	O	X	X	X	X	
Adequate credit is available from banks	+	O	O	O	+	X	SSI of Madhya Pradesh are satisfied with the credit

							available from banks.
Adequate credit is available from SFC / FI	+	X	X	X	X	X	There is a general dissatisfaction from SSI on performance of SFC / FI.
Adequate credit is available for exports	X	X	X	X	X	X	No SSI feel that adequate credit is available for expansion.
Cost of capital available from banks is satisfactory	+	O	O	X	O	X	No SSI has commented on cost of credit of SFC, SIDBI or for export finance.
Loan is sanctioned by the banks within one month	X	X	X	X	X	X	
Loan is sanctioned by the banks from one to three months	X	X	X	O	+	X	
Loan is sanctioned by the banks from three to six months	+	X	X	X	X	X	
Loan is sanctioned by the banks in more than six months	X	X	X	X	X	X	
Loan is sanctioned by the SFC / FI between one to three months	X	X	X	X	X	X	
Loan is sanctioned by the SFC / FI from three to six months	+	X	X	X	X	X	
Loan is sanctioned by	X	X	X	X	X	X	

the SFC / FI in more than six months							
Export finance is sanctioned from one to three months	X	X	X	X	X	X	
Export finance is sanctioned in more than six months	X	X	X	X	X	X	
Export finance is disbursed within one month	X	X	X	X	X	X	
Export finance is disbursed from one to three months	X	X	X	X	X	X	
Export finance is disbursed in more than six months	X	X	X	X	X	X	
Satisfactory performance of SIDBI - single window scheme	X	X	X	X	X	X	
Requirement of collateral is a constraint	X	X	X	X	X	X	
Awareness about collateral free loan	X	X	X	X	X	X	
Requirement of collateral is the reason for inadequate or delayed loan assistance	X	X	X	X	X	X	
Reluctance to provide loans to the SSI	X	X	X	X	X	X	
Red tapism or corruption is the reason for inadequate or delayed loan assistance	X	X	X	X	X	X	
Incomplete	X	X	X	X	X	X	

papers by the borrowers							
Need for a credit rating system	X	O	X	X	O	X	
Payment is received with a delay of 15 days from the customers	X	X	X	X	X	X	
Payment is received with a delay of 15 to 30 days from the customers	+	X	X	X	X	X	
Payment is received with a delay of 30 to 45 days from the customers	X	X	X	X	X	X	
Payment is received with a delay of 45 to 90 days from the customers	X	X	X	X	X	X	
Payment is received with a delay of more than 90 days from the customers	X	O	X	X	X	O	
SSI and Ancillary Undertaking Act. 1993 resulted in improvement in payment release	+	X	X	X	X	X	
SSI and Ancillary Undertaking Act. 1993 not resulted in improvement in payment release	X	O	X	O	O	O	
Awareness about SSI and Ancillary Undertaking Act. 1993	X	X	O	X	X	X	
Problem in getting credit due to	+	O	O	+	O	O	All SSI are facing problem to

Collateral Security							get credit due to collateral security. This is rated by majority of the SSI.
Problem in getting credit due to attitude of FI	+	X	X	O	O	O	SSI in Introduction and Decline phases in both the states are facing problem to get credit due to attitude of the FI. This is rated as second most important problem.
Problem in getting credit due to attitude of banks	X	X	X	O	O	O	SSI in Decline phase in both the states are facing problem to get credit due to attitude of the banks. This is rated as third most important problem.
Problem in getting credit due to government policy	+	X	X	O	O	X	SSI in Introduction and Decline phases especially in Madhya Pradesh are facing problem due to the Government Policies. This is rated as third most

							important problem.
Problem in getting credit due to high interest rates	X	X	X	O	O	O	SSI in Decline phase in both the states are facing problem due to high interest rates. This is rated as third most important problem.
Problem in getting credit due to repayment terms	+	X	X	O	O	X	SSI in Introduction and Decline phase especially in Madhya Pradesh are facing problem due to repayment terms. This is rated as fourth and least important problem.

People Management

No SSI has an independent person to look after the welfare and training activities, neither they make budget provision for training. Absence of a system for creating strategic training plan, HR forecasting and skill forecasting based on business plan are indication of low focus on people management aligned with organisational business plans. It has already been seen that as such there is a major gap in strategic management process, hence lack of focus on strategic HRM is an outcome of that gap.

SSI in introduction and growth phases share cost related data with their employees. This also happens in SSI of Maharashtra. This indicates transparency in data sharing on cost performance with the employees.

SSI in introduction and maturity phases carry out performance evaluation of their employees through some methods. This is also practiced by the SSI of Maharashtra. But no SSI carry out data based performance evaluation. On method followed to decide on pay rise. SSI in introduction phase and in Madhya Pradesh the basis of deciding on pay rise is decide on owners' discretion.

This indicates that better HRM practices being followed by the SSI of Maharashtra.

SSI in growth and maturity phases employ contractual, casual or badli workmen on time or piece rate employment. The SSI in growth, maturity and decline phases employ them as skilled or unskilled workmen. No SSI employ such people to meet the peak demand loads, neither any formal system of training are followed for them. This indicates a major gap in dealing with such people in order to get productive performance.

E l e m e n t s	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Independent Person to look after welfare & training	X	X	X	X	X	X	No SSI has an independent person to look after training and welfare.
Provision of a training budget	X	X	X	X	X	X	No SSI has makes provision for training budget.
Employment Time Rated, Piece Rated, Contractual, Casual, or Badli	X	O	X	O	X	O	Although some conclusion can be drawn based on the data available, but during data collection it was observed that the SSI do not intend to provide

							complete data on employment as they expect some harassment from the Government Officials.
System of making a strategic training plan	X	X	X	X	X	X	No SSI makes a strategic training plan to take of future skill requirements.
System of HR forecasting	X	X	X	X	X	X	No SSI has makes HR forecasting based on skill requirements.
Basis of HR forecasting - Business Plan, Skill forecasting, Skill inventory	X	X	X	X	X	X	Since HR forecasting is not in practice, hence the basis is also not significant.
Deployment of contractual employees as skilled and unskilled labours	X	O	O	O	X	X	SSI in Growth, Maturity and Decline phases deploy of contractual labour as skilled and unskilled labour.
Reason for deploying contractual employees - for meeting peak or seasonal production demand	X	X	X	X	X	X	The reason for engaging and deploying contractual labour is not clear from the available data.
Training of contractual	X	X	X	X	X	X	The method adopted to

employees - on the job training, formal induction & skill training							impart training to the contractual labour is not clear from the available data.
System of sharing cost related data among the employees	O	O	X	X	X	O	SSI in Introduction and Growth phases especially in Maharashtra share cost related data with the employees.
Some method of Performance Evaluation in practice	O	X	O	X	X	O	SSI in Introduction and Maturity phases especially in Maharashtra practice some method for performance evaluation.
System of data based performance analysis in practice	X	X	X	X	X	X	No SSI has implemented a data based performance appraisal system.
Basis for Pay Rise - owners' discretion	O	X	X	X	O	X	SSI in Introduction phase especially in Madhya Pradesh give pay rise on owner's discretion. The SSI of Maharashtra has implemented better HR practices.

Marketing & Sales Management

Demand forecasting based on targets given by the customers is carried out by SSI in all phases except in maturity phase; also it is practiced in both the states. But no SSI uses any statistical techniques for the forecasting. Budgeting or fund planning, material planning, manpower planning and production planning are done by SSI in introduction phase based on demand forecasting. In no other phase or in a state such forecasting data is being used for any resource planning. To assess the accuracy of demand forecasting questions were asked on demand going wrong. Although, SSI in maturity phase agree that demand forecast sometimes goes wrong but as such SSI in this phase do not practice demand forecasting. Hence this answer is of no relevance.

Elements	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Demand forecasting based on targets given by customers but without scientific techniques and	+	O	X	O	O	O	The practices followed by SSI for demand forecast indicate tendency to depend only on existing customer base. New market opportunities are not explored.
Demand forecasting with the help of statistical techniques	X	X	X	X	X	X	
Budgeting & fund planning based on demand forecast	+	X	X	X	X	X	Since the demand forecasting is not aimed at exploring new opportunities, the demand forecast is not used for any aspect

							of operational planning.
Material planning based on demand forecast	+	X	X	X	X	X	
Manpower planning based on demand forecast	+	X	X	X	X	X	
Production planning based on demand forecast	+	X	X	X	X	X	
Rarely or never demand forecast goes wrong	X	X	X	X	X	X	Since there is systematic demand forecasting in not practiced, the forecast going wrong can not be evaluated effectively.
Sometimes demand forecast goes wrong	X	X	X	O	X	X	
Very often or every time demand forecast goes wrong	X	X	X	X	X	X	
Assessment of future demand growth done	X	X	X	X	X	X	No SSI has provided an affirmative answer.
Assessment of future demand growth based on secondary sources such as standard literature, surveys etc.	X	X	X	X	X	X	SSI do not make an assessment of future market trends based on established secondary sources.
Adequacy of existing resources to increase	X	X	X	X	X	X	Since the demand forecasting is not

export							aimed at exploring new opportunities, including exports, the demand forecast is not used for reaching new customer base in exports.
Can not comment on adequacy of existing resources to increase export	X	X	X	X	X	X	Since the demand forecasting is not aimed at exploring new opportunities, the demand forecast is not used for any aspect of operational planning.

Sales is one of the most important functions hence in all SSI, the sales function is being looked after by independent persons with full time responsibility. Sales personnel are selected by direct interview in introduction, growth and maturity phases. This is also applicable for SSI of Maharashtra. No SSI selects fresh MBAs. SSI in introduction phase has a structured training system in practice for sales personnel. No SSI has a plan for on – line selling in future.

SSI in growth and maturity phases sell products directly to the customers. This is also in practice in Madhya Pradesh and Maharashtra. SSI in only introduction phase are selling through dealers, also they give incentives to the sales personnel. No sales commission of any other type is paid by any SSI.

No SSI is aware about any SIDBI scheme available for sales promotion.

No SSI have assessed future demand growth or made use of any information for such assessment.

No SSI is in position to comment on adequacy of existing resource to support future exports needs.

E l e m e n t s	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Sales process - direct to the customer	X	+	O	X	O	O	Almost all SSI, except the ones in Introduction phase sell products direct to the customers.
Sales process - through dealer network	+	X	X	X	X	X	Only the SSI in Introduction phase supplies direct to the customers.
Sales process - through dealers network & retailers	X	X	X	X	X	X	No SSI supplies through dealers and retailer network.
Sales incentive given	+	X	X	X	X	X	SSI do not pay sales incentives or commissions.
Sales commission	X	X	X	X	X	X	
Sales incentive after meeting the sales targets	X	X	X	X	X	X	Since incentives or commissions are not given, the schemes are not significant.
Sales incentive after getting new customer	X	X	X	X	X	X	
Linking incentive with travel	X	X	X	X	X	X	

bill for sales monitoring							
Sales management looked after by a person with full time responsibility	-	O	O	O	O	O	SSI employ one person with full time sales responsibility.
Sales management looked after by a person with full time responsibility – on contract	X	X	X	X	X	X	
Sales personnel selected by direct interview	+	O	X	O	X	O	SSI in Introduction, Growth and Decline phase and in Maharashtra a select experienced sales personnel through direct interview.
Fresh MBAs selected and trained	X	X	X	X	X	X	No SSI recruits fresh MBA for sales. This indicate some resistance as because SSI work with limited manpower hence selecting and training a fresh MBA is not considered to be the immediate solution.
Structured sales training system in practice	+	X	X	X	X	X	Since only experienced personnel are selected, SSI do not consider

bill for sales monitoring							
Sales management looked after by a person with full time responsibility	.	O	O	O	O	O	SSI employ one person with full time sales responsibility.
Sales management looked after by a person with full time responsibility – on contract	X	X	X	X	X	X	
Sales personnel selected by direct interview	+	O	X	O	X	O	SSI in Introduction, Growth and Decline phase and in Maharashtra a select experienced sales personnel through direct interview.
Fresh MBAs selected and trained	X	X	X	X	X	X	No SSI recruits fresh MBA for sales. This indicate some resistance as because SSI work with limited manpower hence selecting and training a fresh MBA is not considered to be the immediate solution.
Structured sales training system in practice	+	X	X	X	X	X	Since only experienced personnel are selected, SSI do not consider

							sales training as a requirement. As such training is not considered to be a competence building process.
On line selling in plan for future	X	X	X	X	X	X	SSI are not motivated to explore newer methods of selling.
Awareness about SIDBI schemes on sales and marketing support	X	X	X	X	X	X	Alike other SIDBI schemes, SSI are not aware about this aspect, too.

Operational Planning Process

SSI in introduction, growth and decline phases assess the manufacturing capacity through supplier's manuals, this is also carried out in Madhya Pradesh and Maharashtra. Manufacturing capacity is also carried out using IE studies in maturity and decline phases. Assessment of critical factors affecting the manufacturing processes is done in growth and decline phases and also in both states i.e. Madhya Pradesh and Maharashtra.

Material or purchase planning is carried out by all SSI, the frequency is once in a month for all SSI. Similarly all SSI carry out production planning. The pre - planned frequency of production planning is applicable in maturity phase and for the state of Maharashtra. But on being asked about need for revising such plans, SSI in maturity and in Madhya Pradesh sometimes revise the production plans. SSI of Madhya Pradesh indicated that the reason for such revision is change in customer's order schedules.

No SSI implements JIT for any reason.

Elements	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Assessment of manufacturing capacity based on Supplier's Manual	+	+	X	O	O	O	SSI carry out assessment of manufacturing capacity except in Maturity phase.
Assessment of manufacturing capacity based on Industrial Engineering study	X	X	O	O	X	X	Assessment of manufacturing capacity based on IE study is not in practice except in Maturity and Decline phases. This indicate that the prevailing conditions are not studied on regular basis.
Assessment of critical factors affecting the manufacturing process	X	+	X	O	O	O	Assessment of critical factors affecting the manufacturing process is carried out in Growth and Decline phases in both Madhya Pradesh and Maharashtra.
Material or purchase planning	+	+	O	O	O	O	SSI carry out material or purchase planning once in a month.
Material or purchase planning carried out once in a month	+	+	O	O	+	+	
Production planning	+	+	O	+	+	+	SSI carry out production planning.

Production planning carried out once in a month	X	X	X	O	X	O	SSI carry out production planning once in a month in Decline phase. Production planning is carried out at regular monthly interval in Maharashtra. This indicate irregularity in planning in Madhya Pradesh.
Sometimes production plan is revised	X	X	X	O	O	X	SSI of Madhya Pradesh feel that sometimes production plan is revised due to change in customer schedule. Due to this reason the system could not be built up.
Production plan revised by SSI due to change in customers' schedule	X	X	X	X	O	X	
JIT system in practice	X	X	X	X	X	X	No SSI is implementing JIT.
JIT implementation due to customer's requirement	X	X	X	X	X	X	
JIT implementation for inventory control	X	X	X	X	X	X	

Manufacturing & Quality Management

SSI in introduction phase feel that ISO / QS 9000 certificate is obtained on the insistence of customers or market requirements. Since the number of SSI surveyed with ISO / QS 9000 or similar certification is limited no further conclusions can be drawn in this aspect.

SSI in growth and maturity phases practice incoming inspection as a means of quality control / assurance system. This is applicable for both Madhya Pradesh and Maharashtra. But vendor control is practiced only in growth phase. No SSI uses machine set up or first piece approval for process setting, where as a system of patrol inspection is in practice in maturity phase. SSI in only growth phase is subjected to customers' inspection. This leads to a conclusion about gap in product inspection or process control after the manufacturing process starts.

On maintenance system, SSI in growth and maturity phases practice preventive or predictive maintenance. This system is in practice in Madhya Pradesh and Maharashtra, both. No SSI has implemented condition based maintenance or TPM.

SSI in growth and maturity phases have gone for automation for value addition or for quality check. This is also applicable for SSI of Maharashtra. But in response to the question whether some investment has been made in the previous year, the SSI in growth and maturity phases did not respond affirmatively, this was also the case with SSI of Madhya Pradesh. On the status of level of automation SSI in all phases, except in introduction phase and in both the states are either fully or partially automated.

SSI in growth and maturity phases carry out internal audit of quality and manufacturing systems. Also SSI in Madhya Pradesh and Maharashtra carry out internal audit. On planned approach to audit, SSI in growth phase and SSI of Maharashtra carry out audit as per a planned schedule. The SSI in growth and maturity phases are also subjected to focused audit on quality and manufacturing systems by customers. This is also the case with SSI of Madhya Pradesh.

Elements	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Reason for ISO 9000 / QS 9000 / USFDA certification - requirement of customer or for obtaining business from government orders or improving credibility	+	X	X	X	X	X	1, 1 and 2 SSI are ISO 9000 certified in Introduction, Maturity and Decline phases, respectively. Reason for certification can not be concluded from the data.
Reason for ISO 9000 / QS 9000 / USFDA certification - establishing a documented system or a first step towards TQM	X	X	X	X	X	X	
Quality Control / Assurance systems in practice – incoming inspection of all material	X	O	X	O	O	O	In Growth and Maturity phases quality control / assurance practices are implemented. This practice is similar in Madhya Pradesh and Maharashtra.
Quality Control / Assurance systems in practice – vendor performance analysis or second party audit	X	O	X	X	X	X	In Growth phase control is exercised at vendor end through analysis or second party audit.
Quality	X	X	X	X	X	X	No SSI

Control Assurance systems in practice – machine set up or first piece approval							controls the manufacturing processes before or after commencement of process, except at Decline stage.
Quality Control / Assurance systems in practice – patrol inspection during manufacturing	X	X	X	O	X	X	
Quality Control / Assurance systems in practice – sampling inspection after manufacturing	X	O	X	X	X	X	In Growth quality control / assurance practices are implemented. This indicates dependence on inspection before and after manufacturing, with no focus on process control.
Quality Control / Assurance systems in practice – customer inspection	X	O	X	X	X	X	
Maintenance system in practice – preventive or predictive maintenance	X	O	X	O	O	O	Preventive and predictive maintenance system is in practice in Growth and Decline phases in Madhya

							Pradesh and Maharashtra.
Maintenance system in practice – condition based maintenance or TPM	X	X	X	X	X	X	No SSI implements Condition Based Maintenance or TPM.
Automation adopted for value addition or quality check	X	O	O	O	X	O	SSI in Growth and Decline phases adopted automation. SSI in Maharashtra have adopted automation.
Level of automation – fully or semi automated	X	O	O	O	O	O	SSI in all phases, and states, except in Introduction phase.
Investment made on automation in the previous years	X	O	X	O	O	X	Investments have been made on SSI automation in Growth and Decline phases and in Madhya Pradesh.
Internal Audit of manufacturing and quality system	X	+	X	O	O	O	Internal Audit System is in practice in SSI in Growth and Decline phases and in both the states.
Planned Internal Audit of manufacturing and quality system	X	O	X	X	X	O	Internal Audit System is in practice in Growth phase of SSI. This system is in practice in Maharashtra

							a.
Subjected to audit by customers	X	+	X	O	+	X	SSI are subjected to customer audit in Growth and Maturity phases. More no of SSI in Madhya Pradesh are subjected to customer audit.
Subjected to focused audit by customers (Audit of manufacturing and quality control related systems)	X	+	X	O	O	X	SSI of Madhya Pradesh are subjected to control through focused audits by customers.

Information & Information Technology Management

SSI in all phases except in maturity phase use computers. SSI in both the states i.e. Madhya Pradesh and Maharashtra use computers. On usage, computer is used for routine office purposes by all the users. SSI in growth phase and SSI of Madhya Pradesh also use computers for inventory recording.

SSI in growth and decline phases use computers for day – today reporting (data reporting) purpose. This is also the case for SSI of both Madhya Pradesh and Maharashtra. All of them also use internet. All SSI except in introduction phase use internet for global data access. But considering the data on preparedness for facing future competition it can be concluded that usage of global data is not effective.

Email is used by SSI for communicating with customers and suppliers in growth and maturity phases. The SSI of Maharashtra also use email for such communications.

SSI in growth phase and SSI of Maharashtra have website of their own. But they do not update the site regularly; the reason for not doing so could not be concluded with the data available.

No SSI uses ERP of similar system.

E l e m e n t s	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Usage of computer	+	+	X	+	O	O	All SSI use computers, except in Maturity phase.
Computer used for routine office work	+	+	X	O	O	O	All SSI use computers for routine office work, except in Maturity phase.
Computer used for maintaining inventory records	X	O	X	X	O	X	SSI use computer for maintaining inventory records in Growth phase, in Madhya Pradesh.
Computer used for day - today reporting	X	O	X	O	O	O	SSI use computer for day - today reporting in Growth and Decline phases, in both the states.
Usage of internet	X	+	X	O	O	+	SSI use internet in Growth and Decline phases, in both the states.
Internet used for email and global data access	X	O	X	O	O	+	All SSI use internet for email and global data access.

							except in Introduction phase
Email used for communicating with customers and suppliers	X	O	X	O	X	+	All SSI use email for communicating with customers and suppliers in Growth and Decline phases. in Maharashtra.
Website available and updated regularly	X	O	X	X	X	O	SSI in Growth phase and in Maharashtra have websites. but they are not updated regularly. No significant reason is available for not updating the website regularly.
ERP or similar system used	X	X	X	X	X	X	No SSI use ERP or similar system.

Technology Management

SSI in introduction, growth and maturity phases consider that the cost of technology is high or very high. No SSI is aware about the SIDBI scheme for technology upgradation.

No SSI is prepared to face WTO challenges. In the light of WTO challenge no SSI commented positively on the need for working on R & D strategies for product or process improvement. Also no SSI has adopted any innovative approach for product or process improvement.

Since no significant approach was made in the technology improvement, support from outside agencies for this reason is not reported. Also the SSI did not make any attempt for technology search. On being asked about the support expected on technology management, no SSI indicated any expectation.

The SSI do not use any modern / computerized gadget such as CAD for R & D or for knowledge preservation.

Technology management is a major gap in SSI which may become an impediment in growth this sector.

Elements	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Cost of technology transfer – high or very high	+	+	+	X	X	X	SSI in Introduction, Growth and Maturity phases feel that the cost of technology is high or very high.
Cost of technology transfer – reasonable	X	X	X	X	X	X	No SSI feels that the cost of technology is reasonable.
Awareness about SIDBI scheme on technology transfer	X	X	X	X	X	X	No SSI is aware of SIDBI schemes on technology upgradation.
Preparedness to face WTO challenges – fully or partially prepared	X	X	X	X	X	X	The SSI is not prepared to face WTO challenges, neither a strategic approach is planned.
Preparedness to face WTO challenges –	X	X	X	X	X	X	

not prepared							
Comment on needed scope of R & D in the light of WTO – innovative product development	X	X	X	X	X	X	
Comment on needed scope of R & D in the light of WTO – product development through reverse engineering	X	X	X	X	X	X	
Comment on needed scope of R & D in the light of WTO – improvement in existing products	X	X	X	X	X	X	
Comment on scope of R & D in the light of WTO – innovative manufacturing process development	X	X	X	X	X	X	
Comment on scope of R & D in the light of WTO – improvement in existing manufacturing processes	X	X	X	X	X	X	
Reasons for innovation or improvement – self initiated quality improvement	X	X	X	X	X	X	
Reasons for innovation or improvement – self initiated cost reduction	X	X	X	X	X	X	The R & D efforts are not directed towards improvement in product, processes or customer

							satisfaction.
Reasons for innovation or improvement – self initiated product simplification or value engineering	X	X	X	X	X	X	
Reasons for innovation or improvement – facilitation in product repair or servicing	X	X	X	X	X	X	
Reasons for innovation or improvement – reduction in manufacturing cycle time	X	X	X	X	X	X	
Reasons for innovation or improvement – quality improvement for meeting additional needs of customers	X	X	X	X	X	X	
Reasons for innovation or improvement – cost reduction for the existing customers	X	X	X	X	X	X	
Reasons for innovation or improvement – product simplification for the customers	X	X	X	X	X	X	
Reasons for innovation or improvement – serving a new market segments	X	X	X	X	X	X	
Reasons for innovation or improvement – product benchmarking	X	X	X	X	X	X	
Reasons for innovation or improvement – process	X	X	X	X	X	X	

benchmarking							
Reasons for innovation or improvement - process benchmarking	X	X	X	X	X	X	
Support from outside agencies for R & D - engineering or other technical colleges	X	X	X	X	X	X	The SSI do not interact with outside agencies or institutions for technology development or similar support.
Support from outside agencies for R & D - CSIR	X	X	X	X	X	X	
Support from outside agencies for R & D - independent consultant or others	X	X	X	X	X	X	
Mode of technology search - through consultant	X	X	X	X	X	X	No SSI carry out technology search in a planned manner.
Mode of technology search - through membership of association	X	X	X	X	X	X	
Mode of technology search - through participation in trade mission or seminar or conference abroad	X	X	X	X	X	X	
Expectations from the Government in Technology Assistance - subsidy for in house R & D	X	X	X	X	X	X	The expectation from the Government is not clearly defined by the SSI.

Expectations from the Government in Technology Assistance – enhancing tax relief	X	X	X	X	X	X	
Expectations from the Government in Technology Assistance – Setting up of common R & D facilities	X	X	X	X	X	X	
Expectations from the Government in Technology Assistance – Setting up of incubation lab	X	X	X	X	X	X	
Product or process patents in possession	X	X	X	X	X	X	No SSI is in possession of any patent.
Gadgets in use & knowledge preservation – CAD or similar technology used for R & D	X	X	X	X	X	X	The SSI do not use gadgets for technology management.
Gadgets in use & knowledge preservation – documentation	X	X	X	X	X	X	
Gadgets in use & knowledge preservation – indexed system	X	X	X	X	X	X	

NOTES :

- a) 3 SSI (2 of Growth and 1 of Decline phases) of Maharashtra have provided data on in house technology development. The costs of development were Rs. 1 Lakh, 2 Lakh and 5 Lakh, respectively.
- b) 1 SSI has provided data on technology transfer costing Rs. 4 Lakh.
- c) 3 SSI (2 of Growth and 1 of Decline phases) had technology transfer arrangement with foreign companies.

Change Management

The change facilitation has been done in all SSI and in both the states by the CEO except in decline phase. Out of a number of possible factors the SSI rated them as most important and least important depending on experience. Neither a factor rated as most important nor a factor rated as least important was adopted for change. Hence, the success of change is rated as unfavorable by the SSI in with all phases of life cycle and in both the states. This leads to a major gap in creating preparedness for change.

Elements	Significance in Business Life Cycle				Significance in States		Remarks
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Change facilitation by a consultant	X	X	X	X	X	X	
Change facilitation by an external agent	X	X	X	X	X	X	Non involvement of any external agent or individual and limited interaction outside prevents new learning.
Change facilitation by CEO	+	O	O	X	O	O	In SSI the change facilitation is done by CEO, except in Maturity phase.
Change facilitation by one of the family members joined recently	X	X	X	X	X	X	
Reason for change : most important factors – value improvement	X	X	X	X	X	X	
Reason for change : most important factors – meeting	X	X	X	X	X	X	

requirements of existing customers							
Reason for change : most important factors – manufacturing cycle time reduction	X	X	X	X	X	X	
Reason for change : most important factors – new opportunity in the country	X	X	X	X	X	X	
Reason for change : least important factors – implementation of a Business Excellence Model	+	O	+	+	O	O	
Reason for change : least important factors – implementation of ERP or similar package	+	O	+	+	O	O	
Reason for change : least important factors – anticipated change in the global market	+	O	+	O	O	O	
Reason for change : least important factors – System Benchmarking	+	O	O	O	O	O	
Reason for change : least important factors – retaining the skilled manpower	X	O	+	O	O	O	
Reason for change : least important factors – exploring new	+	O	+	O	O	O	

business opportunity abroad							
Reason for change : least important factors – Process Benchmarking	X	O	+	O	O	O	
Reason for change : least important factors – Product Benchmarking	X	O	O	O	O	O	
Success of change – favourable	X	X	O	X	X	X	14.3, 50 and 5.9 % SSI in Growth, Maturity and Decline phase have achieved some success after change initiatives.
Success of change – unfavourable	+	+	O	+	O	O	SSI has experienced unfavourable results after change initiatives. This indicate a major gap focus for strategy planning.

Leadership Issues

SSI in introduction phase have vision statement. No SSI has a corporate policy statement.

SSI only in introduction phase prepare a long term plan. The plans are not updated on regular basis. they are updated as per need. SSI in introduction phase and SSI from Maharashtra prepare medium term plan. The plans are also not updated on a regular

basis: they are updated as per need. SSI in growth and maturity phases prepare tactical plans. Tactical planning is also done by SSI in both Madhya Pradesh and Maharashtra.

The CEOs of SSI communicates with customers every day in growth phase also CEOs from Maharashtra communicate every day. CEOs of SSI in introduction phase communicate with customers as and when required. The reason for communication is product marketing in growth, maturity and decline phases. Also SSI from Madhya Pradesh communicate with customers for product marketing. CEOs in growth phase and from Maharashtra communicate with customers for exploring new markets, too. In addition, the CEOs in growth communicate with customers for new opportunity for a new product.

CEOs of SSI in growth phase and from Maharashtra communicate with departmental heads any time required. Whereas, the CEOs in introduction and decline phases communicate with departmental heads daily.

CEOs in maturity and decline phases and from Maharashtra communicate with shopfloor employees on every visit to shopfloor. CEOs in introduction phase communicate about business performance to the people. But CEOs in introduction, growth and decline phases communicate the productivity related information to people, this is also the case for the SSI from Maharashtra. Verbal and informal method of communication about business performance is followed in introduction and growth phases and by the SSI of Maharashtra.

CEOs of all SSI from Madhya Pradesh and Maharashtra and in all phases except in introduction phase socialize with people through informal meetings. No other method of socialization is followed by the CEOs.

CEOs of SSI in only in growth phase have a formal system for resource identification.

CEOs of all SSI from Madhya Pradesh and Maharashtra and in all phases except in introduction phase review quality circle activities. although very few SSI have quality circles operational in their companies.

CEOs of all SSI from Madhya Pradesh and Maharashtra and in all phases are computer literate.

CEOs of all SSI from Madhya Pradesh and Maharashtra in all phases except in introduction phase set performance targets for self.

CEOs of all SSI including from Madhya Pradesh and Maharashtra in all phases carry out self planning. CEOs of SSI in growth phase but in both states i.e. Madhya Pradesh and Maharashtra carry out self planning every day.

CEOs of SSI in growth and decline phases prepare self learning plan. This is also practiced by SSI from Madhya Pradesh and Maharashtra, both.

No CEOs is ready to transfer the leadership to someone other than family members in case no one within the family is found acceptable.

E l e m e n t s	Significance in Business Life Cycle				Significance in States		R e m a r k s
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Vision Statement	+	X	X	X	X	X	
Corporate Policy Statement	X	X	X	X	X	X	
Long Term Planning	+	X	X	X	X	X	
Long Term Plan updated every year or as per need	X	X	X	X	X	X	Since the system of long term planning is not significant, the updating is also not significant.
Medium Term Planning	+	X	X	X	X	O	
Medium Term Plan updated	X	X	X	X	X	X	

every six months							
Medium Term Plan updated every year	X	X	X	X	X	X	
Medium Term Plan updated as per need	+	X	X	X	X	X	
Tactical Planning	X	O	O	X	O	O	
Communication with customer – every day	X	O	X	X	X	O	
Communication with customer – once in a week	X	X	X	X	X	X	
Communication with customer – once in a month	X	X	X	X	X	X	
Communication with customer – as and when required	+	X	X	X	X	X	
Communication with customer – rarely	X	X	X	X	X	X	
Reason for communication – Product Marketing	X	O	O	O	O	X	
Reason for communication – Exploration of new market	X	O	X	X	X	O	
Reason for communication – New opportunity for a new product	X	O	X	X	X	X	
Reason for communication – Redressing the Customer Complaint	X	X	X	X	X	X	
Communication with departmental heads – any time required	X	O	X	X	X	O	
Communication with	+	X	X	O	X	X	

departmental heads – daily							
Communication with departmental heads – weekly	X	X	X	X	X	X	
Communication with departmental heads – monthly	X	X	X	X	X	X	
Communication with departmental heads – sometimes as per need	X	X	X	X	X	X	
Communication with shopfloor employees – never	X	X	X	X	X	X	
Communication with shopfloor employees – on every visit to shopfloor	X	X	O	O	X	O	
Communication with shopfloor employees – once in a day	X	X	X	X	X	X	
Communication with shopfloor employees – once in a week	X	X	X	X	X	X	
Communication with shopfloor employees – once in a month	X	X	X	X	X	X	
Communication with people about business performance – sales turnover	X	X	X	X	X	X	
Communication with people about business performance – cost	X	X	X	X	X	X	
Communication with people about business	+	X	X	X	X	X	

performance - profit							
Communication with people about business performance - productivity	+	O	X	O	X	O	
Communication with people about business performance - other information	X	X	X	X	X	X	
Method of communication with people about business performance - verbal & informal	+	O	X	O	X	+	
Method of communication with people about business performance - verbal & formal	X	X	X	X	X	X	
Method of communication with people about business performance - notice board	X	X	X	X	X	X	
Method of communication with people about business performance - newsletter	X	X	X	X	X	X	
Method of communication with people about business performance - other means	X	X	X	X	X	X	
Method of socialization with people - informal meeting	X	O	O	O	O	O	Informal communication without any formal structure takes place in almost all SSI.
Method of socialization with people - official lunch / dinner	X	X	X	X	X	X	

Method of socialization with people – family gathering	X	X	X	X	X	X	
Frequency of socialization with people – once in a month	X	X	X	X	X	X	
Frequency of socialization with people – once in a quarter	X	X	X	X	X	X	
Frequency of socialization with people – once in six months	X	X	X	X	X	X	
Frequency of socialization with people – annually	X	X	X	X	X	X	
Frequency of socialization with people – never	X	X	X	X	X	X	
Formal system of resource identification	X	O	X	X	X	X	
Review of Quality Circle activities or suggestion scheme	X	O	O	O	O	O	
Computer Literacy	+	O	O	O	O	O	CEOs are computer literate in almost all SSI.
Setting performance target for self	X	O	O	O	O	O	
Self planning	+	O	O	O	O	O	Self planning is carried out by all SSI.
Frequency of self planning – every day	X	O	X	X	+	+	Self planning is carried out every day by the CEO does not follow any trend except in Growth phase.

							However daily self planning is significantly higher in Madhya Pradesh than Maharashtra.
Frequency of self planning – every week	X	X	X	X	X	X	
Frequency of self planning – every month	X	X	X	X	X	X	
Making self learning plan	X	O	X	O	O	O	Self learning plan is made by CEO of SSI with Introduction and Maturity phases as exception.
Transfer of leadership to others	X	X	X	X	X	X	

Leader's Perception about External Environment

All SSI expect protection from the Government.

SSI has indicated preference for promotional support from the Government for expansion of market in growth and maturity phases. The SSI from Madhya Pradesh also expect support in market expansion.

The CEO of SSI in growth phase feel that there has been a general unfavorable impact of lowering of investment limit to Rs. 1 Crore. CEO of SSI in growth and decline phases and SSI from Madhya Pradesh feel that lowering of investment limit has adversely affected the technological upgradation. But it can be concluded that there is major gap in R & D or other technological efforts by SSI, hence the effect of lowering the investment limits on technological development can not be accepted as a valid reason. SSI only in introduction phase expects the investment limit to be Rs. 3 Crore.

On competition no SSI agrees that there is competition from large scale sector internationally. But SSI in all phases and from both states are of the opinion that there are problems due to domestic competition however the SSI in introduction and maturity phases and from Madhya Pradesh feel that there are problems due to international competition. The SSI have not made any plan to face challenges to face competition especially due to WTO challenges.

On Government policies the SSI in growth phase and from Madhya Pradesh feel satisfied with excise exemption limit. SSI in introduction, growth and maturity phases and from Madhya Pradesh feel satisfied with the Credit Guarantee Scheme. All SSI except in introduction phase expressed satisfaction on telephone service. But SSI from Maharashtra has expressed satisfaction on power supply. There has been total dissatisfaction due to roads in general and in industrial areas, water supply, effluent treatment and additional space for expansion.

E l e m e n t s	Significance in Business Life Cycle				Significance in States		R e m a r k s
	Introduction	Growth	Maturity	Decline	Madhya Pradesh	Maharashtra	
Protection expected by the Government	+	O	+	+	O	O	All SSI expect protection from the Government
Promotional measures expected from the Government – foreign technical collaboration	X	X	X	X	X	X	
Promotional measures expected from the Government – support in R & D activities	X	X	X	X	X	X	
Promotional measures expected from the Government – support in product standardization	X	X	X	X	X	X	
Promotional	X	X	X	X	X	X	

measures expected from the Government – support in terms of financial assistance							
Promotional measures expected from the Government – support in expansion in market	X	O	O	X	O	X	SSI in Growth and Maturity phase especially from Madhya Pradesh expect support from Government in market expansion.
Anti Dumping Duty Barrier present	X	X	X	X	X	X	
Countervailing Duty Barrier present	X	X	X	X	X	X	
General unfavorable impact of lowering investment limit to Rs. 1 Crore	X	O	X	X	X	X	SSI in Growth phase feel general unfavourable impact due to lowering of investment limit.
Impact on technological upgradation due to lowering investment limit to Rs. 1 Crore	X	O	X	O	O	O	SSI in Growth and Decline phases from both Madhya Pradesh and Maharashtra feel unfavourable impact on technological upgradation due to lowering of investment limit.
Expected investment	X	X	X	X	X	X	

limit - Rs. 5 Crore							
Expected investment limits - Rs. 3 Crore	O	X	X	X	X	X	SSI in Introduction phase expects Rs. 3 Crore to be the investment limit.
Competition from large scale industries in India	X	O	X	X	X	X	
Competition from large scale industries internationally	X	X	X	X	X	X	
Problems due to domestic competition	+	O	O	+	O	O	
Problems due to International competition	+	X	O	X	+	X	The SSI in Madhya Pradesh and in Introduction and Maturity phases problem competition due to international competition.
Satisfaction on government policies - excise duty exemption	X	O	X	X	O	X	SSI in Growth phase and especially from Madhya Pradesh are not satisfied with adequacy of excise duty exemption.
Satisfaction on government policies - on Credit Guarantee Scheme	+	O	O	X	O	X	The SSI in Introduction, Growth and Maturity phases and also in Madhya Pradesh are

							not satisfied with adequacy of arrangements of Credit Guarantee Scheme.
Satisfaction on government policies - Composite Loan Limit	X	X	X	X	X	X	
Adequacy of government policies - Collateral Security	X	X	X	X	X	X	
Satisfaction on government policies - Credit Linked Capital Subsidy	X	X	X	X	X	X	
Satisfaction on government policies - Back Ended Capital Subsidy	X	X	X	X	X	X	
Satisfaction on infrastructure - Telephone	X	+	+	O	O	+	All SSI except in Introduction phase feel satisfied on telephone services.
Satisfaction on infrastructure - Link Roads to Industrial Units / Clusters	X	X	X	X	X	X	
Satisfaction on infrastructure - Roads	X	X	X	X	X	X	
Satisfaction on infrastructure - Power Supply	X	X	X	X	X	+	SSI in all phases as well as Madhya Pradesh feel inadequacy of power supply.
Satisfaction on infrastructure - Water Supply	X	X	X	X	X	X	
Satisfaction on infrastructure -	X	X	X	X	X	X	

Effluent Treatment							
Satisfaction on infrastructure - Space for expansion	X	X	X	X	X	X	

CHAPTER 6

DISCUSSION ON GENERIC BUSINESS EXCELLENCE MODEL & LEADERSHIP

The following elements were not found significant –

Introduction

- Strategic Management –
All aspects
- Financial Control –
Human Resource Costing
Quality Costing
- Finance & Credit Management –
All aspects of Initial Capital except borrowed from other FI
Capital from expansion except from internal savings
Bill discounting
Credit for exports
Time for loan sanction from banks except for six months
Time for loan sanction from FI except for three to six months
Disbursement of loan
Performance of SIDBI – Single Window Scheme
Collateral free loan
Reluctance of banks / SFC / FI to provide loans to SSI
Red tapism in loan processing
Elaborate paper work for loan processing
Need for credit rating
Awareness about SSI and Ancillary Undertaking Act, 1993
Problems in getting credit due to attitude of banks and high interest rates

- People Management –
 - Independent person to look after welfare and training
 - Contractual employment related data
 - Provision of training budget and other aspects of training
 - HR and skill forecasting related issues
 - Data based performance analysis

- Marketing Management –
 - Demand forecasting with the help of statistical methods
 - Incentives to sales people on new customers
 - On line selling in plan
 - Assessment of future demand growth
 - Adequacy of resources for increasing exports

- Sales Management –
 - Sales commission and incentives

- Operational Planning Process –
 - Assessment of manufacturing capacity using IE techniques
 - Assessment of critical factors affecting the manufacturing processes
 - Production planning
 - JIT implementation

- Manufacturing & Quality Management –
 - Quality control / assurance system – incoming inspection, vendor control, machine set up or first piece approval, patrol inspection, inspection after manufacturing and customer inspection
 - Maintenance System – preventive or predictive and condition based or TPM
 - Automation
 - Internal audit of manufacturing and quality systems
 - Customer audit

- Information & Information Technology Management –
 - Usage of computer for inventory recording
 - Usage of computer for day today reporting
 - Usage of internet
 - Website
 - ERP or similar system

- Technology Management –
 - Cost of technology is high or very high
 - Awareness about SIDBI scheme
 - Preparedness to face WTO challenges – not assessed
 - Comment of R & D efforts in the light of WTO
 - Possible reasons for improvement in product, process, etc.
 - Support from outside agencies in R & D or other aspects of technology management
 - Expected support from the Government in R & D
 - Usage of modern management in technology management

- Change Management –
 - Most important factors for initiating change
 - Success of change initiatives

- Leadership Issues –
 - Corporate policy statement
 - Updating long term plan
 - Updating medium term plan
 - Tactical planning
 - Communication with customer – in regular interval and purpose of communication
 - Communication with shopfloor employees
 - Socialization with people
 - Formal system for resource identification
 - Review of quality circle or suggestion scheme

Setting target for self

Defined interval / frequency for self planning

Self learning plan

Readiness to transfer leadership to others in case no one in the family is found suitable

- Leader's Perception about External Environment –
Protection expected from the Government
Promotional support expected from the Government

Growth

- Strategic Management –
All aspects except TQM awareness
- Financial Control –
Predetermined frequency of product costing
Predetermined frequency of process costing
Human Resource Costing
Quality Costing
- Finance & Credit Management –
All aspects of Initial Capital except borrowed from bank
Capital from expansion except from bank
Credit for exports
Adequate credit available from SFC / FI
Adequate credit available for exports
Time for loan sanction from banks
Time for loan sanction from SFC / FI
Disbursement of general loans and export finance
Performance of SIDBI – Single Window Scheme
Collateral free loan
Reluctance of banks / SFC / FI to provide loans to SSI

Setting target for self

Defined interval / frequency for self planning

Self learning plan

Readiness to transfer leadership to others in case no one in the family is found suitable

- Leader's Perception about External Environment –
Protection expected from the Government
Promotional support expected from the Government

Growth

- Strategic Management –
All aspects except TQM awareness
- Financial Control –
Predetermined frequency of product costing
Predetermined frequency of process costing
Human Resource Costing
Quality Costing
- Finance & Credit Management –
All aspects of Initial Capital except borrowed from bank
Capital from expansion except from bank
Credit for exports
Adequate credit available from SFC / FI
Adequate credit available for exports
Time for loan sanction from banks
Time for loan sanction from SFC / FI
Disbursement of general loans and export finance
Performance of SIDBI – Single Window Scheme
Collateral free loan
Reluctance of banks / SFC / FI to provide loans to SSI

Red tapism in loan processing

Elaborate paper work for loan processing

Payment received from customer within 90 days & below

Improvement due to SSI and Ancillary Undertaking Act, 1993

Awareness about SSI and Ancillary Undertaking Act, 1993

- People Management –

Independent person to look after welfare and training

Provision of training budget and other aspects of training

HR and skill forecasting related issues

Reasons for deployment and training of contractual labor force

System to decide on pay rise

- Marketing Management –

Demand forecasting with the help of statistical methods

Fund, material, manpower and production planning based on demand forecast

Incentives to sales persons on new customers

Awareness about SIDBI scheme

On line selling in plan

Assessment of future demand growth

Adequacy of resources for increasing exports

- Sales Management –

Sales commission and incentives

Structured sales training system

- Operational Planning Process –

Assessment of manufacturing capacity using IE techniques

Predetermined frequency of production planning

JIT implementation

- Manufacturing & Quality Management –
 - Quality control / assurance system – machine set up or first piece approval and patrol inspection
 - Maintenance System –condition based or TPM

- Information & Information Technology Management –
 - ERP or similar system

- Technology Management –
 - Cost of technology is high or very high
 - Awareness about SIDBI scheme
 - Preparedness to face WTO challenges – not assessed
 - Comment of R & D efforts in the light of WTO
 - Possible reasons for improvement in product, process, etc.
 - Support from outside agencies in R & D or other aspects of technology management
 - Expected support from the Government in R & D
 - Usage of modern management in technology management

- Change Management –
 - Most important factors for initiating change
 - Success of change initiatives

- Leadership Issues –
 - Vision statement
 - Corporate policy statement
 - Long term planning
 - Medium term plan
 - Communication with customer – in regular interval
 - Communication with shopfloor employees
 - Socialization with people with some structure
 - Readiness to transfer leadership to others in case no one in the family is found suitable

- Leader's Perception about External Environment –
Protection expected from the Government
Promotional support expected from the Government – except in market expansion

Maturity

- Strategic Management –
All aspects except method of strategy planning by discussion with directors, managers and employees, and revision of strategy plan as and when necessary.
- Financial Control –
Budgeting
Predetermined frequency of product costing
Process costing
Human Resource Costing
Quality Costing
- Finance & Credit Management –
All aspects of Initial Capital
Capital from expansion except from bank
Bill discounting
Credit for exports
Adequate credit available from SFC / FI
Adequate credit available for exports
Time for loan sanction from banks – more than six months
Time for loan sanction from SFC / FI – more than six months
Disbursement of general loans and export finance - more than six month
Performance of SIDBI – Single Window Scheme
Collateral free loan
Reluctance of banks / SFC / FI to provide loans to SSI
Red tapism in loan processing
Elaborate paper work for loan processing

Payment received from customer within 90 days & below
Improvement due to SSI and Ancillary Undertaking Act, 1993
Awareness about SSI and Ancillary Undertaking Act, 1993

- People Management –
Independent person to look after welfare and training
Provision of training budget and other aspects of training
HR and skill forecasting related issues
Reason for deployment and training of contractual labor force
Sharing cost related data with employees
System to decide on pay rise

- Marketing Management –
Demand forecasting by any method
Fund, material, manpower and production planning based on demand forecast
Incentives to sales persons on new customers
Selection of sales person through any established method
Awareness about SIDBI scheme
On line selling in plan
Assessment of future demand growth
Adequacy of resources for increasing exports

- Sales Management –
Sales commission and incentives
Structured sales training system

- Operational Planning Process –
Assessment of critical factors affecting manufacturing processes
Pre – determined frequency of production planning
JIT implementation

- Manufacturing & Quality Management –
 - Quality control / assurance system – incoming inspection, vendor performance, machine set up or first piece approval, patrol inspection, inspection after manufacturing and customer inspection
 - Maintenance System – preventive or predictive maintenance, condition based or TPM
 - Internal audit on manufacturing and quality management system
 - Customer audit

- Information & Information Technology Management –
 - Usage of computer
 - Website available and updated regularly
 - ERP or similar system

- Technology Management –
 - Cost of technology is reasonable
 - Awareness about SIDBI scheme
 - Preparedness to face WTO challenges – not assessed
 - Comment of R & D efforts in the light of WTO
 - Possible reasons for improvement in product, process, etc.
 - Support from outside agencies in R & D or other aspects of technology management
 - Expected support from the Government in R & D

- Change Management –
 - Most important factors for initiating change
 - Success of change initiatives

- Leadership Issues –
 - Vision statement
 - Corporate policy statement
 - Long term planning
 - Medium term plan

Communication with customer – in regular interval
Communication with people on business performance
Communication with departmental heads
Socialization with people with some structure
Formal system for resource identification
Review of quality circle and suggestion scheme
Pre – determined frequency for self planning
Self learning planning
Readiness to transfer leadership to others in case no one in the family is found suitable

- Leader's Perception about External Environment –
Protection expected from the Government
Promotional support expected from the Government – except in market expansion
Competition – domestic and international

Decline

- Strategic Management –
All aspects except method of strategy planning by discussion with directors, managers and employees, and revision of strategy plan as and when necessary.
- Financial Control –
Human Resource Costing
Quality Costing
- Finance & Credit Management –
All aspects of Initial Capital
Capital from expansion except from internal savings and bank
Bill discounting
Credit for exports
Adequate credit available from SFC / FI

Adequate credit available for exports
Cost of capital
Time for loan sanction from banks – within one month
Time for loan sanction from SFC / FI – more than six months
Disbursement of general loans and export finance - more than six month
Performance of SIDBI – Single Window Scheme
Collateral free loan
Reluctance of banks / SFC / FI to provide loans to SSI
Red tapism in loan processing
Elaborate paper work for loan processing
Payment received from customer within 90 days & below
Improvement due to SSI and Ancillary Undertaking Act. 1993
Awareness about SSI and Ancillary Undertaking Act. 1993

- People Management –

- Independent person to look after welfare and training
Provision of training budget and other aspects of training
HR and skill forecasting related issues
Reason for deployment and training of contractual labor force
Some method of performance evaluation
Sharing cost related data with employees
System to decide on pay rise

- Marketing Management –

- Demand forecasting by based on customers' targets
Fund, material, manpower and production planning based on demand forecast
Incentives to sales persons on new customers
Awareness about SIDBI scheme
On line selling in plan
Assessment of future demand growth
Adequacy of resources for increasing exports

- Sales Management –
Sales commission and incentives
Structured sales training system

- Operational Planning Process –
Assessment of manufacturing capacity
Assessment of critical factors affecting manufacturing processes
JIT implementation

- Manufacturing & Quality Management –
Quality control / assurance system – vendor performance, patrol inspection, and customer inspection
Maintenance System – condition based or TPM
Planned Internal audit on manufacturing and quality management system
Customer audit

- Information & Information Technology Management –
Usage of computer for inventory recording
Website available and updated regularly
ERP or similar system

- Technology Management –
Cost of technology is very high or high
Awareness about SIDBI scheme
Preparedness to face WTO challenges – not assessed
Comment of R & D efforts in the light of WTO
Possible reasons for improvement in product, process, etc.
Support from outside agencies in R & D or other aspects of technology management
Expected support from the Government in R & D

- Change Management –
Change facilitation

Most important factors for initiating change

Success of change initiatives

- Leadership Issues –
Vision statement
Corporate policy statement
Long term planning
Medium term plan
Tactical planning
Communication with customer – in regular interval
Socialization with people with some structure
Formal system for resource identification
Pre – determined frequency for self planning
Readiness to transfer leadership to others in case no one in the family is found suitable
- Leader's Perception about External Environment –
Protection expected from the Government
Promotional support expected from the Government – except in market expansion
Competition – domestic and international

The dominant characteristics of business organizations at various phases of life cycle are listed in Table 6.1. The competitive strategies at these phases are listed in Table 6.2 and the desirable leadership role and styles are listed in Table 6.3. They are adopted from the published sources.

In subsequent sections of this Chapter discussion is made on the various issues of business models and leadership practices. The discussion is centered on the major hypotheses explained in Chapter 3. The hypotheses address the aspects of business excellence models adopted by the SSI at various phases of business life cycle and in the states of Madhya Pradesh and Maharashtra.

Characteristics	LIFE CYCLE STAGES			
	Introduction	Growth	Maturity	Decline
Overall market growth	Building rapidly, but on a small base	Faster than GNP	Equal or less than GNP	Decreasing
Product technology	High level major product innovation, dominant designs not yet established	Dominant design emerges, emphasis placed on product variety	Small incremental innovations, many based on cost savings vs. performance improvements	Little or no change in product
Production technology	Emphasis places on flexibility, process not fixed until dominant design emerges	A dominant design emerges, production process can become more specialized	Emphasis on efficiency, most likely stage for automation	Little or no change in process
Pricing patterns	Prices are high but volatile	Prices decline rapidly as cost fall and competition rises	Prices decline slowly as productivity allows costs to fall	Prices stable
Promotional efforts	Target innovators and try to build awareness of product	Build brand awareness	Taller promotion to a variety to market segment	Limit market, largely depend in inertia to maintain viable level of sales
Entry and exit	A few pioneers begin to explore the market	Many firms scramble to enter what appears to be a promising market	As market is saturated, growth slows and shakeout begins	A few survivors remain to serve the market
Nature of competition	Limited, focus is often inward, looking toward product rather than toward competitors	Growth may mask success of competitors	Competitive rivalry peaks as competitors try to survive the shakeout	As shakeout is completed, survivors seek to deescalate competition
Capital investment requirements	Substantial, needed to support initial creation of business and / or product	Peak period, needed to fund growth	Reinvestment as needed to maintain viability	Minimal, may in fact disinvest by selling off assets
Profitability and cash flow	Unprofitable, substantial negative cash flow	Profitable, but cash flow may still be negative	Profits declining, but larger investment level may mean cash flow is strong	Profits are low, cash flow is small (either negative or positive)
Sales Growth	Slow	High	Slow	Negative

Table 6.1 – Characteristics of Life Cycle Stages (Adopted from Dess & Millar, 1993)

Competitive Position →	Dominant	Strong	Favorable	Tenable	Weak
Industry Maturity ↓					
Embryonic	All out push for share Hold positions	Attempt to improve position Push for share	Selective or all out of share Selectively attempt to improve position	Selectively push for position	Up or out
Growth	Hold position Hold share	Attempt to improve position Push for share	Attempt to improve position Selectively push for share	Find niche and protect it	Turnaround or abandon
Mature	Hold position Hold share	Hold position Grow with industry	Custodial or maintenance	Find niche and hang on or Phased withdrawal	Turnout or Phased withdrawal
Decline	Hold position	Hold position or Harvest	Phased withdrawal	Phased withdrawal	Abandon

Table 6.2 - Patel and Younger's Approach

Stage	Top Managements' Role	Management Style	Organisational Structure
1. Inception	Direct supervision	Entrepreneurial individualistic	Unstructured
2. Survival	Supervised supervision	Entrepreneurial administrative	Simple
3. Growth	Delegation / co – ordination	Entrepreneurial co– ordinate	Functional centralized
4. Expansion	Decentralization	Professional administrative	Functional decentralized
5. Maturity	Decentralization	Watchdog	Decentralized functional / product

Table 6.3 - Management Role and Style in the five stages of Small Business Growth

Discussion on different phases based on the study is as follows –

6.1 INTRODUCTION PHASE

Generally, business in introduction phase has high internal focus. (Dess & Miller, 1993) Focus on cost management as evident from the analysis indicates that creation of internal strength is in high priority. They have created financial strength for investing in expansion plans. Access to capital and interest rates charged on the capital are important explanatory variables for entry of a new SSI (Storey, 1994). As per the analysis, the SSI in this phase have expressed general satisfaction on credit system of banks and FI. The problems in getting credit are due to collateral security, attitude of FI, repayment terms and government policy. They also expressed general satisfaction on the payment received from the customers.

Peter Drucker (1997) in his vision for success of business enterprises mentioned that there can be no long term competitive advantage for any country, industry, or a company, because neither money nor technology can for any length of time offset the growing imbalances in labor resource. On people management, the SSI in this phase the lack strategic focus. The SSI in this phase employ contractual or casual labor to deploy them as skilled or unskilled labor, but such workmen are not provided with any formal training inputs. This is an impediment for growth. Based on analysis it is concluded that the SSI in this phase share cost related data with people and follow some method of performance evaluation of employees but the pay rise of employees is decided on owners' discretion, which may lead to people dissatisfaction.

Profitability is measured by the level of aggregate demand in the economy and this is a key positive influence upon formation of a new business unit (Storey, 1994). But, demand forecasting in introduction phase is carried out only based on the targets given by customers and the forecast data is used for budgeting, fund planning, material planning, manpower planning and production planning. It is widely accepted that a good business plan is a necessity for success of a business. The business plan should recognise correct market place, an idea, recognizable uniqueness and foresee

the problems and propose solutions. If all of us visualize such issues first, there would not be any problem (Murthy, 1999), but this is a major gap in this phase.

Sales management is looked after by an independent person selected by direct interview; and there is a structured sales training system in practice for them. Incentive based on sales performance is also given to the sales team. The analysis indicates that SSI in this phase have high level of sensitivity towards sales related activities. This is a common characteristic in introduction phase. (Dess & Miller, 1993)

SSI in this phase carry out assessment of manufacturing capacity based on supplier's manuals. This is important because responsibility of quality in any transformation process must lie with the operation of the processes – the people and the equipments (Oakland, 1989). But there is very low focus on manufacturing and quality management related processes in this phase. In introduction phase a flexible approach is needed to establish the business (Dess & Miller, 1993). Hence low focus on manufacturing and quality management aspect will not lead to establishing a flexible system for manufacturing excellence.

The SSI practice a system of material or purchase planning with pre – defined frequency but they follow production planning system without any pre – defined frequency. Purchasing function plays a role of 'window – on – the – world', providing information on any new products, processes, materials and services (Oakland, 1989). Hence purchase planning and purchasing processes need to be aligned with the rest of the organisational processes to achieve effective business results.

The managers and leaders have been thinking a great deal about the many opportunities the internet offers. But they also will have to engage in a fundamental mind shift to live successfully in a networked world. Simply put, the organisations will have to learn to live with increased visibility and perhaps even more scary, loss of control over corporate image. But, the focus on information technology and management is also very low in SSI in introduction phase. They use computers only

for routine office work. Without strengthening this aspect they would find difficulty in further growth.

Senge (1997) is of the opinion that 'research, the disciplined pursuit of discovery and understanding that leads to generalizable theory and methods. But the SSI in this phase feel that the cost of technology transfer is high, hence there is no effort to upgrade technology and also there is no innovation or R & D effort in this phase. Lack of focus on technology does not lead to sustainable growth of the business (Dess & Miller, 1993).

Although the SSI in this phase are of the opinion that change efforts are led by the CEO but no significant change effort has been made by them. What enables an organisation to succeed in longer term is a wish for immortality, or at least a long life: a consistent set of values based on an awareness of the organisation' own identity: a willingness to change; and a passionate concern for developing the capacity and self-confidence of its core inhabitants, whom the company values more than its physical assets. Hence a strong vision translated to a committed action plan with support of empowered people will create an environment of change.

The reason for starting a new business venture is an important element to know about the vision of the entrepreneur which in turn affects survival and growth the SSI. Expected profit and the presence of entry barrier are important for all types of entrants, but there is also a need to establish a clear distinction between formation of a new independent business unit and the entry of existing businesses into different sectors (Storey, 1994). Vision statement by the entrepreneur is available in this phase. They carry out long and medium term planning with no regular updating. They also expect protection from the Government. In the light of liberalized business environment, this is not going to lead to excellence.

The CEOs communicate with the customers as and when required. They also communicate with departmental heads daily. They communicate with people verbally and informally on profit and productivity. In the initial years the profits are low and the need for capital for various developmental activities is also high, this may not

result in very attractive salary offers, hence by communicating on low profits may reduce the chances of people dissatisfaction. (Dess & Miller, 1993) They are computer literate and carry out self planning. But they feel satisfied with Credit Guarantee Scheme of the Government. On proposed investment limit, they prefer Rs. 3 Crore as the limit. The CEOs in this phase consider that there are domestic and international competitions. Realization of these aspects should be aligned with growth plans.

Since the SSI studied was not from Madhya Pradesh or Maharashtra, comparison on account of states has not been made.

6.2 GROWTH PHASE

SSI in growth phase lack strategic focus except that they attempted TQM implementation. In further analysis an attempt has been made to relate this aspect with rest of the model.

The SSI in this phase focus on product and process costing. But due to lack of pre-determined frequency irregularities can not be ruled out which may also lead to loss of control on cost. In this phase growth is predominant and loss of focus on cost may not lead to significant loss of profit as volume grows. Loss of control may be visible only when the business growth ceases. Large amount of fund is required to match the market needs of product, hence high focus on credit management is visible. In this phase the credit cycle is generally managed well due to high volume and profitability, hence the SSI want a credit rating system in place. Delay in payment receivable is significant in growth phase, this further creates pressure on credit, and sometime the businessmen may go to other sources for borrowing at a high interest rate. This may lead to debt trap situation in long run, the growing companies must focus on the productivity side of the equation for long term improvements (Ghoshal, 2000). This is the reason the SSI in this phase feel that the SSI and Ancillary Undertaking Act, 1993 did not improve the payment realization. The SSI in this phase also feel that there are problems in getting credit due to collateral security.

On training there is lack of a strategic focus in this phase. Atkinson and Meager (1994) demonstrated that the likelihood of firms undertaking training of their workforce appears to increase with the size of the firms. A study of SSI in UK was undertaken in 1989 to 1993 to assess relationship with training of workforce and growth of the firm, and to assess whether the growing firms behave differently and consider training as a competitive advantage. Out of the four studies done in UK and Europe on this aspect, three were unable to identify an impact of training and only one indicated positively associated with growing businesses. The researchers were of the opinion that even in that case, the growing firms should focus on training. Similarly, in the present study no planned effort is made to design a system for linking training and education with strategic plan. This leads to absence of a strong HRM foundation which is one of the prerequisite for ensuring sustained growth in future. In absence of a focus on HR processes, even if cost related data are shared among employees, this may not necessarily lead to ownership of results. The SSI in this phase employ contractual or casual labor to deploy them as skilled or unskilled labor, but such workmen are not provided with any formal training inputs. All these factors may become impediment for future growth.

Demand forecasting is done by assessing the targets provided by the customers but this forecast is not used for material or manpower or fund planning. The negative effects of absence of planning may not be clearly visible when the SSI is loaded with high volume by the existing customers. But in competitive environment where market determined pricing is very common and where an effective cost management is one of the key determinants of competitiveness the SSI may not be able of manage the business in long run under such cost pressure. Lack of planned efforts results in high cost of operations.

Focus on sales management is reported after analysis of business strategies of SSI in growth phase; but as discussed lack of focus on training the sales team may not lead to lasting effects. Absence of a futuristic approach in assessing the market growth, evaluating the status to match the needed growth and un – preparedness on account of these are the major gaps in assuring further growth. This leads to lack of focus on change management, this aspect will be analyzed further.

The SSI in this phase carry out assessment of manufacturing capacity and identify the critical factors affecting the manufacturing process, this helps in better operational planning. Purchase or material planning with regular review helps to control material consumption and also the cost. But production planning without a long term perspective and without regular review does not result in desirable performance.

Storey et al. (1989) after a comparative study of fast – growth and other small firms concluded that the fast growing firms see it a competitive advantage in terms of quality of the product and service whereas the other firms see price as competitive advantage. The SSI in growth phase establish quality control right from incoming through in – process stages and also carry out inspection of products after manufacturing. Automation also supports in establishing consistent product and process performances. Focused internal audit as well as audit by the customer audit furthers the process. The SSI's focus on preventive or predictive maintenance also leads to a good shopfloor management system. In short, manufacturing and quality management systems are the strength of SSI in this phase.

Effective usage of computers by SSI is another strength in this phase, the computers are used for office work, inventory record keeping and day today reporting. Usage of internet for enhancing the business performance indicates one more dimension of operation excellence. But absence of ERP or a similar system may not ensure lasting excellence and may not assure sustained growth.

Phillips and Kirchhoff (1989) after a study showed that in the United States, high technology small firms are likely to grow more rapidly, other things being equal, than small firms in more conventional sectors. This is the case that more technologically sophisticated businesses, even in conventional sectors, are likely to grow more rapidly than those with lower levels of technological sophistication. The low focus on importance and application of technology management is a major gap in this phase of business cycle.

The achievement of growth by a small firm over a period of time requires, as a minimum condition, that the firm survives. It may have to survive crises relating to

changing customer composition, changing regulations, changing technology, etc. It is argued by Smallbone et al. (1993) that the ability to make these adjustments in response to these crises is central to growth; indeed, they argue that it is the more rapidly growing firms which are more likely to have made adjustments in a variety of different dimensions, than the slower – growing firms. Although the SSI in growth phase have reported that TQM implementation take place but it is seen in this study that no effort has been made for managing change, neither there is a focus in identifying the important elements for change. On need for change Ghoshal et. al. (2000) explained that perhaps the most pervasive myth of all is the belief that truly radical change is possible only when a company is in actual crisis. With crisis comes refreezing, a delegitimization of the existing order that includes the existing power structures, beliefs and processes, and delegitimizing of the old clears the path for the new. The belief that “fix it while it ain’t broken yet” is a fashionable statement but not very practical one, the belief goes, because people cannot see the need for change when everything is going on well’. This indicates a major gap in the model adopted by SSI in growth phase. Any internal strength will not lead to lasting results in absence of a clear focus on a strategic change process.

Robinson and Pearce (1983, 1984) were unable to show that formalized planning leads to, or is associated, better small firms performance. The Woo et al. (1989) study found that those firms which claimed to spend a higher proportion of their time in planning activities were those which experienced the more rapid growth. However, Kinsella et al. (1993) in a study, which examines in details the question of small firm planning, makes a distinction between small firms which had written business plan at start-up, and which introduced one later on. The study concluded that 93 % of the fast growth firms in the study had a written business plan, compared with only 07 % otherwise. It is concluded that this is a factor which encourages growth, but is not clear whether it is associated with a movement towards greater size. In the present research it is seen that SSI in this phase do not have Vision and Corporate Policy statements. Although operational plans are not evident due to absence of long and medium term planning. SSI in this phase carry out tactical planning which generally create a system for meeting the immediate targets. Ghoshal et. al. (2000) in their book cautions that just an overall vision and a coherent plan are not good enough for

creating a sustainable growth process. to shape and manage the future a company also needs the ability to effectively act on the vision and implement the plan. Explaining the growth process Ghoshal says that a company needs to create an effective alignment among three key elements, its value creation logic, its organizing principles and its people processes.

On communication styles of the leader, it is evident that the leaders are directly associated with marketing and for exploring new opportunities. The CEOs also interact with departmental heads, but he does not communicate with other people. This is due to very low focus on HRM processes. The CEOs communicate with people informally for sharing productivity related data. Informal meetings also form a method for socialization. This is a felt need to strengthen this aspect.

Further on leadership style a system of formal resource identification is significant which may support the operational planning process. Review of quality circle activities is another positive indicator of excellence. Casson (1982) elaborated, from a theoretical perspective, the skills and competencies needed for successful entrepreneurship. He saw the central skill of the entrepreneur as being forecasting and decision making under conditions of uncertainty – these conditions being highly context – specific in terms of changes over time, between sectors, etc. It might therefore be expected that these competencies can be formally taught to entrepreneurs and those in receipt of these training would perform better in business than untrained individuals. But training to the entrepreneurs can not take place without a self motivated effort by themselves. On self management by the leaders the other significant factors are computer literacy, setting performance target for self, self planning on pre – determined frequency and self learning plan. It is expected that there is an identifiable impact of such learning plans with business growth.

There are very few aspects of external environment which are considered to be significant by the leaders in growth phase. Four studies conducted on impact of state's support on performance of SSI in UK and other European countries. Westhead and Birley (1993) and Birley and Westhead (1990) were unable to identify an impact of state support upon firm performance in the form of awareness of incentives or

industry – related grants. Storey et al. (1987) and Kinsella et al. (1993) observed an impact of state assistance, with more rapidly growing small firms being more likely to be in receipt of assistance in the form of either finance or information than the slower – growing firms. It is yet to be demonstrated that the provision of all forms of state support to small businesses encourages small firms to grow more rapidly. The CEOs in the present research study expect protection from the government. Among the expected promotional support by the SSI in growth phase the major support expected in market expansion. But the CEOs felt satisfied with excise duty exemption, credit guarantee scheme and telephone facilities. They are of the opinion that there has been an unfavorable impact of reducing the investment limit to Rs. 1 Crore in SSI. The major area impacted is technological upgradation. But the analysis shows that the number of SSI gone for technological upgradation or R & D in the recent past is almost negligible hence there is no reason to conclude this impact of lowering of the investment limit.

Covin and Slevin (1989) argued that the nature of the market place into which the firms sell is the key influence upon potential growth. They make the distinction between hostile and benign environments and suggest that successful surviving firms in hostile or highly competitive environments are those which illustrate organisational flexibility and willingness to undertake risky projects. However, in the more benign environment, the successful firms are those which place a greater emphasis upon formality and rules within the organisation. In the present research, on competition the CEO feel that there is competition from the large scale sector, also there is problem due to domestic competition. The CEOs also consider that there is international competition. But, it has been shown by Storey et al. (1987) after a study that the growing firms have poor understanding of their competitors, nature of competition in the market place and relative performance of the firm.

The CEOs of SSI in growth phase communicate with the customers as and when required. They also communicate with departmental heads daily. They communicate with people verbally and informally on profit and productivity. In the initial years the profits are low and the need for capital for various developmental activities is also high, this may not result in very attractive salary offers, hence by communicating on

low profits may reduce the chances of people dissatisfaction (Dess & Miller, 1993). But this may be the case in growth phase. There is a need for people growth plan, too aligned with the organisational growth plan. The CEOs are computer literate and carry out self planning and they feel satisfied with Credit Guarantee Scheme of the Government. On proposed investment limit, they prefer Rs. 3 Crore as the limit.

6.3 MATURITY PHASE

A study by David Smallbone, David Northe and Roger Leigh (1992) on characteristics and strategies of a group of high growth but mature SMEs in United Kingdom conclude that these firms follow different strategies. In the present research study, SSI in this phase do not implement systematic strategic management process. However, the CEO discusses the strategy plans with directors and managers. The strategy plan is reviewed as and when necessary.

SSI in maturity phase do not practice budgeting but they carry out product costing without any pre – planned reviews. No other costing is being practiced.

Smallbone et al.'s study in 1992 in U.K. on mature small businesses finds out that mature firms focus heavily on market and employment related issues rather than finance or credit based issues. But the present study, the SSI did not comment significantly on credit, however they are of the opinion that adequate credit is available and cost of capital from banks is satisfactory. The SSI did not comment on payment receivables also they did not comment on SSI and Ancillary Undertaking Act, 1993. The SSI mentioned that there is awareness about the Act. On problems in getting credit the SSI feel that the credit problem is due to collateral security.

The SSI in this phase deploy contractual or casual labor as skilled or unskilled labor. They also claim that some method of performance evaluation is in practice. In response to most of the questions on HR processes, the answers were neutral or negative. This indicates a major gap in implementation of HR processes.

The study by David Smallbone, David Northe and Roger Leigh (1992) in United Kingdom conclude that matured firms primarily identify new markets for existing products for existing customers. This involved identification and movement into an important market niche, and underline the importance of market positioning. Their study also concludes that these firms are more likely to export. But no information has been provided on sales in the present study, also demand forecasting is not significant in this phase. But the sales function is being looked after by an independent person by SSI in this phase.

Assessment of manufacturing capacity is being made by IE studies. Material or purchase planning is carried out once in a month. Production planning is also carried out without any pre – planned frequency.

System approach to manufacturing or quality management is not prevailing in this phase of life cycle. On automation, fully or semi automated manufacturing or quality related processes are applied.

The focus on usage of computer is very low, however the SSI are using internet for emailing and global data access. These factors are indicators of strength of business. SSI in this phase feel that the cost of technology transfer is high or very high. David Smallbone, David Northe and Roger Leigh (1992)'s study shows that mature firms have product and services which are innovative. But R & D, technological upgradation or other innovation related activities to remain prepared to face WTO challenges is not significant in the present study of SSI.

David Smallbone et al. (1992)'s study concludes that mature firms have implemented change process to create more time for the owners in order to enable them to manage the business. The analysis of the present study also shows that the CEOs in this phase facilitate the change process, but no change initiative is significant in the maturity phase of life cycle.

The SSI do not have vision or corporate policy statements, neither they carry out long or medium term planning. The SSI carry out tactical planning. The CEOs did not

provide information on the frequency of communication with the customer but the reason for communication is product marketing. They also communicate with the shop floor employees on every visit to the shop floor. The CEOs socialize with people through informal meetings. Review of quality circle activities is also carried out by the CEOs. On self learning traits, the CEOs are computer literate; they set performance target for self and also carry out self planning. The above mentioned factors indicate a major gap in envisioning the future, which is a pre – requisite for growth after maturity.

On perception about the external environment, the CEOs expect protection from the government. They also expect promotional support from the government in terms of support in marketing. They are of the opinion that there are problems due to domestic and international competition. On government policies, they feel satisfied with Credit Guarantee Scheme. On satisfaction with infrastructure, they feel satisfied with telephone services.

6.4 DECLINE PHASE

In this study SSI which has gone for insolvency, liquidation or closure are not studied. Only functional SSI are studied. The objective of including this phase of life cycle is to develop understanding about the factors which influence low performance.

Hall and Young (1991) and Hall (1992) studied the small businesses which have gone for business closure and concluded that owners of young firms were more likely to suffer from inadequate funding, poor products and inefficient marketing. As their companies aged, however, they were more likely to be buffeted by strategic and environmental shocks for which they did not have managerial skills to respond. The analysis of this study indicates that SSI in this phase do not implement systematic strategic management process. However, the CEO discusses the strategy plans with directors, managers and other employees. The strategy plan is reviewed as and when necessary.

SSI in decline phase practice budgeting. There is a significant focus on product costing with regular monthly review, and process costing with review on pre – determined frequency. HR and quality costing system is not being practiced.

Desai and Montes (1982) related the number of business bankruptcies to the growth of the nominal money stock and the nominal interest rates. Hudson (1986) was of the opinion that higher interest rates are associated with fewer company liquidations. Similar conclusion was drawn by Simmons (1989) failures are associated with unfavorable cost shocks, and that interest rates are not a major interest rates. Other studies in United States and United Kingdom conducted by Lane and Schary (1990), Phillips and Kirchhoff (1988) and Birch and McCracken (1981) suggest that temporal variations in small business failure rates are more strongly related to the ages of the firms than to macroeconomic conditions. The SSI in decline phase covered in this study brought capital for expansion by internal savings and also borrowed from banks. They are of the opinion that adequate credit is available from banks and loans are sanctioned between one to three months. The SSI did not comment on payment receivables but they are of the opinion that the SSI and Ancillary Undertaking Act, 1993 did not bring any improvement in payment receivables. On problems in getting credit the SSI in this phase feel that there are many problems, the problems are due to collateral security, attitude of banks and FI, government policy, high interest rates and repayment terms. This leads to conclusion that a major focus towards the reasons for failure is on macro elements which will be analyzed further.

The SSI in this phase deploy contractual or casual labor as skilled or unskilled labor. No other issues on HRM is significant for SSI in this phase of life cycle. Atkinson and Meager (1994) demonstrated likelihood of firms undertaking training for their workforce appears to increase with the size of the firm. But the small firm employers are aware of high risk of failure are reluctant to make a long term investment in training. Also the labor turnover in small firms is generally greater than in larger firms, and so the value of training from the employer's perspective is reduced.

Smallbone et al. (1992) in his study has identified product and market adjustment as the most important adjustment in absence of which the failure of small businesses can

not be prevented. Market assessment in terms of new opportunities and increasing the breadth of the customer base are important aspects for demand forecast. Demand forecasting by the SSI under study was based on targets given by customers is significant in this phase, also the forecast is reported to go wrong sometimes. Sales function is being looked after by an independent person by SSI in maturity phase. Sales personnel are selected by direct interview. Low focus on market analysis is a major indicator for decline.

Assessment of manufacturing capacity is being made by supplier's manual and II: studies. Also critical factors affecting the manufacturing processes are identified. Material or purchase planning is carried out once in a month. Production planning is also carried once in a month and also revised by the SSI in decline phase. But a long term focus on planning is not evident in any aspect.

Smallbone et al. (1992) in his study also identified 'internal organisational adjustment' as second most important adjustment for survival of a small business. In the present research study system approach to manufacturing or quality management is not significant in this phase of life cycle. Quality control is in practice, incoming inspection and patrol inspection during manufacturing are carried out. Preventive or predictive maintenance is being carried out on machines. On automation, fully or semi automated manufacturing or quality related processes are applied. Some investment is also made in the recent past for automation. The manufacturing and quality management system are internally audited, also the SSI in this phase are subjected to customer audits.

There is high focus on usage of computer in this phase of life cycle. Computers are used for routine office work, day – today reporting and for internet access. Internet is accessed for global data access and email to suppliers and customers. This aspect indicates strength in decline phase.

SSI in this phase have very low focus on R & D and technological upgradation or other innovation related activities to remain prepared to face WTO challenges.

The CEO in this phase do not facilitate the change process also no change initiative is significant in the maturity phase of life cycle.

These factors may further add to the cause of decline.

In studies on small business survival the individual characteristics of the business leader which might influence business survival include work history, family background, personal characteristics and education. Prior managerial experience could also positively influence survival, since those individuals will have experience of the management of others (Townroe and Mallalieu, 1993). The common perception is that Asian businesses in particular are likely to have higher survival rates than white – owned firms. This reflects the greater use of family networks for financial support, a reluctance to seek salaried work through fear of racial prejudice, and perhaps a clearer awareness of the business skills which are needed to succeed (Jones, McEvoy and Barrett, 1993). The study by Cressy (1992) found that the personal characteristics of founders to be a relatively unimportant influence on survival rates. The study supports these conclusions as the SSI in decline phase included in this study do not have vision or corporate policy statements, neither they prepare long term or short term plans. The CEOs did not provide information on the frequency of communication with the customer but the reason for communication is product marketing. They also communicate with the departmental heads daily and with shopfloor employees on every visit to the shopfloor. The CEO communicates people about productivity performance verbally and informally. The CEOs socializes with people through informal meetings. Review of quality circle activities is also carried out by the CEOs. On self learning traits, the CEOs are computer literates, they set performance target for self, carry out self planning and also have self learning plan.

On perception about the external environment, the CEOs expect protection from the government. The CEOs in this phase of life cycle feel that lowering of investment limit to Rs. 1 Crore has impacted adversely especially for technological upgradation. But no R & D or technology upgradation efforts were made by SSI in this phase. They are of the opinion that there are problems due to domestic competition. On government policies, no comments were made but the CEOs feel satisfied with

telephone services. Although the problems are identified but no efforts are planned to deal with them, this leads to a major gap in assuming betterment in future performance.

6.5 COMPARATIVE ANALYSIS OF MADHYA PRADESH & MAHARASHTRA

SSI in both Madhya Pradesh and Maharashtra do not take support from outside experts. They do not associate students for training. In both states TQM implementation is not significant. SSI in these states do not measure business performance by measurement of customer satisfaction, quality performance parameters, value addition, six sigma implementation results, productivity data, training effectiveness, implementation of suggestions made by quality circle or similar means. There is similarity in approach in both the states.

The CEOs of SSI of Madhya Pradesh discuss the strategy plans with other directors and managers and review the same as and when necessary which is not the case with Maharashtra.

SSI of both states practice budgeting, product costing and process costing systems. SSI of both states carry out process costing in a pre – determined frequency where as product costing is carried out at pre – determined only in Madhya Pradesh. SSI of Madhya Pradesh also carry out quality costing.

On capital structure followed by the SSI, promoters of SSI in both the states did not bring own capital, the Madhya Pradesh entrepreneurs borrowed from banks. No SSI brought capital from SIDBI, FI, private borrowing or from other sources. For expansion the SSI in Maharashtra arranged capital from internal savings whereas SSI of Madhya Pradesh borrowed from bank. No state indicates significance in availing bill discounting facility. This leads to conclude that the SSI do not find SIDBI, SFC or FI as an ideal source for capital. The SSI of Maharashtra reinvest the profit for future growth which is a sound financial practice.

Adequacy of credit and cost of capital are significant for SSI of Madhya Pradesh. But adequacy of credit is not significant from SIDBI or SFC / FI or for exports in any state. SSI of Madhya Pradesh get the loan sanctioned between one to three months. The SSI of this state also feel that there is a need for a credit rating system. SSI of Madhya Pradesh and Maharashtra did not comment on time taken for loan disbursement and loan for financing exports. Although, there is a general dissatisfaction on credit process among the SSI of Madhya Pradesh and Maharashtra but no significant reason is available for conclusion for such dissatisfaction. On being asked to comment on problems SSI of both states expressed that there are problems due to collateral security, attitude of banks and FI and high interest rates. While SSI of Madhya Pradesh identify government policy towards SSI and repayment terms as problems. In short the loan processing system is not acknowledged to be satisfactory by the SSI.

SSI from Maharashtra receive payments from the customers with a delay of more than 90 days. SSI from both states expressed the opinion that enactment of SSI and Ancillary Act, 1993 did not result in improvement in payment receivables.

On people management, SSI of both Madhya Pradesh and Maharashtra do not have someone with independent responsibility to look after training and employee welfare. neither these SSI have training budgets. Employment of contractual or casual labor is significant in SSI of Maharashtra. But no other HRM aspect is significant in both the states, this leads to a conclusion that there is gap in HRM process in both states.

Cost sharing data with employees and implementation of some method of performance evaluation is significant in Maharashtra. While SSI of Madhya Pradesh decide pay rise based on owners' discretion. This proves that some HRM practices of SSI of Maharashtra are better than Madhya Pradesh which is also supported by the analysis on communication with people about business performance data.

SSI of both states forecast demand through targets provided by the customers. No other secondary data source is used by them to assess future trends, neither had they commented on adequacy of resources to meet the expected future export

requirements. No SSI use the forecasted data for budgeting or fund. material or manpower planning. The SSI also did not comment on reliability of forecast data. In short there is not much difference between the states.

SSI from both Madhya Pradesh and Maharashtra sell products directly to the customers. No other aspect of sales management is significant in any state.

SSI from both states assess the manufacturing capacity and the critical factors affecting manufacturing as a part of operational planning. They also carry out material or purchase planning once in month. SSI from both states carry out production planning but SSI of Maharashtra do it once in a month. The SSI of Madhya Pradesh feel that sometimes the production plan change due to change in customer's schedule. No SSI follows JIT system.

Very limited numbers of SSI possess ISO 9000 or similar certification. SSI from both the states carry out incoming inspection as a part of quality control but no other quality control activity is significant in any state. Also no quality assurance activity such as vendor performance analysis, second party audit is implemented by them. SSI from both states follow preventive or predictive maintenance system but no SSI practice condition based maintenance or TPM. On automation, automation for manufacturing or quality check is significant in SSI of Maharashtra which is not the case in Madhya Pradesh but the SSI of Madhya Pradesh has invested in automation the previous year. Both the states follow semi or fully automated processes. SSI from both the states carry out internal audit of the manufacturing and quality system but only SSI of Maharashtra do it in a planned manner. The SSI of Madhya Pradesh are subjected to focused audit by customers. The SSI follow identical manufacturing and quality systems. SSI of Maharashtra are significant in following automated processes.

SSI in both Madhya Pradesh and Maharashtra use computers for routine office work and for day – today reporting purposes. But SSI of Madhya Pradesh also use computer for inventory recording. SSI of both Madhya Pradesh and Maharashtra use internet for global data access and email but SSI of Maharashtra use email for communicating with customers and supplier. SSI of Maharashtra have website and

update regularly. ERP or similar system is not in use in any state. It can be concluded that the SSI of Maharashtra make better use of IT system.

Opinion that the cost of technology transfer is high or very high is not significant for SSI of Madhya Pradesh and Maharashtra both. Awareness about SIDBI schemes for technology upgradation is also not significant. The preparedness to face WTO challenges, comment on R & D effort in the light of WTO challenges and reasons for innovations and other aspects of technology management are not significant for SSI of Madhya Pradesh and Maharashtra, both.

On change, facilitation of change in SSI of both Madhya Pradesh and Maharashtra was done by the respective CEOs. Although the SSI rated the reasons of change as most or least important but there has not been any attempt to implement the change process. The result of change is unfavourable in both the states.

6.6 LEADERSHIP STYLE

SSI in both Madhya Pradesh and Maharashtra do not have vision or corporate policy statements, neither have they carried out long term planning. Although the word 'foresight' is more preferred than vision as it is based on deep insight into the trends in technology, demographics, regulation, and life styles that can be harnessed to rewrite industry rules and create new competitive space (Hamel and Prahalad, 1994). Hence the vision and policy aspects are viewed with regard to methods of deployment and actions. It is observed that SSI of Maharashtra carry out medium term planning, but frequency of updating is not significant. However SSI of both Madhya Pradesh and Maharashtra carry out tactical planning. This indicates better planning focus by SSI of Maharashtra. But the foresight aspect is not evident as the future market and technology projections are also not clearly defined by the leaders.

Hammel and Prahalad (1994) on customer communication expressed that customer tastes and preferences varied significantly from market to market, as did the competitive environment hence there is a need to continuously communicate and monitor the customer needs. Quoting about customer communication practice of a

small company in USA to get feedback from customers. Tom Peters (1985) mentions that simple habits lead to enormous benefits to customer and the small company. The SSI of Maharashtra communicate with customers every day. The significant reasons for communication with customers is product marketing for SSI of Madhya Pradesh and exploring new market opportunities for SSI of Maharashtra. This leads to a conclusion that the SSI of Maharashtra are proactive in communication with the customers to explore new opportunities. This indicates better capabilities in competing in the market.

Jack Welch (2001) was of the opinion that 'quality and excellence would create an atmosphere where all our employees would feel comfortable stretching beyond their limits, to be better than we ever thought we could be. This 'human element' would foster an environment where people would dare to try new things, where they would feel assured in knowing that 'only the limits of their creativity and drive would be the ceiling on how far and how fast they would move'. These words strongly articulate vision with action through people participation. This calls for effective communication with the people in the organisation. Being small in size it is expected that a direct communication with the leaders is possible with the employees. Daily communication by CEOs with departmental heads and communication with shopfloor employees on every visit is significant for SSI of Maharashtra. On communication with shopfloor employees on business performance, communication about productivity is significant in SSI of Maharashtra. This method of communication is verbal and informal. This concludes that leaders of SSI of Maharashtra have better communication with the managers and other employees. However, there is a scope for improving the effectiveness of communication as the communications do not deal with explaining vision and deployment. But, the SSI of both Madhya Pradesh and Maharashtra both socialize with people through informal meetings, with any pre – determined frequency. SSI of both the states also review the suggestions of quality circle or similar suggestion forum where suggestion for improvement are given by the people.

Covey (1999) mentions that 'principle centered people are constantly educated by their experiences. They read, they seek training, they take classes, they listen to others.

they learn through both their ears and their eyes. They are curious, always asking questions. They continually expand their competence, their ability to do things. They develop new skills, new interests. They discover that the more they know, the more they realize they do not know: that as their circle of knowledge grows, so does its outside edge of ignorance. Most of this learning and growth energy is self – initiated and feeds upon itself. In short the personal traits of the leaders influence the people a lot. The data on the personal traits of CEOs are significant in both the states, namely computer literacy, setting performance targets for self, self learning planning and self planning; the frequency of self planning is every day. But readiness to transfer of leadership to others in case no one within family or friend circle is found suitable is not significant in both the cases.

Most businesses believe they exist to make money. This is the first in a series of limitations commonly exhibited by companies and their leaders. While making money may be a result of the business, and essential for continued functioning of the business, it is not its purpose. An intake of oxygen, while essential for our living, is not the purpose of our lives. The purpose is to make this environment, the people within it, the interactions that occur, more aware of and in tune with their splendor and to manifest progressively more of that splendor (Malik, 2000). Hence there exists a lot of learning form the external environment in order to establish synergy between internal and external world. Malik (2000) feels that a business that succeeds in approaching this purpose will align itself with the implicit Law in creation, and is sure to become an instrument by which that Law can be more intricately and completely worked out. On perception about external environment, CEOs of SSI of both states expects protection from the government. But the CEOs of Madhya Pradesh also expect promotional support from the government in market expansion. In the liberalized environment expectation of protection from the Government will become an impediment for growth as the government protection would never assure competitive strength. The McKinsey Global Institute in its report on India (Di Lodovico et. al., 2001) has advocated equalizing sales tax and excise duties for all units within a sector in order to prevent any advantage to the unproductive SMEs. The Report also mentions that the small scale reservation policy has had a negative impact on output and productivity; it has also prevented the Indian manufacturers from taking

advantage of scale. Interestingly, promotional supports are not expected by the CEOs in the areas of foreign technical collaboration, R & D, product standardization or financial assistance. On impact of lowering of investment limit to Rs. 1 Crore, the CEOs of SSI of both the states are of the opinion that it has adversely affected the technological upgradation. But the R & D support and technological upgradation are not significant, this does not support the rationale for increasing the investment limits.

Competition is the gateway to new competencies. But the SSI do not subscribe to the idea. At Level 1 competition the goal is to acquire or develop the constituent skills or technologies that make up a particular core competence. Resource leverage at this stage comes from the ability to access and absorb skills and technology from outside. (Prahalad, 2002). But a formal system for resource identification is not significant for SSI of both the states, this prevents the SSI to acquire new competences to remain competitive. On competition, the CEOs do not feel that there is competition from large scale industries in India or internationally. On competition, Ghoshal et.al. (2000) quote J. C. Spender and mentions that 'all businesses, over time, develop industry recipe' – take for granted ways of managing the business emerging from its history. Strategy, by definition, requires distinctiveness. It is about being different. The real upheavals in a business typically come when one competitor challenges the industry recipe by creating a strategic innovation – a new way of conducting the business, with or without any product or technological change'. But the CEOs of SSI feel that there are problems due to domestic competition, the CEOs of SSI of Madhya Pradesh also feel that there are problems due to international competition. This is a major gap in planning for excellence; also this indicates a major common gap in perceiving competition by the leaders.

The CEOs of SSI of Madhya Pradesh feel satisfied with adequacy of excise exemption limit and Credit Guarantee Scheme of the government, which is not the case with the CEOs of Maharashtra. But CEOs of both the states are not satisfied with adequacy of Composite Loan Limit, Collateral Security, Credit Linked Capital Subsidy and Back Ended Capital Subsidy schemes. On satisfaction with infrastructures, the CEOs of both states feel satisfied with telephone services. The

CEOs of Maharashtra are also satisfied power supply but this is not the case with Madhya Pradesh. The CEOs of SSI of both states are not satisfied with main road, roads to industrial units or link roads, water supply, effluent treatment and space availability for expansion. In short there is general dissatisfaction on the infrastructure except telephone services in both the states and power supply in Maharashtra.

CHAPTER 7

CONCLUSION - THE GENERIC BUSINESS EXCELLENCE MODEL

7.1 BUSINESS EXCELLENCE MODEL

To conclude the research a generic business excellence model has been drawn. A generic excellence model is developed and presented in figure 6.1. (The H, M and L in the figures denote high, medium and low focus on the specific business issue, respectively.)

The models conclude that the SSI has low focus on strategic management in all phases of life cycle in both the states. Change initiatives are not reported by any SSI resulting in lack of efforts on harnessing on core competence or on acquiring new competence. Although the critical factors which affects the operations are identified but these do not affect business strategies.

Long or medium term planning is not being adopted, the SSI mostly rely on tactical planning. Generally planning is being carried out in consultation with functional heads. Planning is also carried out for material and operations. The SSI do not measure the business results effectively. The financial ratios are not calculated to assess the financial health of the organisations; only profitability and productivity are being measured. Other non – financial measurements are also not measured to ensure the overall organizational effectiveness.

Most of the elements of TQM are not implanted in the SSI with adequate focus. Customer is the core theme of TQM, and customer relationship has been examined though various elements. Although the SSI are maintaining close relationship with customers, but this is largely focused to marketing and selling of existing products or exploring new market for new products. Sales function is generally looked after by an independent person.

No future market or customer demand assessment is done. Demand forecasting is based on the targets given by the customers; however the demand assessment is not used for resource planning.

Major focus is on financial and cost control through budgeting, product and process costing. In maturity phase product and process costing is not evident. Banks is the most popular source of credit and in many cases the expansions were carried out by borrowing from banks and internal savings. But the SSI feel the need for improvement in credit policy from the Government, they find cost of credit, delays in sanction and disbursement of credit, interest rates, collateral and attitude of bankers the major issues to be addressed. Bill discounting is not found to be popular among the SSI. The delay in payment receivables from the customer substantially adds to the problems in maintaining liquidity, and SSI and the Ancillary Undertaking Act had not helped them in any way.

Very few SSI has received ISO 9000, QS 9000 or similar certificate. The SSI mostly depend on incoming inspection, patrol inspection is carried out only in maturity phase, where as vendor control is only carried out in growth phase. But they carry out internal audit of manufacturing and quality related activities.

The SSI depend have semi – automatic processes and carry out preventive maintenance. Computers are used for routine office work and day today reporting. They also use internet for global data access, and for emailing to customers and suppliers. Very few SSI of Maharashtra has website but they do not update the site on regular basis. ERP or similar system is not used.

Technology and product innovation is a major gap in all SSI. They are also not prepared to face WTO challenges

People management is not given importance. But if we compare the HRM practices in Maharashtra and Madhya Pradesh, SSI of Maharashtra follows some better practices.

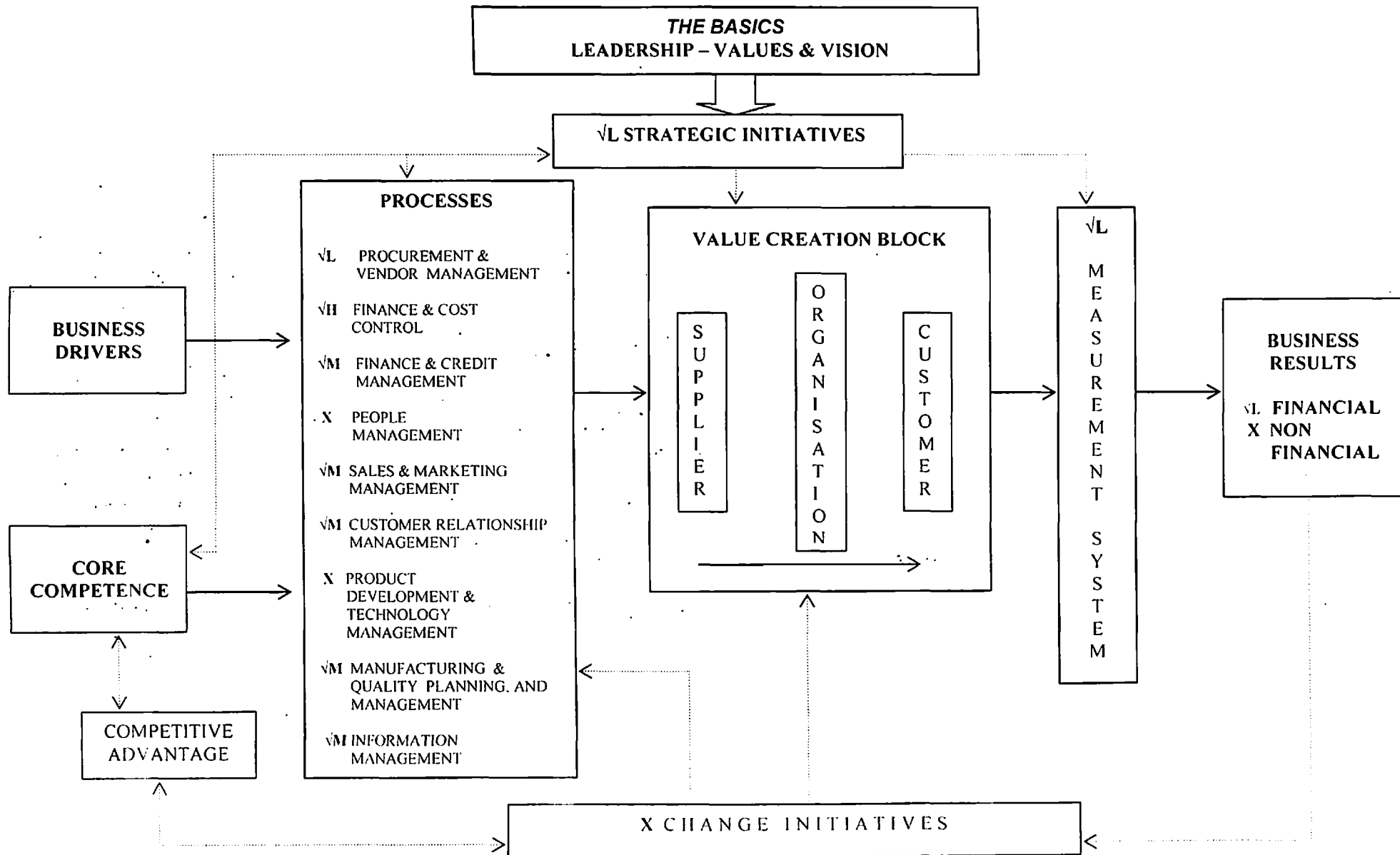


Figure 7.1 – Generic Business Excellence Model

7.2 LEADERSHIP STYLE

A generic leadership style has been developed and presented in figure 6.2.

The study of leadership styles reveals that formal vision or policy statement is not available. This substantiates the reason for not having a long term plan.

The CEOs communicate regularly with customers, which is obvious in a small organisation. The focus of communication is selling of existing product and on new product application. Generally the CEOs communicate with heads of functional heads and people regularly on productivity. The method of communication is informal. This is also accepted as a method of socialization.

Resource identification has not been considered to be a part of strategy planning except in growth phase, however the CEOs review quality circle activities on regular basis.

CEOs are computer literate. They set target for self performance and practice self planning. Planning for self learning is carried out only by the CEOs in growth and decline phases.

On role of government the CEOs expect protection and support in marketing. They also expect better infrastructure from the government. Domestic and international competitions are perceived as problems and the CEOs have no plans to meet WTO challenges.

To conclude, the CEOs of SSI have adopted 'Entrepreneurial Individualistic' type leadership. The style is Middle Path Type of Blake Mouton's Leadership Model with moderate task focus and low people focus. Since there are many elements of people focus not found significant, hence the leadership can be scaled to 5,1.

LEADERSHIP STYLE

Entrepreneurial Individualistic
Blake Mouton's Middle Path Type (5,1) : Task Focus – Moderate, People Focus – Low

VISION, PERCEPTION AND PLANS

Planning Focus – Short
Term Planning

Expectation form
Government – Protection
& Promotion, etter
infrastructure

Perception about
Competition – Problem
(domestic & international),
no plan to meet the WTO
challenges

Future Leadership –
Only to the family
members

SELF MANAGEMENT

Computer Literate

Planning for Self

Target for Self

CUSTOMER CARE

Objective of Customer
Communication –
Exploring New Product
Application and Marketing
of Product #

Maharashtra has reported
better performance with the
respect to Madhya Pradesh

TASK ORIENTATION

Review –
Review of QC Activities

PEOPLE FOCUS

Communication –
* With People and the
Functional Heads #

* Data on productivity
communicated

* Informal communication

Maharashtra has reported
better performance with the
respect to Madhya Pradesh

Figure 7.2 – Generic Leadership Style

CHAPTER 8

SUGGESTIONS

In the light of global business environment the SSI should also align with the value chain of the large scale industries they generally serve. The success of SSI can no longer be seen in isolation, rather the SSI are to redesign their business processes to create better values. The real challenge is to overcome from the protection oriented SSI business framework to an entrepreneurial business model. Also the entrepreneurship should not be seen merely as an alternate to self employment for the entrepreneur, the large purpose of serving the society and supporting the economic well being of the country must remain as one of the important focus.

Andy Grove (1997) said that all industries will eventually face significant change in their competitive environments that result from dramatic breakthroughs in new technologies, changes in customer demand, or rise of new competitors. Grove used the term 'inflection point' to characterize the nature of these profound, sudden changes in the environment that often spells a major crisis for firms. Inflection points are important because they signify the potential for a radical transformation of an industry's structure. The nature of these changes share several common trends, which include the rising importance of knowledge work, the growth of substitute products and services, and the growing information – intensive nature of many industries' value – adding activities (Lei & Slocum, 2002). The SSI in India are also in the competitive environment where change is inevitable (Chauhan, 1999).

The SSI which are in maturity or decline phases need to design innovative strategies. Making the change initiatives at right time is important. But the change must align with the core competence and core business. It is also important to realize that small and incremental improvements should not be mistaken by a strategic change initiative (Reisner, 2002).

SSI by virtue of size and ownership inherently possess the agility to adopt change easily. Considering the salient features of the business environment, the following focus of business excellence model emerges –

Traditional Model	Emerging Model
Built around assets	Built around capabilities
Focus on managing numbers	Focus on creating value
Hierarchical	Networked
Independent parts	Interdependent
Reactive	Responsive
Command and control	Empowered

Table 8.1 – Focus of the Emerging Excellence Model
(Adopted from Pasternack and Viscio, 1998)

The experts are of the opinion that core to corporate survival is to innovate as quickly as the new entrant, while assimilating new technologies within the established form's infrastructure, brand(s) or existing economies of scale. As the confluence of knowledge workers, substitute offerings and information intensity become present in a growing number of industries, the pace of change will accelerate.

8.1 THE ROLE OF LEADERS IN FRAMING STRATEGIES

Greatest opportunity for competitive advantage lie in uncertainties in market conditions, the successful companies jump into the chaotic market, probe for opportunities as circumstances dictate. In traditional strategy, advantage comes from exploiting resources or stable market positions. While framing strategy as a simple rule, the advantage comes from successfully seizing fleeting opportunities (Eisenhardt & Sull, 2001). Entrepreneurs of SSI should use those opportunities because it can help them win against established competitors. This is important because the new economy's most profound strategic implication is that companies must capture unanticipated, fleeting opportunities in order to succeed. The strategic processes might include product innovation, partnering, spinout creation or new market entry.

The entrepreneur should focus on framing strategies to make the organisational processes to be different. But that difference should not arise from tightly linked activity system or leveraged core competencies, as in traditional strategies. It should

arise from focusing on key strategic processes and developing simple rules that shape those processes. The more important point is that no one can predict how long an advantage will last. As Michael Dell said, 'the only constant is change', there is almost universal recognition that the most salient feature of competitive advantage in the present market is not sustainability but unpredictability.

The role of the leaders of SSI is to orchestrate the strategic vision, develop the shared organisational and administrative infrastructure, and create the cultural glue which can create synergies and ensure a unity of mission and purpose among the people.

8.2 FOCUS ON CUSTOMER NEED SATISFACTION

Strategically the business will not be limited to manufacturing of products in the emerging business environment. It should provide service to the customers. Quoting multiplicity of options available to a customer today, Drucker (1997) is of the opinion that the only profit center is the customer. Hence satisfactory solution to their problems and not only the products is the key value driver. The future SSI leadership will be to develop capabilities for identifying customers' unarticulated needs and design products which customers do not know they want. Akio Morita emphasized that creativity requires more than the conventional marketing research and analysis of existing information. It requires human thought, spontaneous intuition, and a lot of courage (Chopra, 1999). SSI need total new approach defined to work in this direction.

8.3 NETWORKING & CLUSTERS

Clusters or network of enterprises has inherent advantages of both the large and small companies. But this approach has a specific advantage in SSI as the SSI always face constrained by resources. Shared network brings together not only different parts of the firm, but also different firms that may be from different industries as well. While redefining the business model for SSI, we should see 'a company' is nothing but a network. Such network will have no centralized control but agility and informality which is inherent in a small company yet competitiveness, as well as financial and

infrastructural depth of a company (Cross & Prusak, 2002). Network style of functioning automatically forces a nice interlocking and fit between the mesh and web of SSI in the cluster.

According to Esther Dyson, in a company's relations with customers and employees are changing, the boundaries are getting narrowed. Those companies and business leaders who will succeed in the years ahead will learn to respond to feedback rather than crush it, and they will become adept at influencing what they can no longer control.

What should not be missed in cluster concept is the vital fact of knowledge sharing between elements of cluster. This sharing comes naturally because there is concrete realization of sink or swim together feeling. So learning is shared, exchanged, copied, improved upon, implemented and one big chain of innovation supported and nurtured by the networks (Mukherjee, 2000).

Japan's inter – firm business organisation known as 'keiretsu' has become a contentious policy and academic issue in past few year. Although there are two contrasting views on the keiretsu, but the success of this model has drawn attention world – wide (Sheard, 1997). Keiretsu acts like a cartel and are exclusionary. Similar concept may be adopted in India. But in the light of scrapping of MRTP Act due to liberalized business environment and the proposed Competition Bill under enactment, one need to ensure that such cartelization should not become unlawful. A business model which should largely be based on harnessing the competitive strengths of individual SSI units and support in establishing an efficient value chain is desirable. The banks and the FIs should also support such networks.

8.4 USAGE OF IT FOR COMPETITIVE ADVANTAGE

In order to remain flexible in changing the batch quantity, sequence of products, etc. which are normally affected due to variation in customers' requirements, improvement in capability to manage such complexities is necessitated. With support

from information technology (IT) synchronization of activities can be achieved by the SSI with optimality.

The proliferation of new ideas, insights, and product standards from anywhere around the world means that the SSI must also be able to network globally and learn from different suppliers, customers, and competitors – all on a real time basis. Investment in supply chain management, enterprise resource planning (ERP) software, knowledge management, internet - based ordering system, and virtual corporations across the globe point to the growing realization that the value creation process is now becoming knowledge – based. Development of new technologies and the rise of the new entrants mean that SSI must be able to engage in all the above strategic initiatives simultaneously in order to create new sources of competitive advantage. SIDBI support all these initiatives through soft loans.

The emergence of electronic commerce as an important force in international transactions is a pointer to the urgency of adapting new technologies in export oriented SSI. As discussed later under the 'cluster approach' the SSI should also develop and support a collaborative commerce system for the manufacturing sector. Services provided are Product Data Management (PDM), Computer Aided Design (CAD), Manufacturing Information Database (MID) and Business to Business (B2B) commerce.

8.5 LEVERAGING KNOWLEDGE FOR COMPETITIVE ADVANTAGE

From mass production and mass consumption, the companies now have to shift to knowledge base. Knowledge management, learning organisation and higher adaptability are the key strategic issues. The emphasis should be on knowledge creation by research & development, market research, environmental scanning etc. Necessary infrastructure and culture for knowledge management should be developed. Faster product development cycle, improving quality of service and developing product attributes for individual customer would be the key strategic issues. According to Drucker (2002) productivity of knowledge and workers will not only be

the only competitive factors in world economy, they are however, likely to become the decisive factors, at least for most industries in the developed countries.

8.6 FOCUS ON VALUE CHAIN

There will be a 'vertical integration' of domestic and foreign markets to link the value chains, and the entrepreneurs of SSI now will have to pay greater attention to matters such as customer's preferences, product standardization, packaging, and marketing alongwith information for customers embedded on the products meant for sale.

The vertical integration process will also influence the nature of relationships among different scales of operations within each industry and within each firm. SSI can not remain outside this process. Their role in fact becomes critical in areas where they provide inputs to larger units. In such cases, they have to attain technological standards that allow larger units to switch over to higher and more sophisticated technologies. In other words this also leads to focusing on core competence and also at developing new competencies.

One would also expect sub – contracting agreements or BPO (Business Process Outsourcing) to include exchange of information on technology needs between the contracting parties.

8.7 INNOVATION AND TECHNOLOGY

Small scale industry associations and ancillarization arrangements should help to gather technology and information, and provide common facilities such as tool rooms and quality testing station. While this could serve the SSI well, growth of SSI as a group or cluster may not be realized by exogenous inputing of what economists call 'technical progress' simply because of the large variable and some associated fixed costs that are involved in such adaptations in the context of uncertainties in demand. One needs to, therefore, work out a well defined technology policy wherein there is a pass – through endogenous efforts on the part of industries. SSI and larger units should put in place institutional mechanisms for vertically supportive technologies.

8.8 REDUCTION IN RESPONSE TIME

The organisational processes should be made agile and should concentrate on reduction of response time. Accordingly, the fund management system should also change. The decision making need to be instantaneous and in most of the cases should be programmed. The automation in respect of order fulfilling would increase in future and requirement of operating manpower would go down and more manpower would be needed for product and process design.

8.9 CONCENTRATION ON CORE COMPETENCE

Since the business is going to be knowledge based, the SSI should concentrate only in few businesses activities and get into depth, so that their understandings about the business dynamics improve. They must spread in the global market and get volumes rather than more products in the small market. In the global economy, the competitive advantage would play important role. Core competence does not restrict diversification, it is important to consider the common skill base for diversification (Prahalad, 1998).

8.10 PEOPLE MANAGEMENT

According to Drucker (2002), a staggering number of people who work for organisations are no longer traditional employees of those organisations. Also a growing number of businesses have outsourced employees' relations; they no longer manage major aspects of their relationships with the people who are formal employees. The reasons usually offered for the popularity of temporary workers is that they give employer flexibility, this aspect is significant in SSI. A plausible explanation for popularity of employing temporary workers is growing burden of rules and regulations. This needs to be managed well in SSI.

8.11 MANAGING CHANGE

For organisational change and learning to occur, it may be inappropriate to tighten control over change, quite logical in a mechanistic structure, but unnatural to the learning structure. As the business reaches maturity through growth the SSI must expect decline. Hence change is a continuous process. As such, a freeing of the individual in organisation is necessary to foster coping with uncertainty in organisational change processes. In organisations that have a large representation of conceptual learners, who rely heavily on thinking as opposed to feelings, it would seem an insurmountable task.

For effective organisational design an appreciation of the strategy – structure and the learning structure ‘fit’ would be imperative, considering the nature of the learning processes examined in this study. Learning as a resource and process designed into organisational functioning is likely to emerge as a concern area for strategy implementation.

The continuity of individual consciousness and its dependence on organisational situation for knowledge creation or the learning process implies a closer understanding of competencies as defined by the competency approach to HRM (Lado & Wilson, 1996; Sparrow & Bognanno, 1994). Competency definition may need to comprehensively address ‘development’ from the experimental perspective as opposed to the cognitive perspective, especially for Development Centers.

The leaders of SSI should appreciate that autonomy is not merely an EO (Entrepreneurial Organisation) dimension. It is an enabling condition for organisational knowledge creation (Nonaka & Takeuchi, 1994, Bartlett & Ghoshal, 1998). EO is not merely a macro – economic premise. EO needs attention from behavioral science as well, to effectively institutionalize the entrepreneurial culture in organisations.

8.11 GOVERNMENT POLICY ON SSI

Many SSI in the study continues to expect protection from the government; this can never be a viable alternative to competitive strength of any economic organisation as it is neither possible nor feasible in the long run. The SSI will have to appreciate that protection was a transitory measure and can be used only to give time to improve their competitive strength. (Juneja, 1998) All industrial units, small or large, have to sustain themselves on their own competitive strength by successfully facing competition in market economies. Even to provide employment (an argument that has been widely articulated in favour of protection to the SSI) in a sustainable way and at higher wages, business organisations will have to be competitive and commercially viable.

The McKinsey Global Institute (2001) in its report on India has advocated equalizing sales tax and excise duties for all units within a sector in order to prevent any advantage to the unproductive SMEs. The report also mentions that the small scale reservation policy has had a negative impact on output and productivity; it has also prevented the Indian manufacturers from taking advantage of scale. The report suggested reducing the duties on imported goods to 10 % - the Asean level by 2006 with a duty reduction on capital goods and inputs preceding that value added products. A bill on comprehensive labour laws for SSI sector has been drafted and is in the Parliament for enactment.

8.12 NEED FOR POLICY REFORMS

At present no exist policy exists for SSI, which unnecessarily force the unviable SSI units to operate under loss. The government should make a policy to make closure of unviable SSI possible, this would also help the banks to manage their NPAs.

In an economy that is moving away from Nehruvian socialism towards individualism and free markets, it is not feasible to initiate collective ownerships in SSI. In India it is also not clear if SSI are purely a rural phenomenon. For the SSI which are land intensive, land is a major cost given the draconian urban laws which effectively restrict the supply of land. So we need to abolish rent control and modify the urban

land ceiling laws so that the supply of land in urban areas is released and land prices become cheaper for these SSI.

Now the government should also consider the limited partnership act in order to increase investment in the SSI.

8.13 NEED FOR A MODEL FOR MICRO FINANCE

Micro finance is in its young age in India. Emergence and growth of this sector has proved very useful for the women who came forward to mobilize their own savings, ultimately leading a path of equality and equity. Micro Finance Institutions (MFI) of different nature like NGOs, registered under Societies Registration Act, Trusts under Public Trust Act, Co – operative Act, Non – Banking Finance Companies (NBFC) under Company Act, local area banks (LAB) under Banking Act etc. have also come up with different type of loan products and lending activities. The Government of India and the industries associations should explore the aspect of micro – finance for SSI and should formulate some policy guideline. We have already seen the success of Chinese model of TVE which is similar to this concept.

8.14 CAPITAL INCENTIVES

SSI should be given incentives to become efficient with the use of capital and new technology. A trade - off exists between efficiency and employment in SSI in India. Till now, SSI are considered the biggest source of employment generation in India. However, it has been shown that if the SSI are employment - generating, they are not efficient, i.e. they produce less with great inputs. If capital incentives are provided to increase efficiency in SSI, this will increase productivity and hence will automatically increase employment.

8.15 FUTURE LEADERSHIP

Visionary companies are led by visionary leaders. (Haldipur, 1998) But, according to Senge, in knowledge era we will finally have to surrender the myth of leaders as

isolated heroes commanding their organisations from on high. Only genuine commitment can bring about the courage, imagination, patience, and perseverance necessary in a knowledge creating organisation. For these reasons, leadership in the future will be distributed among diverse individuals and teams who share responsibility for creating the organisation's future (Senge, 1996).

Delaying the organisation of knowledge workers and the abandonment of yesterday's businesses were anticipated in Drucker's writings. Defining the business in generic terms was an idea that had taken the management world by storm following Theodore Lewitt's famous expositions. And training and benchmarking are commonplace in management literature. The trick is to make these things happen, to institutionalise practices in ways that produce tangible additions to shareholder wealth. GE under Jack Welch showed that it could actually be done (Collingwood and Coutu, 2002).

According to Narayana Murthy (1999), the criterion for measuring success of an entrepreneurship is whether he has been able to make an impact on society. There are three necessary attitudes required for becoming successful entrepreneur. First is a propensity obviously for risk – taking. Then second, an ability to produce a good business plan. The business plan obviously recognise a correct market place, an idea, recognise its uniqueness, and it will foresee the possible problems and propose solutions to mitigate them. An entrepreneur should look the matters holistically. An entrepreneur also requires considerable energy, enthusiasm and excellence in entrepreneurship. Entrepreneurship calls for tremendous sacrifice.

Leadership is a complex, multifaceted capability, with myriad nuances and subtleties and that the characteristics that can help in a person succeed in one environment (turning around a losing organisation, for instance) may lead to failure in another situation (such as starting up a new business). One of the most important jobs of the CEOs or top management is succession management. The best way to evaluate a person for this purpose is to probe through a group of people who have worked with him. The attributes to be probed are – integrity, capability to communicate

information and expectations, reasoning and analysis and capacity to run the immediate work team (Sorcher & Brant, 2002).

A study shows that the financial performance of the owner led and professionally led companies are different. The professionally led companies create more shareholders wealth and enjoy better support from them, although owner led companies show better growth rates in accounting performance, but do not attract shareholders support. They remain small in operation and do not enjoy better production efficiencies. They follow more focused strategies, whereas the other group follows more diversified strategy as corporate level, and the later create better customer value by emphasizing on lower production costs, allocate more resources to create brands and by owning large distribution networks.

If the entrepreneur of a SSI is not the functional specialist, entrepreneur should relinquish control to professional / specialists, rather managing firms with the help of family members. This way they will attract outside talents. Also investors i.e. banks and FI will show better response to expansion and growth strategies. This will help in reducing capital cost for these companies. Also they can take up more ambitious projects, which will help in exploiting economies of scale and scope and deliver better shareholders wealth.

CHAPTER 9

LIMITATIONS & FURTHER STUDIES SUGGESTED

9.1 LIMITATIONS

9.1.1 Measurement of growth

During the Pilot Study it was noticed that the SSI were not in a position to indicate the market size and growth rate. In absence of this, the relative growth of the SSI companies could not be compared with that of the growth in the market. In order to overcome this growth in sales turnover and assets were accepted as the indicators of growth.

We know that $\text{Sales Turnover} = \text{Activity} + \text{Profit}$. Activity includes the part of the resource used in the process of conversion of input into output; this includes that part of the asset which has been the part of the sales. In case the surplus generated as profit is ploughed back into the business then it would be reflected as increase in asset. Hence growth in sales turnover and growth in assets is considered to be the growth indicators of the business.

9.1.2 Availability of Financial Data

During the Pilot Study it was found that the most of the SSI have reservation in revealing financial and labor related data. Also in absence of a clear approach to calculate the growth criteria, the growth criteria has been formulated based on data of last 3 years performance.

9.1.3 Sampling

Madhya Pradesh and Maharashtra have been selected as representing industrially and economically under - developed and developed states, respectively. There may be a limitation due to sole dependence on these states for drawing conclusions for business excellence practices.

Also only one SSI was found in Introduction phase, the limitation on account of the sample size may not lead to precise conclusions on the performance of SSI at this stage.

As described in Chapter 2, Gujrat and Karnataka also represent industrially advanced states along with Maharashtra. Also, Rajasthan, Bihar, too represent industrially backward states along with Madhya Pradesh. Hence a comparative study on the industrially advanced and backward states should include other states, too in order to get a comprehensive view.

The performance of only 2000 – 01 was considered for comparing the growth parameters. This may not indicate the aggregate growth performance of the industry / sector. The economic growth of the state is a comprehensive indicator of performance of agriculture, manufacturing and service sectors. The industrial sector includes large and small industries, and the small industry sector included organised and unorganized sector, both. There are a large number of small scale industries which are not registered with the Government; hence the statistics on SSI does not necessarily reflect correct performance data of these industries.

9.2 FURTHER STUDIES SUGGESTED

9.2.1 Motive of the Entrepreneurs

It is generally accepted that the government policies encourage formation of a new business units. But during the research it is observed that structural change leading to high level of demand in the economy and the access to capital substantially influence the decision. Hence factors which influence the decision on entry of a new business which in turn leads the SSI to step into the growth phase needs a detailed study.

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9.2.2 Credit

There is a need to investigate the reasons for low credit off take by the SSI in spite of low cost of funds available.

9.2.3 Sectoral Analysis

The business life cycle phenomenon is strongly related to a specific sector. Detailed sector wise studies are called for in order to differentiate and analyze the reasons for gap in performance.

9.2.4 Cross Country Analysis

Definition of small business enterprises differ from country to country. In order to assess similarity in trends in the business strategies and the results, it is necessary that a comparative study be made in this aspect. The study may further be classified according to cultural factors.

9.2.5 Comparative Analysis of Entrepreneurship and Leadership Traits

In case of SSI traits of the entrepreneur plays more prominent role than the leadership attributes at the time establishing the unit. But subsequently a visionary leadership is necessary to take the organisation to a growth path. There is a need to explore the balance required in the roles and the transition process from entrepreneurship to leadership.

LIST OF SSI STUDIED

Pilot Study –

M/s Vindas Chemicals Industries Pvt. Ltd., Indore (Works at Pithampur)

M/s Rajsheel Coir - Foam Pvt. Ltd. Indore (Works at Pithampur)

M/s Pragya Hydro Equipment Pvt. Ltd., Indore (Works at Pithampur)

M/s Sigma Stone Pvt. Ltd., Indore

M/s Omen Drugs Pvt. Ltd., Govindpura, Bhopal

M/s Bend Joints, Govindpura, Bhopal

Detailed Study –

STATE	SECTOR	SUB – SECTOR	LEVEL	NAME
Madhya Pradesh	Chemical	Pharmaceutical	GROWTH	Shilpachem, Indore
Madhya Pradesh	Engineering	Iron, Steel & Allied	DECLINE	Mangla Enterprises, Dewas
Madhya Pradesh	Engineering	Iron, Steel & Allied	MATURITY	K. C. S. Engineering Works, Bhopal
Madhya Pradesh	Diversified	Furniture	MATURITY	Khalsa Wood Products
Madhya Pradesh	Textiles	Teri Towels	DECLINE	Dhvani Terefabs Exports Private Limited, Dewas
Madhya Pradesh	Engineering	Other Machinery	GROWTH	Deep Pump Industries, Jabalpur
Madhya Pradesh	Rubber & Rubber Products	Industrial Footwares	DECLINE	Jaypee Footware Company, Gwalior
Madhya Pradesh	Diversified	Illumination	GROWTH	Shri Ameya Electricals Private Limited, Dewas
Madhya Pradesh	Plastic Products	Plastic Products	DECLINE	Deep Castings, Gwalior
Madhya Pradesh	Diversified	Illumination	GROWTH	S. V. Industries, Dewas
Madhya Pradesh	Engineering	Electrical Machinery	GROWTH	Laxmi Engineering, Bhopal
Madhya Pradesh	Textiles	Fabric	DECLINE	Nutan Synthetics, Dewas
Madhya Pradesh	Paper Products	Packaging	GROWTH	Amba Trading & Manufacturing Company Private Limited, Bhopal
Madhya Pradesh	Engineering	Automobiles	DECLINE	Shivani Fabricators, Jabalpur
Madhya Pradesh	Engineering	Automobiles	DECLINE	Galaxy Components Private Limited, Pithampur
Madhya Pradesh	Engineering	Other Machinery	DECLINE	Crescent Imaging, Pithampur
Madhya Pradesh	Food Processing	Confectionery	DECLINE	RNG Food Private Limited, Gwalior
Maharashtra	Engineering	Automobile	DECLINE	Panchal Automobiles, Mumbai
Maharashtra	Engineering	Iron, Steel & Allied	MATURITY	J. D. Enterprises, Mumbai
Maharashtra	Engineering	Other Machinery	GROWTH	Devanshi Electronics Private Limited, Mumbai
Maharashtra	Engineering	Iron, Steel & Allied	GROWTH	Nishotech Systems Private Limited, Mumbai

Maharashtra	Chemical	Industrial Chemical	GROWTH	Steel Plant Specialities, Mumbai
Maharashtra	Engineering	Other Machinery	GROWTH	Bumper India Private Limited, Mumbai
Maharashtra	Chemical	Industrial Chemical	GROWTH	F. M. Chemicals, Pune
Maharashtra	Plastic	Plastic Products	DECLINE	Savera Industries, Aurangabad
Maharashtra	Chemical	Industrial Chemical	GROWTH	Maharashtra Nitrides, Pune
Maharashtra	Food Processing	Food Processing	DECLINE	Drytech Processes (India) Private Limited, Mumbai
Maharashtra	Engineering	Automobile	DECLINE	Asian Metal Electroplaters, Mumbai
Maharashtra	Engineering	Iron, Steel & Allied	DECLINE	Narmada Equipments, Mumbai
Maharashtra	Engineering	Electrical Machinery	GROWTH	Evonne Coils, Pune
Maharashtra	Textile	Fabrics	DECLINE	Padma Rubber Products Private Limited, Dhulia
Maharashtra	Plastic	Plastic Products	MATURITY	Bharat Rubber Works, Mumbai
Maharashtra	Food Processing	Food Processing	DECLINE	Dychem Industries Private Limited, Mumbai
Maharashtra	Engineering	Iron, Steel & Allied	DECLINE	Oswal Udyog, Kolhapur
Goa	Plastic Products	Multilayer Films	INTRODUCTION	Dhwaneer Multi Films Private Limited, Goa
Andhra Pradesh	Engineering	Other Machinery	GROWTH	Fechem Engineering Works, Hyderabad

Summary –

STATE	LEVEL	NO. OF SSI STUDIED	TOTAL NO. OF SSI STUDIED
Madhya Pradesh	Introduction	00	17
	Growth	06	
	Maturity	02	
	Decline	09	
Maharashtra	Introduction	00	17
	Growth	07	
	Maturity	02	
	Decline	08	
Others (Andhra Pradesh & Goa)	Introduction	01	02
	Growth	01	
	Maturity	00	
	Decline	00	
Total	Introduction	01	36
	Growth	14	
	Maturity	04	
	Decline	17	

DATA SUMMARY

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Budgeting system in practice	00	03	00	05	08
	Ratio of budgeted & non – budgeted expenditure given	00	03	01	04	08
MAHARASHTRA	Budgeting system in practice	00	05	01	04	10
	Ratio of budgeted & non – budgeted expenditure given	00	01	01	01	03
OTHERS	Budgeting system in practice	01	00	00	00	01
	Ratio of budgeted & non – budgeted expenditure given	00	00	00	00	00
TOTAL	Budgeting system in practice	01	08	01	09	19
	Ratio of budgeted & non – budgeted expenditure given	00	04	02	05	11

Table A2.1 - Budgeting & Control

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Product costing - yes	00	06	01	08	15
	Frequency -					
	Monthly	00	03	00	04	07
	Quarterly	00	00	00	02	02
	Six Monthly	00	00	00	01	01
	Yearly	00	00	00	01	01
	As & when required	00	00	01	00	04
MAHARASHTRA	Product costing - yes	00	05	01	07	13
	Frequency -					

	Monthly	00	02	00	04	06
	Quarterly	00	02	00	01	03
	Six Monthly	00	00	00	00	00
	Yearly	00	00	00	01	01
	As & when required	00	02	01	01	04
OTHERS	Product costing - yes	01	00	00	00	01
	Frequency -					
	Monthly	01	00	00	00	01
	Quarterly	00	00	00	00	00
	Six Monthly	00	00	00	00	00
	Yearly	01	00	00	00	01
	As & when required	00	00	00	00	00
TOTAL	Product costing - yes	01	11	02	15	29
	Frequency -					
	Monthly	01	05	00	08	14
	Quarterly	00	02	00	03	05
	Six Monthly	00	00	00	01	01
	Yearly	01	00	00	02	03
	As & when required	00	05	02	01	08

Table A2.2 - Product Costing System

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Process costing - yes	00	05	01	06	12
	Frequency -					
	Monthly	00	02	00	02	04
	Quarterly	00	00	00	01	01
	Six Monthly	00	00	00	00	00
	Yearly	00	00	00	02	02
	As & when required	00	04	01	01	06
MAHARASHTRA	Process costing - yes	00	04	00	06	10
	Frequency -					
	Monthly	00	01	00	02	03
	Quarterly	00	01	00	00	01
	Six Monthly	00	01	00	01	02
	Yearly	00	00	00	02	02
	As & when required	00	02	00	01	03
OTHERS	Process costing - yes	01	00	00	00	01
	Frequency -					
	Monthly	00	00	00	00	00
	Quarterly	00	00	00	00	00
	Six Monthly	00	00	00	00	00
	Yearly	01	00	00	00	01
	As & when required	00	00	00	00	00

TOTAL	Process costing - yes	01	09	01	12	23
	Frequency -					
	Monthly	00	03	00	04	07
	Quarterly	00	01	00	01	02
	Six Monthly	00	01	00	01	02
	Yearly	01	00	00	04	05
	As & when required	00	06	01	02	09

Table A2.3 - Process Costing System

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Human Resource costing - yes	00	01	01	00	02
	Quality cost - yes	00	03	01	04	08
MAHARASHTRA	Human Resource costing - yes	00	01	00	01	02
	Quality cost - yes	00	00	00	02	02
OTHERS	Human Resource costing - yes	00	00	00	00	00
	Quality cost - yes	00	00	00	00	00
TOTAL	Human Resource costing - yes	00	02	01	01	04
	Quality cost - yes	00	03	01	06	10

Table A2.4 - Other Costing System

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Independent Person to look after welfare & training	00	03	00	01	04
	Training Budget	00	01	00	00	01
	Employment -					
	Time Rated	00	02	00	04	06
	Piece Rated	00	00	00	00	00
	Contractual	00	00	00	00	00
	Casual / Badli	00	00	00	00	00
MAHARASHTRA	Independent Person to look after	00	02	00	01	03

	welfare & training					
	Training Budget	00	01	00	01	02
	Employment -					
	Time Rated	00	03	00	04	07
	Piece Rated	00	00	01	01	02
	Contractual	00	00	00	00	00
	Casual / Badli	00	01	00	00	01
OTHERS	Independent Person to look after welfare & training	00	00	00	00	00
	Training Budget	00	00	00	00	00
	Employment -					
	Time Rated	00	01	00	00	01
	Piece Rated	00	00	00	00	00
	Contractual	00	00	00	00	00
	Casual / Badli	00	00	00	00	00
TOTAL	Independent Person to look after welfare & training	00	05	00	02	07
	Training Budget	00	02	00	01	03
	Employment -					
	Time Rated	00	06	00	08	14
	Piece Rated	00	00	01	01	02
	Contractual	00	00	00	00	00
	Casual / Badli	00	01	00	00	01

Table A2.5 - General HR Focus

		INTRODUCTION	GROWTH	MATURITY	DEC LINE	TOTAL
MADHYA PRADESH	Strategic Training Plan	00	03	00	01	04
	HR Forecasting - yes	00	02	01	01	04
	Business Plan	00	00	00	00	00
	Skill forecasting	00	01	00	00	01
	Skill inventory	00	00	01	01	02
MAHARA SHTRA	Strategic Training Plan	00	03	00	01	04
	HR Forecasting	00	04	00	02	06

	- yes					
	Business Plan	00	03	00	01	04
	Skill forecasting	00	01	00	01	02
	Skill inventory	00	01	00	00	01
OTHERS	Strategic Training Plan	00	00	00	00	00
	HR Forecasting - yes	00	00	00	00	00
	Business Plan	00	00	00	00	00
	Skill forecasting	00	00	00	00	00
	Skill inventory	00	00	00	00	00
TOTAL	Strategic Training Plan	00	06	00	02	08
	HR Forecasting - yes	00	06	01	03	10
	Business Plan	00	03	00	01	04
	Skill forecasting	00	02	00	01	03
	Skill inventory	00	01	01	01	03

Table A2.6 - Strategic HR Focus

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Employment of contractual workmen -					
	Unskilled labour	00	03	02	03	08
	Skilled labour	00	00	00	01	01
	Office Staff	00	00	00	00	00
	Security	00	00	00	00	00
	Canteen	00	00	00	00	00
	Functional specialists	00	00	00	00	00
	Reason - *					
	Peak production demand	00	02	01	01	04
	Seasonal production demand	00	01	01	01	03
	Export	00	00	00	00	00
	Sporadic demand	00	00	00	00	00
	Training -					

	On the job training	00	01	02	01	04
	Formal induction & skill training	00	02	00	01	03
MAHARASHTRA	Employment of contractual workmen -					
	Unskilled labour	00	01	01	02	04
	Skilled labour	00	04	00	02	06
	Office Staff	00	02	00	00	02
	Security	00	00	00	01	01
	Canteen	00	00	00	00	00
	Functional specialists	00	00	00	00	00
	Reason -					
	Peak production demand	00	00	01	01	02
	Seasonal production demand	00	01	00	01	02
	Export	00	00	00	00	00
	Sporadic demand	00	00	00	00	00
	Training -					
	On the job training	00	00	00	00	01
	Formal induction & skill training	00	00	00	01	01
OTHERS	Employment of contractual workmen -					
	Unskilled labour	00	00	00	00	00
	Skilled labour	00	01	00	00	01
	Office Staff	00	00	00	00	00
	Security	00	00	00	00	00
	Canteen	00	00	00	00	00
	Functional specialists	00	00	00	00	00
	Reason -					
	Peak production demand	00	00	00	00	00
	Seasonal production demand	00	00	00	00	00
	Export	00	00	00	00	00
	Sporadic demand	00	00	00	00	00
	Training -					

	On the job training	00	00	00	00	00
	Formal induction & skill training	00	00	00	00	00
TOTAL	Employment of contractual workmen -					
	Unskilled labour	00	04	03	05	12
	Skilled labour	00	05	00	03	08
	Office Staff	00	02	00	00	02
	Security	00	00	00	01	01
	Canteen	00	00	00	00	00
	Functional specialists	00	00	00	00	00
	Reason -					
	Peak production demand	00	02	02	02	06
	Seasonal production demand	00	02	02	02	05
	Export	00	00	00	00	00
	Sporadic demand	00	00	00	00	00
	Training -					
	On the job training	00	01	03	01	05
	Formal induction & skill training	00	02	00	01	03

Table A2.7 - Contractual Employment

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Cost Performance Data Sharing - yes	00	02	00	02	04
	Product cost	00	02	00	01	03
	Process cost	00	02	00	02	04
	Profit & Loss	00	02	00	01	03
	Support taken from outside experts - yes	00	01	00	01	02
	Association of students for training - yes	00	01	00	02	03
	Reason for not accepting students for providing training -					
	No value added work	00	01	00	01	02

	Problem creation	00	00	00	00	00
	No interest in learning	00	00	00	00	00
	No policy exists	00	02	01	00	03
MAHARASHTRA	Cost Performance Data Sharing - yes	00	04	00	04	08
	Product cost	00	01	00	03	04
	Process cost	00	02	00	02	04
	Profit & Loss	00	03	00	00	03
	Support taken from outside experts - yes	00	02	00	00	02
	Association of students for training - yes	00	02	00	01	03
	Reason for not accepting students for providing training -					
	No value added work	00	00	00	00	00
	Problem creation	00	02	00	00	02
	No interest in learning	00	00	00	01	01
	No policy exists	00	02	00	01	03
	OTHERS	Cost Performance Data Sharing - yes	01	01	00	00
Product cost		00	00	00	00	00
Process cost		00	00	00	00	00
Profit & Loss		01	01	00	00	02
Support taken from outside experts - yes		00	00	00	00	00
Association of students for training - yes		00	00	00	00	00
Reason for not accepting students for providing training -						
No value added work		00	00	00	00	00
Problem creation		00	01	00	00	01
No interest in learning		01	00	00	00	01
No policy exists		00	00	00	00	00
TOTAL		Cost	01	07	00	06

	Performance Data Sharing - yes					
	Product cost	00	03	00	04	07
	Process cost	00	04	00	04	08
	Profit & Loss	01	06	00	01	08
	Support taken from outside experts - yes	00	03	00	01	04
	Association of students for training - yes	00	03	00	03	06
	Reason for not accepting students for providing training -					
	No value added work	00	01	00	01	02
	Problem creation	00	03	00	00	03
	No interest in learning	01	00	00	01	02
	No policy exists	00	04	01	01	06

Table A2.8 - Transparency & Learning support

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	TQM implementation	00	04	00	02	06
	Level of Implementation -					
	Only training	00	01	00	01	02
	Training & implementation - limited way	00	01	00	01	02
	Implementation - advanced level	00	01	00	00	01
	Measurement of results -					
	Customer satisfaction - data based	00	01	00	01	02
	Customer satisfaction - without data base	00	00	00	00	00
	Quality performance parameter	00	00	00	00	00
	Value addition	00	00	00	00	00
	Six sigma implementation	00	00	00	00	00
	Productivity	00	00	00	00	00
	Training effectiveness	00	00	00	00	00

	Others	00	01	00	00	00
	Quality circle implementation – yes	00	01	00	01	02
	Acceptance of implementation	00	01	00	01	02
MAHARASHTRA	TQM implementation	00	03	01	02	06
	Level of Implementation -					
	Only training	00	01	00	00	01
	Training & implementation – limited way	00	02	00	01	03
	Implementation – advanced level	00	00	00	01	01
	Measurement of results -					
	Customer satisfaction – data based	00	01	00	00	01
	Customer satisfaction – without data base	00	00	00	00	00
	Quality performance parameter	00	03	00	01	04
	Value addition	00	00	00	00	00
	Six sigma implementation	00	00	00	00	00
	Productivity	00	00	00	00	00
	Training effectiveness	00	00	00	00	00
	Others	00	00	00	00	00
	Quality circle implementation – yes	00	00	00	03	03
	Acceptance of implementation	00	00	00	01	01
	OTHERS	TQM implementation	00	00	00	00
Level of Implementation -						
Only training		00	00	00	00	00
Training & implementation – limited way		00	00	00	00	00
Implementation – advanced level		00	00	00	00	00
Measurement of results -						
Customer satisfaction – data based		00	00	00	00	00
Customer satisfaction –		00	00	00	00	00

	without data base					
	Quality performance parameter	00	00	00	00	00
	Value addition	00	00	00	00	00
	Six sigma implementation	00	00	00	00	00
	Productivity	00	00	00	00	00
	Training effectiveness	00	00	00	00	00
	Others	00	00	00	00	00
	Quality circle implementation – yes	00	00	00	00	00
	Acceptance of implementation	00	00	00	00	00
TOTAL	TQM implementation	00	07	01	04	12
	Level of Implementation -					
	Only training	00	02	00	01	03
	Training & implementation – limited way	00	03	00	02	05
	Implementation – advanced level	00	01	00	01	02
	Measurement of results -					
	Customer satisfaction – data based	00	02	00	01	03
	Customer satisfaction – without data base	00	00	00	00	00
	Quality performance parameter	00	03	00	01	04
	Value addition	00	00	00	00	00
	Six sigma implementation	00	00	00	00	00
	Productivity	00	00	00	00	00
	Training effectiveness	00	00	00	00	00
	Others	00	01	00	00	01
	Quality circle implementation – yes	00	01	00	04	05
	Acceptance of implementation	00	01	00	02	03

Table A2.9 - TQM Implementation

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Data Based Performance Analysis System in practice	00	01	01	02	04
	Performance Evaluation -					
	Annual Performance Appraisal	00	01	00	02	03
	Group Performance Appraisal	00	00	00	00	00
	General Organisational Performance	00	00	01	00	01
	Basis for Pay Rise -					
	Owners' discretion	00	03	01	03	07
	Data based performance - production	00	02	00	00	02
	Data based performance - production & quality	00	00	00	02	02
	Annual sales growth	00	00	00	02	02
	Others	00	01	01	00	02
	MAHARA SHTRA	Data Based Performance Analysis System in practice	00	03	01	01
Performance Evaluation -						
Annual Performance Appraisal		00	01	01	00	02
Group Performance Appraisal		00	02	00	00	02
General Organisational Performance		00	00	00	03	03
Basis for Pay Rise -						
Owners' discretion		00	02	00	02	04
Data based performance - production		00	01	00	00	01
Data based performance - production & quality		00	00	00	02	02
Annual sales growth		00	01	00	00	01
Others		00	01	01	01	03
OTHERS		Data Based Performance Analysis System in practice	00	01	00	00
	Performance Evaluation -					
	Annual Performance Appraisal	00	01	00	00	01
	Group Performance Appraisal	01	00	00	00	01
	General	00	00	00	00	00

	Organisational Performance					
	Basis for Pay Rise -					
	Owners' discretion	01	00	00	00	01
	Data based performance – production	00	01	00	00	01
	Data based performance – production & quality	00	00	00	00	00
	Annual sales growth	00	00	00	00	00
	Others	00	00	00	00	00
TOTAL	Data Based Performance Analysis System in practice	00	05	02	03	10
	Performance Evaluation -					
	Annual Performance Appraisal	00	03	01	02	06
	Group Performance Appraisal	01	02	00	00	03
	General Organisational Performance	00	00	01	03	04
	Basis for Pay Rise -					
	Owners' discretion	01	05	01	05	12
	Data based performance – production	00	04	00	00	04
	Data based performance – production & quality	00	00	00	04	04
	Annual sales growth	00	01	00	02	03
	Others	00	02	02	01	05

Table A2.10 - Performance Appraisal & Pay Rise

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Strategy planning -					
	Discussion with other Directors	00	03	01	04	08
	Discussion with Managers	00	01	02	06	09
	Discussion with other employees	00	00	00	04	04
	Review of strategies & plans -					
	Quarterly	00	01	01	01	03
	Six monthly	00	01	00	01	02
	Annually	00	00	00	00	00
As & when necessary	00	03	01	07	11	
MAHARA	Strategy					

SHTRA	planning -					
	Discussion with other Directors	00	02	01	03	06
	Discussion with Managers	00	04	00	04	08
	Discussion with other employees	00	03	00	03	06
	Review of strategies & plans -					
	Quarterly	00	02	00	02	04
	Six monthly	00	02	00	02	04
	Annually	00	01	00	00	01
	As & when necessary	00	01	01	04	06
OTHERS	Strategy planning -					
	Discussion with other Directors	00	00	00	00	00
	Discussion with Managers	00	00	00	00	00
	Discussion with other employees	00	00	00	00	00
	Review of strategies & plans -					
	Quarterly	00	00	00	00	00
	Six monthly	00	00	00	00	00
	Annually	00	00	00	00	00
	As & when necessary	01	00	00	00	01
TOTAL	Strategy planning -					
	Discussion with other Directors	00	05	02	07	14
	Discussion with Managers	00	05	02	10	17
	Discussion with other employees	00	03	00	07	10
	Review of strategies & plans -					
	Quarterly	00	03	01	03	07
	Six monthly	00	03	00	03	06
	Annually	00	01	00	00	01
	As & when necessary	01	04	02	11	18

Table A2.11 - Strategy Planning & Implementation

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Computers used - yes	00	06	00	07	13
	Usage -					
	Routine office work	00	06	00	07	13
	Inventory	00	04	00	03	07

	record					
	Day – today reporting	00	04	00	04	08
MAHARASHTRA	Computers used - yes	00	07	01	06	14
	Usage -					
	Routine office work	00	07	01	03	11
	Inventory record	00	02	01	03	06
	Day – today reporting	00	05	00	04	09
OTHERS	Computers used - yes	01	01	00	00	02
	Usage -					
	Routine office work	01	01	00	00	02
	Inventory record	00	00	00	00	00
	Day – today reporting	00	00	00	00	00
TOTAL	Computers used - yes	01	14	01	13	29
	Usage -					
	Routine office work	01	14	01	10	26
	Inventory record	00	06	01	06	13
	Day – today reporting	00	09	00	08	17

Table A2.11 - Computer Usage

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Internet Available - yes	00	03	00	04	07
	Usage -					
	Email	00	02	00	04	06
	Global Data Access	00	00	00	02	02
	Others	00	01	00	01	02
	Email Usage -					
	Customer Communication	00	01	00	04	05
	Supplier Communication	00	01	00	02	03
	Others	00	00	00	01	01
MAHARASHTRA	Internet Available - yes	00	07	01	05	13
	Usage -					
	Email	00	07	01	05	13
	Global Data Access	00	03	01	03	07
	Others	00	00	00	00	00
	Email Usage -					
	Customer	00	07	01	04	12

	Communication					
	Supplier Communication	00	07	01	04	12
	Others	00	02	00	01	03
OTHERS	Internet Available - yes	00	01	00	00	01
	Usage -					
	Email	00	01	00	00	01
	Global Data Access	00	00	00	00	00
	Others	00	00	00	00	00
	Email Usage -					
	Customer Communication	00	00	00	00	00
	Supplier Communication	00	01	00	00	01
	Others	00	00	00	00	00
TOTAL	Internet Available - yes	00	11	01	09	21
	Usage -					
	Email	00	10	01	09	20
	Global Data Access	00	03	01	05	09
	Others	00	01	00	01	02
	Email Usage -					
	Customer Communication	00	08	01	08	17
	Supplier Communication	00	09	01	06	16
	Others	00	02	00	02	04

Table A2.12 - Internet Usage

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Website available – yes	00	00	00	02	02
	Updated regularly – yes	00	00	00	01	01
	Reason for not updating -					
	Expensive	00	01	00	01	02
	No responsibility assigned	00	00	00	00	00
	Very few visitors to the website	00	04	00	01	05
MAHARASHTRA	Website available – yes	00	05	01	03	09
	Updated regularly – yes	00	02	01	01	04
	Reason for not updating -					
	Expensive	00	01	00	01	02
	No responsibility assigned	00	01	01	00	02
	Very few visitors to the website	00	00	00	01	01

OTHERS	Website available – yes	00	01	00	00	01
	Updated regularly – yes	00	01	00	00	01
	Reason for not updating -					
	Expensive	00	00	00	00	00
	No responsibility assigned	00	00	00	00	00
	Very few visitors to the website	00	00	00	00	00
TOTAL	Website available – yes	00	06	01	05	12
	Updated regularly – yes	00	03	01	02	06
	Reason for not updating -					
	Expensive	00	02	00	02	04
	No responsibility assigned	00	01	01	00	02
	Very few visitors to the website	00	04	00	02	06

Table A2.13 - Managing Website

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	ERP or similar system in practice	00	00	00	00	00
MAHARASHTRA	ERP or similar system in practice	00	00	00	00	00
OTHERS	ERP or similar system in practice	00	00	00	00	00
TOTAL	ERP or similar system in practice	00	00	00	00	00

Table A2.14 - ERP or Similar IT Support

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Requirement of customer	00	00	01	00	01
	For business from the government	00	00	00	00	00
	Improve image	00	00	00	00	00
	Establishment of a documented system	00	00	00	00	00
	First step in TQM implementation	00	00	00	00	00
MAHARASHTRA	Requirement of customer	00	01	00	02	03

OTHERS	Website available – yes	00	01	00	00	01
	Updated regularly – yes	00	01	00	00	01
	Reason for not updating -					
	Expensive	00	00	00	00	00
	No responsibility assigned	00	00	00	00	00
	Very few visitors to the website	00	00	00	00	00
TOTAL	Website available – yes	00	06	01	05	12
	Updated regularly – yes	00	03	01	02	06
	Reason for not updating -					
	Expensive	00	02	00	02	04
	No responsibility assigned	00	01	01	00	02
	Very few visitors to the website	00	04	00	02	06

Table A2.13 - Managing Website

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	ERP or similar system in practice	00	00	00	00	00
MAHARASHTRA	ERP or similar system in practice	00	00	00	00	00
OTHERS	ERP or similar system in practice	00	00	00	00	00
TOTAL	ERP or similar system in practice	00	00	00	00	00

Table A2.14 - ERP or Similar IT Support

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Requirement of customer	00	00	01	00	01
	For business from the government	00	00	00	00	00
	Improve image	00	00	00	00	00
	Establishment of a documented system	00	00	00	00	00
	First step in TQM implementation	00	00	00	00	00
MAHARASHTRA	Requirement of customer	00	01	00	02	03

	For business from the government	00	01	01	02	04
	Improve image	00	01	00	00	01
	Establishment of a documented system	00	00	00	00	00
	First step in TQM implementation	00	01	00	00	01
OTHERS	Requirement of customer	01	00	00	00	01
	For business from the government	00	00	00	00	00
	Improve image	00	00	00	00	00
	Establishment of a documented system	00	00	00	00	00
	First step in TQM implementation	00	00	00	00	00
TOTAL	Requirement of customer	01	01	01	02	05
	For business from the government	00	01	01	02	04
	Improve image	00	01	00	00	01
	Establishment of a documented system	00	00	00	00	00
	First step in TQM implementation	00	01	00	00	01

Table A2.15 - Reason for ISO 9000 / QS 9000 / USFDA, etc.

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Inspection – incoming	00	04	01	06	11
	Vendor performance analysis	00	02	00	02	04
	Second party audit	00	01	00	00	01
	Machine set up or first piece approval	00	01	00	02	03
	Patrol inspection during manufacturing	00	01	00	05	06
	Sampling inspection after manufacturing	00	03	00	02	05
	Customers' inspection in the organisation	00	02	00	03	05
	Customers' inspection in his organisation	00	02	01	02	05
MAHARAS HTRA	Inspection – incoming	00	05	00	05	10

	Vendor performance analysis	00	04	00	02	06
	Second party audit	00	01	00	00	01
	Machine set up or first piece approval	00	02	00	02	04
	Patrol inspection during manufacturing	00	02	00	04	06
	Sampling inspection after manufacturing	00	02	01	03	06
	Customers' inspection in the organisation	00	04	00	01	05
	Customers' inspection in his organisation	00	04	00	03	07
OTHERS	Inspection – incoming	00	01	00	00	01
	Vendor performance analysis	00	00	00	00	00
	Second party audit	00	00	00	00	00
	Machine set up or first piece approval	00	00	00	00	00
	Patrol inspection during manufacturing	00	01	00	00	01
	Sampling inspection after manufacturing	00	01	00	00	01
	Customers' inspection in the organisation	00	01	00	00	01
	Customers' inspection in his organisation	00	00	00	00	00
TOTAL	Inspection – incoming	00	10	01	11	22
	Vendor performance analysis	00	06	00	04	10
	Second party audit	00	02	00	00	02
	Machine set up or first piece approval	00	03	00	04	07
	Patrol inspection during manufacturing	00	04	00	09	13
	Sampling inspection after manufacturing	00	06	01	05	12
	Customers' inspection in the organisation	00	07	00	04	11
	Customers' inspection in his organisation	00	06	01	05	12

Table A2.16 - Quality control practices

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Preventive	00	04	01	04	09
	Predictive	00	01	00	01	02
	Condition based	00	00	00	02	02
	TPM	00	00	00	0	00
MAHARASHTRA	Preventive	00	05	00	05	10
	Predictive	00	00	00	00	00
	Condition based	00	00	00	01	01
	TPM	00	00	00	00	00
OTHERS	Preventive	00	00	00	00	00
	Predictive	00	00	00	00	00
	Condition based	00	00	00	00	00
	TPM	00	00	00	00	00
TOTAL	Preventive	00	09	01	09	19
	Predictive	00	01	00	01	02
	Condition based	00	00	00	03	03
	TPM	00	00	00	00	00

Table A2.17 - Maintenance system

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Automation -					
	Value addition	00	01	00	01	02
	Quality check through automation	00	01	00	03	04
	Level -					
	Semi automatic	00	06	01	04	11
	Fully automatic	00	00	01	02	03
	Investment in last years - yes	00	05	00	03	08
MAHARASHTRA	Automation -					
	Value addition	00	02	00	01	03
	Quality check through automation	00	02	00	02	04
	Level -					
	Semi automatic	00	01	01	05	07
	Fully automatic	00	01	00	00	01
	Investment in last years - yes	00	02	00	04	06
OTHERS	Automation -					
	Value addition	00	01	00	00	01
	Quality check through automation	00	01	00	00	01

	Level -					
	Semi automatic	00	01	00	00	01
	Fully automatic	00	00	00	00	00
	Investment in last years - yes	00	00	00	00	00
TOTAL	Automation -					
	Value addition	00	04	00	02	06
	Quality check through automation	00	04	00	05	09
	Level -					
	Semi automatic	00	08	02	09	19
	Fully automatic	00	01	01	02	04
	Investment in last years - yes	00	07	00	07	14

Table A2.18 - Automation

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	System exists Internal Audit - yes	00	05	01	07	13
	Scope -					
	Product	00	02	01	02	05
	Manufacturing & quality related processes	00	02	00	04	06
	Manufacturing system	00	02	00	01	03
	Quality system audit	00	00	00	01	01
	Frequency -					
	Once in a month	00	01	00	02	03
	Once in two month	00	00	00	00	00
	Once in a quarter	00	01	00	02	03
	Once in six month	00	00	00	00	00
	Once in a year	00	00	00	00	00
	As & when required	00	03	01	02	06
	MAHARAS HTRA	System exists Internal Audit - yes	00	07	00	02
Scope -						
Product		00	02	00	01	03
Manufacturing & quality related processes		00	04	00	01	05
Manufacturing system		00	03	00	02	05

	Quality system audit	00	03	00	01	04
	Frequency -					
	Once in a month	00	00	00	00	00
	Once in two month	00	02	00	00	02
	Once in a quarter	00	02	00	01	03
	Once in six month	00	01	00	00	01
	Once in a year	00	00	00	01	01
	As & when required	00	01	00	00	01
OTHERS	System exists Internal Audit - yes	00	01	00	00	01
	Scope -					
	Product	00	01	00	00	01
	Manufacturing & quality related processes	00	00	00	00	00
	Manufacturing system	00	00	00	00	00
	Quality system audit	00	00	00	00	00
	Frequency -					
	Once in a month	00	00	00	00	00
	Once in two month	00	00	00	00	00
	Once in a quarter	00	00	00	00	00
	Once in six month	00	00	00	00	00
	Once in a year	00	00	00	00	00
	As & when required	00	01	00	00	01
	TOTAL	System exists Internal Audit - yes	00	13	01	09
Scope -						
Product		00	05	01	03	09
Manufacturing & quality related processes		00	06	00	05	11
Manufacturing system		00	05	00	03	08
Quality system audit		00	03	00	02	05
Frequency -						
Once in a month		00	01	00	02	03
Once in two month		00	02	00	00	02
Once in a quarter		00	03	00	03	06
Once in six month		00	01	00	00	01
Once in a year		00	00	00	01	01
As & when		00	05	01	02	08

	required					
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Table A2.19 - System Internal Audit

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	System exists Customer Audit - yes	00	05	00	06	11
	Scope -					
	Product	00	01	00	03	04
	Manufacturing & quality related processes	00	04	00	03	07
	Manufacturing system	00	02	00	03	05
	Quality system audit	00	01	00	02	03
	Frequency -					
	Once in a month	00	00	00	01	01
	Once in two month	00	01	00	00	01
	Once in a quarter	00	00	00	00	00
	Once in six month	00	00	00	01	01
	Once in a year	00	00	00	01	01
	As & when required	00	03	00	02	05
	MAHARAS HTRA	System exists Customer Audit - yes	00	02	00	03
Scope -						
Product		00	02	00	01	03
Manufacturing & quality related processes		00	01	00	02	03
Manufacturing system		00	01	00	01	02
Quality system audit		00	01	00	01	02
Frequency -						
Once in a month		00	00	00	01	01
Once in two month		00	00	00	00	00
Once in a quarter		00	01	00	00	01
Once in six month		00	00	00	00	00
Once in a year		00	00	00	00	00
As & when required		00	01	00	02	03
OTHERS		System exists Customer Audit - yes	00	01	00	00

	Scope -					
	Product	00	01	00	00	01
	Manufacturing & quality related processes	00	00	00	00	00
	Manufacturing system	00	01	00	00	01
	Quality system audit	00	00	00	00	00
	Frequency -					
	Once in a month	00	00	00	00	00
	Once in two month	00	00	00	00	00
	Once in a quarter	00	00	00	00	00
	Once in six month	00	00	00	00	00
	Once in a year	00	00	00	00	00
	As & when required	00	01	00	00	01
TOTAL	System exists	00	08	00	09	17
	Customer Audit - yes					
	Scope -					
	Product	00	04	00	04	08
	Manufacturing & quality related processes	00	05	00	05	10
	Manufacturing system	00	04	00	04	08
	Quality system audit	00	02	00	03	05
	Frequency -					
	Once in a month	00	00	00	02	02
	Once in two month	00	01	00	00	01
	Once in a quarter	00	01	00	00	01
	Once in six month	00	00	00	01	01
	Once in a year	00	00	00	01	01
	As & when required	00	05	00	04	09

Table A2.20 - Customer Audit

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	System exists	00	03	00	03	06
	Vendor Audit - yes					
	Scope -					
	All product	00	01	00	00	01
	Important product	00	00	00	02	02
	Manufacturing &	00	02	00	00	02

	quality related processes – all products					
	Manufacturing system – all products	00	00	00	01	01
	Quality system audit	00	00	00	00	00
	Frequency -					
	Once in a month	00	00	00	01	01
	Once in two month	00	01	00	01	02
	Once in a quarter	00	00	00	00	00
	Once in six month	00	00	00	00	00
	Once in a year	00	00	00	00	00
	As & when required	00	02	00	01	03
	Support to vendors in quality system improvement	00	02	00	01	03
MAHARAS HTRA	System exists Vendor Audit - yes	00	02	00	01	03
	Scope -					
	All product	00	00	00	00	00
	Important product	00	01	00	01	02
	Manufacturing & quality related processes – all products	00	01	00	01	02
	Manufacturing system – all products	00	00	00	00	00
	Quality system audit	00	00	00	00	00
	Frequency -					
	Once in a month	00	01	00	00	01
	Once in two month	00	00	00	00	00
	Once in a quarter	00	00	00	00	00
	Once in six month	00	00	00	00	00
	Once in a year	00	01	00	00	00
	As & when required	00	00	00	01	01
Support to vendors in quality system improvement	00	02	00	01	03	
OTHERS	System exists Vendor Audit - yes	00	01	00	00	01
	Scope -					
	All product	00	00	00	00	00
	Important product	00	00	00	00	00
	Manufacturing & quality related processes – all products	00	00	00	00	00
	Manufacturing system – all products	00	00	00	00	00
	Quality system audit	00	00	00	00	00
	Frequency -					

	Once in a month	00	01	00	00	01
	Once in two month	00	00	00	00	00
	Once in a quarter	00	00	00	00	00
	Once in six month	00	00	00	00	00
	Once in a year	00	00	00	00	00
	As & when required	00	00	00	00	00
	Support to vendors in quality system improvement	00	00	00	00	00
TOTAL	System exists	00	06	00	04	10
	Vendor Audit - yes					
	Scope -					
	All product	00	01	00	00	01
	Important product	00	01	00	03	04
	Manufacturing & quality related processes – all products	00	03	00	01	04
	Manufacturing system – all products	00	00	00	01	01
	Quality system audit	00	00	00	00	00
	Frequency -					
	Once in a month	00	02	00	01	03
	Once in two month	00	01	00	01	02
	Once in a quarter	00	00	00	00	00
	Once in six month	00	00	00	00	00
	Once in a year	00	01	00	00	01
	As & when required	00	02	00	02	04
	Support to vendors in quality system improvement	00	04	00	02	06

Table A2.21 - Vendor Audit & Support

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Means for assessment of manufacturing capacity -					
	Suppliers' Manual	00	04	01	05	10
	IE study	00	02	01	03	06
	Assessment of critical factors affecting the manufacturing process – yes	00	04	01	04	09
MAHARA SHTRA	Means for assessment of manufacturing capacity -					
	Suppliers' Manual	00	05	00	04	09
	IE study	00	02	01	04	07
	Assessment of critical factors affecting the manufacturing process – yes	00	06	00	03	09

OTHERS	Means for assessment of manufacturing capacity -					
	Suppliers' Manual	01	01	00	00	02
	IE study	00	00	00	00	00
	Assessment of critical factors affecting the manufacturing process - yes	00	01	00	00	01
TOTAL	Means for assessment of manufacturing capacity -					
	Suppliers' Manual	01	10	01	09	21
	IE study	--	04	02	07	13
	Assessment of critical factors affecting the manufacturing process - yes	00	11	01	07	19

Table A2.22 - Manufacturing support planning

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Material or purchase planning - yes	00	06	02	05	13
	Frequency -					
	Monthly	00	05	02	02	09
	Quarterly	00	00	00	01	01
	Annually	00	01	00	00	01
	Owners' judgement	00	00	00	02	02
MAHARA SHTRA	Material or purchase planning - yes	00	07	00	06	13
	Frequency -					
	Monthly	00	05	00	05	10
	Quarterly	00	02	00	00	02
	Annually	00	00	00	00	00
	Owners' judgement	00	00	00	01	01
OTHERS	Material or purchase planning - yes	01	01	00	00	02
	Frequency -					
	Monthly	01	00	00	00	01
	Quarterly	00	00	00	00	00
	Annually	00	00	00	00	00
	Owners' judgement	00	00	00	00	00
TOTAL	Material or purchase planning - yes	01	14	02	11	28
	Frequency -					
	Monthly	01	10	02	07	20
	Quarterly	00	02	00	01	03
	Annually	00	01	00	00	01
	Owners' judgement	00	00	00	03	03

Table A2.23 - Material & purchase planning

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	Production planning - yes	00	06	02	07	15

	Frequency -						
	Day - today	00	02	01	02	05	
	Weekly	00	01	01	02	04	
	Monthly	00	02	00	02	04	
	Quarterly	00	01	00	01	02	
	Frequency of change of plan -						
	Almost daily	00	01	00	01	02	
	Once / twice in a week	00	01	00	02	03	
	Sometimes	00	02	02	03	07	
	Rarely	00	02	00	02	04	
	Reason for change -						
	Customers' schedule	00	02	01	04	07	
	Raw material problems – indigenous	00	01	02	00	03	
	Raw material problems – imported	00	00	00	00	00	
	Frequent machine breakdown	00	01	01	00	02	
MAHARA SHTRA	Production planning – yes	00	07	01	07	15	
	Frequency -						
	Day - today	00	00	00	02	02	
	Weekly	00	05	00	00	05	
	Monthly	00	02	01	05	08	
	Quarterly	00	00	00	00	00	
	Frequency of change of plan -						
	Almost daily	00	00	00	01	01	
	Once / twice in a week	00	04	00	00	04	
	Sometimes	00	01	00	03	04	
	Rarely	00	02	01	01	04	
	Reason for change -						
	Customers' schedule	00	03	00	02	05	
	Raw material problems – indigenous	00	01	00	02	03	
	Raw material problems – imported	00	01	00	01	02	
	Frequent machine breakdown	00	00	00	02	02	
	OTHERS	Production planning – yes	01	01	00	00	02
		Frequency -					
		Day - today	00	01	00	00	01
Weekly		01	00	00	00	01	
Monthly		00	00	00	00	00	
Quarterly		00	00	00	00	00	
Frequency of change of plan -							
Almost daily		00	00	00	00	00	
Once / twice in a week		00	00	00	00	00	
Sometimes		00	01	00	00	01	
Rarely		00	00	00	00	00	
Reason for change -							

	Customers' schedule	00	01	00	00	01
	Raw material problems – indigenous	00	00	00	00	00
	Raw material problems – imported	00	00	00	00	00
	Frequent machine breakdown	00	00	00	00	00
TOTAL	Production planning – yes	01	14	03	14	32
	Frequency -					
	Day - today	00	03	01	04	08
	Weekly	01	06	01	02	10
	Monthly	00	04	01	07	12
	Quarterly	00	01	00	01	02
	Frequency of change of plan -					
	Almost daily	00	01	00	02	03
	Once / twice in a week	00	05	00	02	07
	Sometimes	00	04	02	06	12
	Rarely	00	04	01	03	08
	Reason for change -					
	Customers' schedule	00	06	01	06	13
	Raw material problems – indigenous	00	02	02	02	06
	Raw material problems – imported	00	01	00	01	02
	Frequent machine breakdown	00	01	01	02	04

Table A2.24 - Production Planning

		INTRODUCTION	GROWTH	MATURITY	DE CLINE	TOTAL
MADHYA PRADESH	JIT in practice – yes	00	02	00	03	05
	Reasons –					
	Customers' requirement	00	01	00	02	03
	Inventory control	00	01	00	01	02
	Cost control	00	00	00	00	00
	Outcome of TQN implementation	00	00	00	00	00
MAHARA SHTRA	JIT in practice – yes	00	01	00	02	03
	Reasons –					
	Customers' requirement	00	01	00	02	03
	Inventory control	00	00	00	01	01
	Cost control	00	00	00	00	00
	Outcome of TQN implementation	00	00	00	00	00
OTHERS	JIT in practice – yes	00	00	00	00	00
	Reasons –					
	Customers' requirement	00	00	00	00	00

	Inventory control	00	00	00	00	00
	Cost control	00	00	00	00	00
	Outcome of TQN implementation	00	00	00	00	00
TOTAL	JIT in practice – yes	00	03	00	05	08
	Reasons –					
	Customers' requirement	00	02	00	04	06
	Inventory control	00	01	00	02	03
	Cost control	00	00	00	00	00
	Outcome of TQN implementation	00	00	00	00	00

Table A2.25 - JIT in practice

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Process -					
	Direct to customers	00	03	02	02	07
	Through dealer network	00	01	00	04	05
	Through dealer network & retailers	00	01	00	01	02
	Sales incentives – yes	00	02	00	04	06
	Sales commission	00	01	00	04	05
	After sales target	00	02	00	01	03
	After new customers	00	00	00	01	01
	Loss of incentives – yes	00	00	00	00	00
	Sales monitoring -					
	Sales data – not linked to travel bills	00	03	00	02	05
	Sales data – linked to travel bills	00	00	00	01	01
MAHARASHTRA	Process -					
	Direct to customers	00	07	01	04	12
	Through dealer network	00	01	00	00	01
	Through dealer network & retailers	00	00	00	02	02
	Sales incentives – yes	00	02	01	01	04
	Sales commission	00	01	01	00	02
	After sales target	00	01	01	01	03
	After new customers	00	00	00	00	00
	Loss of incentives – yes	00	00	00	00	00
	Sales monitoring -					
	Sales data – not linked to travel bills	00	02	01	02	05
	Sales data – linked to travel bills	00	01	00	00	01
OTHERS	Process -					
	Direct to customers	00	01	00	00	01
	Through dealer network	01	00	00	00	01
	Through dealer network & retailers	00	00	00	00	00

	Sales incentives – yes	01	01	00	00	01
	Sales commission	00	00	00	00	00
	After sales target	00	00	00	00	00
	After new customers	00	00	00	00	00
	Loss of incentives – yes	00	00	00	00	00
	Sales monitoring -					
	Sales data – not linked to travel bills	00	00	00	00	00
	Sales data – linked to travel bills	00	01	00	00	01
TOTAL	Process -					
	Direct to customers	00	11	03	06	20
	Through dealer network	01	02	00	04	07
	Through dealer network & retailers	00	01	00	03	04
	Sales incentives – yes	01	04	01	05	11
	Sales commission	00	02	01	04	07
	After sales target	00	03	01	02	06
	After new customers	00	00	00	01	01
	Loss of incentives – yes	00	00	00	00	00
	Sales monitoring -					
	Sales data – not linked to travel bills	00	05	01	04	10
	Sales data – linked to travel bills	00	02	00	01	03

Table A2.26 - Sales Process and Practices

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL	
MADHYA PRADESH	Profile -						
	Full time responsibility	00	03	02	03	08	
	Partial responsibility	00	00	00	00	00	
	Full time responsibility – on contract	00	00	00	02	02	
	Partial responsibility – on contract	00	00	00	00	00	
	Selection -						
	Experienced – direct interview	00	03	00	03	06	
	Fresh grads – selected and trained	00	01	00	00	01	
	Fresh MBA – selected and trained	00	00	00	00	00	
	Persons from competitors companies	00	00	00	00	00	
	Others	00	00	00	00	00	
	MAHARASHTRA	Profile -					
		Full time responsibility	00	05	01	06	11
Partial responsibility		00	00	00	00	00	
Full time responsibility – on contract		00	01	00	00	01	
Partial responsibility – on contract		00	00	00	00	00	
Selection -							

	Experienced – direct interview	00	05	01	05	11
	Fresh grads – selected and trained	00	01	00	00	01
	Fresh MBA – selected and trained	00	00	00	00	00
	Persons from competitors companies	00	00	00	00	00
	Others	00	00	00	00	00
OTHERS	Profile -					
	Full time responsibility	01	00	00	00	01
	Partial responsibility	00	01	00	00	01
	Full time responsibility – on contract	00	00	00	00	00
	Partial responsibility – on contract	00	00	00	00	00
	Selection -					
	Experienced – direct interview	01	00	00	00	01
	Fresh grads – selected and trained	00	00	00	00	00
	Fresh MBA – selected and trained	00	00	00	00	00
	Persons from competitors companies	00	00	00	00	00
	Others	00	00	00	00	00
TOTAL	Profile -					
	Full time responsibility	01	08	03	09	21
	Partial responsibility	00	01	00	00	01
	Full time responsibility – on contract	00	01	00	02	03
	Partial responsibility – on contract	00	00	00	00	00
	Selection -					
	Experienced – direct interview	01	08	01	08	18
	Fresh grads – selected and trained	00	02	00	00	02
	Fresh MBA – selected and trained	00	00	00	00	00
	Persons from competitors companies	00	00	00	00	00
	Others	00	00	00	00	00

Table A2.26 - Sales Personnel

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Structured sales training – yes	00	00	00	01	01
MAHARASHTRA	Structured sales training – yes	00	04	00	01	05
OTHERS	Structured sales training – yes	01	00	00	00	01
TOTAL	Structured sales training – yes	01	04	00	02	07

Table A2.27 - Sales Training

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Future plan for on line selling	00	00	00	01	01
MAHARASHTRA	Future plan for on line selling	00	02	00	02	04
OTHERS	Future plan for on line selling	00	00	00	00	00
TOTAL	Future plan for on line selling	00	02	00	03	05

Table A2.28 - Plan for online selling

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Awareness exists	00	01	00	00	01
MAHARASHTRA	Awareness exists	00	00	00	00	00
OTHERS	Awareness exists	00	00	00	00	00
TOTAL	Awareness exists	00	01	00	00	01

Table A2.29 - Awareness about SIDBI schemes for sales promotion

		INTRODUCTION					GROWTH					MATURITY					DECLINE					TOTAL									
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
MAHDYA PRADESH	Value improvement or value addition	0	0	0	0	0	0	1	1	1	1	0	2	1	0	0	0	0	1	4	1	1	1	0	2	6	2	2	2	0	5
	Cost reduction	0	0	0	0	0	0	1	0	0	5	0	0	1	0	0	0	0	1	3	1	2	2	0	1	5	1	2	7	0	2
	Manufacturing cycle time reduction	0	0	0	0	0	0	1	0	1	1	1	2	1	0	0	1	0	0	3	2	0	1	1	2	5	2	1	3	2	4
	Preparing for global competition	0	0	0	0	0	0	1	2	0	0	1	2	1	0	0	0	0	1	4	1	0	3	1	0	6	3	0	3	2	3
	Requirements of existing customers	0	0	0	0	0	0	1	1	0	3	0	1	1	0	0	0	0	1	4	0	3	0	0	2	6	1	3	3	0	4
	New opportunity in the country	0	0	0	0	0	0	2	2	2	0	0	0	1	0	0	0	0	1	3	1	1	0	1	3	6	3	3	0	1	4
	New opportunity in abroad	0	0	0	0	0	0	2	1	0	2	1	0	2	0	0	0	0	0	6	0	0	2	1	1	1	1	0	3	2	0
	New customer demand	0	0	0	0	0	0	3	1	2	0	0	0	1	0	0	1	0	0	5	0	1	1	1	1	9	1	3	2	1	1
	Anticipated change in global	0	0	0	0	0	0	2	0	2	1	0	1	2	0	0	0	0	0	7	2	0	0	0	0	1	2	2	1	0	1

	Technological change	0	0	0	0	0	0	4	0	0	0	1	2	2	0	0	0	0	2	2	1	1	2	0	8	2	1	1	3	2
	Product benchmark	0	0	0	0	0	4	0	1	1	1	0	2	0	0	0	0	3	0	1	3	1	0	9	0	2	4	2	0	
	Process benchmark	0	0	0	0	0	4	0	3	0	0	0	2	0	0	0	0	3	0	3	1	1	0	9	0	6	1	1	0	
	System benchmark	0	0	0	0	0	4	1	1	1	0	0	2	0	0	0	0	6	1	0	1	0	0	1	2	1	2	0	0	
	Retaining of skilled manpower	0	0	0	0	0	4	0	2	0	0	1	2	0	0	0	0	5	0	0	1	1	1	1	1	0	2	1	1	2
	Implementation of ERP or similar packages	0	0	0	0	0	5	1	1	0	0	0	2	0	0	0	0	6	0	0	0	2	0	1	1	1	0	2	0	
	Implementation of Business Excellence Model	0	0	0	0	0	4	1	1	1	0	0	2	0	0	0	0	7	0	0	0	1	0	1	1	1	1	1	0	
OTHERS	Value improvement or value addition	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	
	Cost reduction	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Manufacturing cycle time reduction	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	
	Preparing for global competition	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	
	Requirements of existing customers	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
	New opportunity in the country	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
	New opportunity in abroad	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	
	New customer demand	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	
	Anticipated change in global market	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	
	Technolo	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	

	members – joined recently					
	Through one not a family member – joined recently	00	00	00	00	00
OTHERS	Through a consultant	00	00	00	00	00
	Through an external agent	00	00	00	00	00
	Through self initiated effort led by CEO	01	00	00	00	01
	Through one of the family members – joined recently	00	00	00	00	00
	Through one not a family member – joined recently	00	00	00	00	00
TOTAL	Through a consultant	00	01	01	01	03
	Through an external agent	00	01	01	00	02
	Through self initiated effort led by CEO	01	06	03	04	14
	Through one of the family members – joined recently	00	01	00	00	01
	Through one not a family member – joined recently	00	00	00	00	00

Table A2.31 - Change Manager

	INTRODUCTION					GROWTH					MATURITY					DECLINE					TOTAL									
	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
MAHDYA PRADESH	0	0	0	0	0	0	6	0	0	0	0	0	1	0	1	0	0	0	9	0	0	0	0	0	16	0	1	0	0	0
MAHARASHTRA	0	0	0	0	0	0	6	0	0	1	0	0	1	0	0	1	0	0	7	0	1	0	0	0	14	0	1	2	0	0
OTHERS	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
TOTAL	1	0	0	0	0	0	1	0	0	2	0	0	2	0	1	1	0	0	1	0	1	0	0	0	31	0	2	3	0	0

Table A2.32 - Success of Change

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL	
MADHYA PRADESH	Initial Capital -						
	Seed Capital brought the promoter(s)	00	01	01	03	05	
	Bank Loan	00	03	00	05	08	
	Loan from SIDBI	00	00	00	00	00	
	Loan from other FI	00	01	00	00	01	
	Private Borrowing	00	00	01	01	02	
	Others	00	01	00	00	01	
	Data not provided	00	00	00	00	00	
	Expansion -						
	Internal Saving	00	01	01	02	04	
	Bank Loan	00	04	00	07	11	
	Loan from SIDBI	00	00	00	00	00	
	Loan from other FI	00	00	00	00	00	
	Private Borrowing	00	00	00	00	00	
	Others	00	00	00	00	00	
	Data not provided	00	01	01	00	02	
	No expansion in last 5 years	00	00	00	00	00	
	Availing Bill Discounting	00	03	00	00	03	
	MAHARASH TRA	Initial Capital -					
		Seed Capital brought the promoter(s)	00	01	00	02	03
Bank Loan		00	02	00	00	02	
Loan from SIDBI		00	00	00	00	00	
Loan from other FI		00	01	01	01	03	
Private Borrowing		00	00	01	02	03	
Others		00	00	00	00	00	
Data not provided		00	03	00	02	05	
Expansion -							
Internal Saving		00	03	02	06	11	
Bank Loan		00	03	00	02	05	
Loan from SIDBI		00	00	00	00	00	
Loan from other FI		00	00	00	00	00	
Private Borrowing		00	00	00	00	00	
Others		00	00	00	00	00	
Data not provided		00	00	00	00	00	
No expansion in last 5 years		00	01	00	01	02	
Availing Bill Discounting		00	04	00	02	06	
OTHERS		Initial Capital -					
		Seed Capital brought the promoter(s)	00	00	00	00	00
	Bank Loan	00	01	00	00	01	
	Loan from SIDBI	00	00	00	00	00	
	Loan from other FI	01	00	00	00	01	
	Private Borrowing	00	00	00	00	00	
	Others	00	00	00	00	00	
	Data not provided	00	00	00	00	00	
Expansion -							

	Internal Saving	01	00	00	01	02
	Bank Loan	00	00	00	00	00
	Loan from SIDBI	00	00	00	00	00
	Loan from other FI	00	00	00	00	00
	Private Borrowing	00	00	00	00	00
	Others	00	00	00	00	00
	Data not provided	00	00	00	00	00
	No expansion in last 5 years	00	00	00	00	00
	Availing Bill Discounting	00	00	00	00	00
TOTAL	Initial Capital -					
	Seed Capital brought the promoter(s)	00	02	01	05	08
	Bank Loan	00	06	00	05	11
	Loan from SIDBI	00	00	00	00	00
	Loan from other FI	01	02	01	01	05
	Private Borrowing	00	00	02	03	05
	Others	00	01	00	00	01
	Data not provided	00	03	00	02	05
	Expansion -					
	Internal Saving	01	04	03	09	17
	Bank Loan	00	07	01	09	17
	Loan from SIDBI	00	00	00	00	00
	Loan from other FI	00	00	00	00	00
	Private Borrowing	00	00	00	00	00
	Others	00	00	00	00	00
	Data not provided	00	01	01	00	02
	No expansion in last 5 years	00	01	00	01	02
Availing Bill Discounting	00	07	00	02	09	

Table A2.33 Major Source of Finance

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Bank	00	04	01	07	12
	SFC / SIDC	00	01	00	04	05
	Export Finance	00	00	00	02	02
MAHARASHTRA	Bank	00	03	01	01	05
	SFC / SIDC	00	01	00	02	03
	Export Finance	00	01	00	01	02
OTHERS	Bank	01	00	00	00	01
	SFC / SIDC	01	00	00	00	01
	Export Finance	00	00	00	00	00
TOTAL	Bank	01	07	02	08	18
	SFC / SIDC	01	02	00	06	09
	Export Finance	00	01	00	03	04

Table A2.34 - Adequacy of Credit

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA	Bank	00	04	01	04	09

PRADESH	SFC / SIDC	00	00	00	00	00
	Export Finance	00	00	00	00	00
MAHARAS HTRA	Bank	00	03	01	00	04
	SFC / SIDC	00	00	00	00	00
	Export Finance	00	00	00	00	00
OTHERS	Bank	01	00	00	00	01
	SFC / SIDC	00	01	00	00	01
	Export Finance	00	00	00	00	00
TOTAL	Bank	01	07	02	04	14
	SFC / SIDC	00	01	00	00	01
	Export Finance	00	00	00	00	00

Table A2.35 - Cost of Capital

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Bank					
	Less than 1 month	00	00	00	00	00
	1 to 2 months	00	01	04	05	05
	2 to 3 months	00	02	03	07	07
	3 to 4 months	00	01	00	01	01
	4 to 6 months	00	00	00	00	00
	More than 6 months	00	01	01	02	02
	SFC / SIDC					
	Less than 1 month	00	00	00	00	00
	1 to 2 months	00	01	00	01	02
	2 to 3 months	00	00	00	01	01
	3 to 4 months	00	00	01	00	01
	4 to 6 months	00	00	00	00	00
	More than 6 months	00	01	00	00	01
	Export Finance					
	Less than 1 month	00	00	00	00	00
	1 to 2 months	00	00	00	02	02
	2 to 3 months	00	00	00	00	00
	3 to 4 months	00	00	00	00	00
4 to 6 months	00	00	00	00	00	
More than 6 months	00	01	00	00	01	
MAHARAS HTRA	Bank					
	Less than 1 month	00	03	00	00	03
	1 to 2 months	00	01	00	02	03
	2 to 3 months	00	01	00	01	02
	3 to 4 months	00	00	00	01	01
	4 to 6 months	00	01	00	01	02
	More than 6 months	00	00	01	01	02
	SFC / SIDC					
	Less than 1 month	00	00	00	00	00
	1 to 2 months	00	00	00	01	01
	2 to 3 months	00	01	00	02	03
	3 to 4 months	00	01	00	0	01
	4 to 6 months	00	00	00	01	01
	More than 6 months	00	00	00	00	00
	Export Finance					
	Less than 1 month	00	00	00	00	00

	1 to 2 months	00	01	00	00	01	
	2 to 3 months	00	00	00	01	01	
	3 to 4 months	00	00	00	00	00	
	4 to 6 months	00	00	00	00	00	
	More than 6 months	00	00	00	00	00	
OTHERS	Bank						
	Less than 1 month	00	00	00	00	00	
	1 to 2 months	00	00	00	00	00	
	2 to 3 months	01	00	00	00	01	
	3 to 4 months	00	00	00	00	00	
	4 to 6 months	00	00	00	00	00	
	More than 6 months	00	01	00	00	01	
	SFC / SIDC						
	Less than 1 month	00	00	00	00	00	
	1 to 2 months	00	00	00	00	00	
	2 to 3 months	01	00	00	00	01	
	3 to 4 months	00	00	00	00	00	
	4 to 6 months	00	00	00	00	00	
	More than 6 months	00	01	00	00	01	
	Export Finance						
	Less than 1 month	00	00	00	00	00	
	1 to 2 months	00	00	00	00	00	
	2 to 3 months	00	00	00	00	00	
	3 to 4 months	00	00	00	00	00	
	4 to 6 months	00	00	00	00	00	
	More than 6 months	00	00	00	00	00	
	TOTAL	Bank					
		Less than 1 month	00	03	00	00	03
1 to 2 months		00	02	00	06	08	
2 to 3 months		01	03	02	04	10	
3 to 4 months		00	01	00	01	02	
4 to 6 months		00	01	00	01	02	
More than 6 months		00	02	01	02	05	
SFC / SIDC							
Less than 1 month		00	00	00	00	00	
1 to 2 months		00	01	00	02	03	
2 to 3 months		01	01	00	03	05	
3 to 4 months		00	01	01	00	02	
4 to 6 months		00	00	00	01	01	
More than 6 months		00	02	00	00	02	
Export Finance							
Less than 1 month		00	00	00	00	00	
1 to 2 months		00	01	00	02	03	
2 to 3 months		00	00	00	01	01	
3 to 4 months		00	00	00	00	00	
4 to 6 months		00	00	00	00	00	
More than 6 months		00	01	00	00	01	

Table A2.36 - Timeliness in Loan Sanction

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	SFC / SIDC					
	Less than 1 month	00	00	00	01	01
	1 to 2 months	00	00	00	00	00
	2 to 3 months	00	01	00	01	02
	3 to 4 months	00	00	01	01	02
	4 to 6 months	00	00	00	00	00
	More than 6 months	00	01	00	00	01
	Export Finance					
	Less than 1 month	00	00	00	01	01
	1 to 2 months	00	00	00	01	01
	2 to 3 months	00	00	00	00	00
	3 to 4 months	00	00	00	00	00
	4 to 6 months	00	00	00	00	00
	More than 6 months	00	01	00	00	01
	MAHARAS HTRA	SFC / SIDC				
Less than 1 month		00	00	00	00	00
1 to 2 months		00	00	00	01	01
2 to 3 months		00	01	00	02	03
3 to 4 months		00	01	00	00	01
4 to 6 months		00	00	00	01	01
More than 6 months		00	00	00	00	00
Export Finance						
Less than 1 month		00	01	00	00	01
1 to 2 months		00	00	00	00	00
2 to 3 months		00	00	00	01	01
3 to 4 months		00	00	00	00	00
4 to 6 months		00	00	00	00	00
More than 6 months	00	00	00	00	00	
OTHERS	SFC / SIDC					
	Less than 1 month	01	00	00	00	01
	1 to 2 months	00	00	00	00	00
	2 to 3 months	00	00	00	00	00
	3 to 4 months	00	00	00	00	00
	4 to 6 months	00	00	00	00	00
	More than 6 months	00	01	00	00	01
	Export Finance					
	Less than 1 month	00	00	00	00	00
	1 to 2 months	00	00	00	00	00
	2 to 3 months	00	00	00	00	00
	3 to 4 months	00	00	00	00	00
	4 to 6 months	00	00	00	00	00
More than 6 months	00	00	00	00	00	

	months					
TOTAL	SFC / SIDC					
	Less than 1 month	01	00	00	01	02
	1 to 2 months	00	00	00	01	01
	2 to 3 months	00	02	00	03	05
	3 to 4 months	00	01	01	01	03
	4 to 6 months	00	00	00	01	01
	More than 6 months	00	02	00	00	02
	Export Finance					
	Less than 1 month	00	01	00	01	02
	1 to 2 months	00	00	00	01	01
	2 to 3 months	00	00	00	01	01
	3 to 4 months	00	00	00	00	00
	4 to 6 months	00	00	00	00	00
	More than 6 months	00	01	00	00	01

Table A2.37 - Timeliness in Loan Disbursement

		INTRODUCTION					GROWTH					MATURITY					DE LINE					TOTAL									
		0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
MADHYA PRADESH	Attitude of bank	0	0	0	0	0	0	0	2	2	1	1	0	1	1	0	0	0	0	6	2	0	0	0	1	7	5	2	1	1	1
	Attitude of FI	0	0	0	0	0	0	1	0	4	1	0	0	1	1	0	0	0	0	6	2	0	0	0	1	8	3	1	0	0	1
	Govt. Policies	0	0	0	0	0	0	1	2	1	0	2	1	0	0	0	0	1	0	6	1	0	2	0	0	7	2	2	3	1	2
	Interest Rate	0	0	0	0	0	0	1	0	1	1	3	0	1	0	0	0	1	0	6	1	0	2	0	0	7	1	1	3	6	0
	Repayment Terms	0	0	0	0	0	0	1	0	2	2	1	0	1	0	0	0	1	0	5	1	0	1	1	0	7	1	2	3	3	0
	Collateral Security	0	0	0	0	0	0	2	1	2	0	1	0	2	0	0	0	0	0	6	1	1	0	0	1	10	2	3	0	1	1
	Others	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0
MAHARASHTRA	Attitude of bank	0	0	0	0	0	0	4	1	0	2	0	0	0	0	0	0	0	0	4	1	1	1	1	0	8	2	1	3	1	0
	Attitude of FI	0	0	0	0	0	0	4	1	0	1	1	0	0	0	0	0	0	0	4	1	0	2	1	0	8	2	0	3	2	0
	Govt. Policies	0	0	0	0	0	0	1	0	2	0	0	1	0	0	1	1	0	0	5	0	0	0	2	0	6	0	3	1	2	1
	Interest Rate	0	0	0	0	0	0	4	0	1	2	0	0	0	0	0	0	1	0	4	1	0	1	1	1	8	1	1	4	1	2
	Repayment Terms	0	0	0	0	0	0	3	1	2	1	0	0	0	0	0	0	1	0	1	3	2	0	0	3	6	3	2	2	3	1
	Collateral Security	0	0	0	0	0	0	3	0	0	0	1	3	1	0	0	0	0	1	7	1	0	0	0	0	11	1	0	0	1	4
	Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHERS	Attitude of bank	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
	Attitude of FI	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
	Govt. Policies	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1
	Interest Rate	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
	Repayment Terms	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0

	Collateral Security	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0				
	Others																															
TOTAL	Attitude of bank	0	0	0	1	0	0	4	3	2	4	1	0	1	1	0	0	0	5	10	3	1	1	1	1	1	15	7	3	4	2	1
	Attitude of FI	1	0	0	1	0	0	5	1	4	3	1	0	0	1	0	0	0	0	10	3	0	0	1	1	17	5	1	4	2	1	
	Govt. Policies	1	0	0	0	0	0	1	1	4	1	0	3	1	0	1	1	1	0	11	1	0	1	1	1	14	2	5	4	3	4	
	Interest Rate	0	0	0	0	1	0	5	1	2	3	3	0	1	0	0	1	1	1	10	2	0	3	1	1	15	3	2	7	8	2	
	Repayment Terms	1	0	0	0	0	0	4	2	4	3	1	0	1	0	0	1	1	1	8	3	0	1	4	0	14	5	4	5	6	1	
	Collateral Security	1	0	0	0	0	0	6	1	2	0	2	3	3	0	0	0	0	1	13	2	1	0	0	1	23	3	3	0	2	5	
	Others	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	

Table A2.38 - Problems in Getting Credit

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Single Window Scheme	00	02	00	00	02
	Collateral – constraints	00	03	00	01	04
	Collateral free loan	00	01	00	00	01
MAHARASHTRA	Single Window Scheme	00	01	00	01	02
	Collateral – constraints	00	01	00	00	02
	Collateral free loan	00	01	01	00	01
OTHERS	Single Window Scheme	00	00	00	00	00
	Collateral – constraints	00	00	00	00	00
	Collateral free loan	00	00	00	00	00
TOTAL	Single Window Scheme	00	03	00	01	04
	Collateral – constraints	00	04	01	01	06
	Collateral free loan	00	02	00	00	02

Table A2.39 - Satisfactory Performance of SIDBI

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Requirement of collateral	00	00	00	01	01
	Reluctance to provide loans to SSI	00	02	00	01	03
	Red Tapism or corruption	00	02	01	02	05
	Incomplete papers by the borrowers	00	00	00	00	00
	Others	00	00	00	00	00
MAHARASHTRA	Requirement of collateral	00	02	00	01	03
	Reluctance to provide loans to SSI	00	00	00	00	00
	Red Tapism or corruption	00	00	00	02	02
	Incomplete papers by the borrowers	00	01	00	00	01
	Others	00	00	00	00	00

OTHERS	Requirement of collateral	00	00	00	00	00
	Reluctance to provide loans to SSI	00	00	00	00	00
	Red Tapism or corruption	00	01	00	00	01
	Incomplete papers by the borrowers	00	00	00	00	00
	Others	00	00	00	00	00
TOTAL	Requirement of collateral	00	02	00	02	04
	Reluctance to provide loans to SSI	00	02	00	01	03
	Red Tapism or corruption	00	03	01	04	08
	Incomplete papers by the borrowers	00	01	00	00	01
	Others	00	00	00	00	00

Table A2.40 - Major Reasons for Inadequate or Delayed Loan Assistance

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Agree	00	02	01	04	07
	Do not agree	00	00	00	00	00
	Can not comment	00	00	00	00	00
MAHARA SHTRA	Agree	00	04	00	01	05
	Do not agree	00	00	00	00	00
	Can not comment	00	00	00	00	00
OTHERS	Agree	00	01	00	00	01
	Do not agree	00	00	00	00	00
	Can not comment	00	00	00	00	00
TOTAL	Agree	00	07	01	05	13
	Do not agree	00	00	00	00	00
	Can not comment	00	00	00	00	00

Table A2.41 - Need for Credit Rating Scheme

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Upto 15 days	00	01	01	00	02
	15 to 30 days	00	00	00	01	01
	30 to 45 days	00	00	01	03	04
	45 to 90 days	00	02	00	03	05
	Beyond 90 days	00	04	00	01	05
MAHARAS HTRA	Upto 15 days	00	00	00	00	00
	15 to 30 days	00	00	00	01	01
	30 to 45 days	00	02	00	02	04
	45 to 90 days	00	01	00	02	03
	Beyond 90 days	00	03	01	03	07
OTHERS	Upto 15 days	00	00	00	00	00
	15 to 30 days	01	00	00	00	01
	30 to 45 days	00	00	00	00	00
	45 to 90 days	00	00	00	00	00
	Beyond 90 days	00	01	00	00	01
TOTAL	Upto 15 days	00	01	01	00	02

	15 to 30 days	01	00	00	02	03
	30 to 45 days	00	02	01	05	08
	45 to 90 days	00	03	00	05	08
	Beyond 90 days	00	08	01	04	13

Table A2.42 - Extent of Delayed Payment

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Improved	00	00	00	01	01
	Not improved	00	04	00	05	09
	Not aware about the Act	00	02	02	01	05
MAHARAS HTRA	Improved	00	00	00	00	00
	Not improved	00	06	00	05	11
	Not aware about the Act	00	01	00	01	02
OTHERS	Improved	00	00	00	00	00
	Not improved	01	00	00	00	01
	Not aware about the Act	00	01	00	00	01
TOTAL	Improved	01	00	00	01	01
	Not improved	01	10	00	10	21
	Not aware about the Act	00	04	02	02	08

Table A2.43 - Effect of SSI & Ancillary Undertaking Act, 1993 on Delayed Payment

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Vision Statement	00	01	00	02	03
	Corporate Policy Statement	00	02	00	02	04
MAHARASHTRA	Vision Statement	00	03	00	02	05
	Corporate Policy Statement	00	04	00	02	06
OTHERS	Vision Statement	01	00	00	00	01
	Corporate Policy Statement	00	00	00	00	00
TOTAL	Vision Statement	01	04	00	04	09
	Corporate Policy Statement	00	06	00	04	10

Table A2.44 - Vision & Policy

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Long Term Planning - yes	00	00	00	01	01
	Frequency of updating -					
	Every year	00	00	00	01	01
	As per need	00	00	00	00	00
	Never	00	00	00	00	00
	Medium Term Planning - yes	00	02	00	02	04
	Frequency of updating -					
	Every six month	00	01	00	01	02

	Every year	00	01	00	00	01	
	As per need	00	00	00	00	00	
	Never	00	00	00	00	00	
	Tactical Planning - yes	00	03	01	04	08	
MAHARASHTRA	Long Term Planning - yes	00	00	00	00	00	
	Frequency of updating -						
	Every year	00	00	00	00	00	
	As per need	00	00	00	00	00	
	Never	00	00	00	00	00	
	Medium Term Planning - yes	00	03	01	04	08	
	Frequency of updating -						
	Every six month	00	00	00	00	00	
	Every year	00	02	00	01	03	
	As per need	00	00	00	00	00	
	Never	00	00	00	00	00	
	Tactical Planning - yes	00	04	01	02	07	
	OTHERS	Long Term Planning - yes	01	00	00	00	01
		Frequency of updating -					
Every year		00	00	00	00	00	
As per need		01	00	00	00	01	
Never		00	00	00	00	00	
Medium Term Planning - yes		01	00	00	00	01	
Frequency of updating -							
Every six month		00	00	00	00	00	
Every year		00	00	00	00	00	
As per need		01	00	00	00	01	
Never		00	00	00	00	00	
Tactical Planning - yes		00	00	00	00	00	
TOTAL		Long Term Planning - yes	01	00	00	01	02
		Frequency of updating -					
	Every year	00	00	00	01	01	
	As per need	01	00	00	00	01	
	Never	00	00	00	00	00	
	Medium Term Planning - yes	01	05	01	06	13	
	Frequency of updating -						
	Every six month	00	01	00	01	02	
	Every year	00	03	00	01	04	
	As per need	01	00	00	00	01	
	Never	00	00	00	00	00	
	Tactical Planning	00	07	02	06	15	

- yes

Table A2.45 - Corporate Planning

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Frequency of CEO's direct communication -					
	Every day	00	02	00	03	05
	Once in a week	00	00	00	03	03
	Once in a month	00	02	00	00	02
	As required	00	01	02	00	03
	Rarely	00	01	00	01	02
	Reason -					
	Product marketing	00	04	02	04	10
	Exploration of new markets	00	02	01	03	06
	New opportunity for a new product	00	03	00	03	06
	Addressing customer complaint	00	02	01	02	05
MAHARASHTRA	Frequency of CEO's direct communication -					
	Every day	00	00	00	02	07
	Once in a week	00	01	00	01	02
	Once in a month	00	00	00	01	01
	As required	00	00	01	01	02
	Rarely	00	00	00	02	02
	Reason -					
	Product marketing	00	04	01	03	08
	Exploration of new markets	00	05	00	03	08
	New opportunity for a new product	00	04	00	02	06
	Addressing customer complaint	00	03	00	02	05
OTHERS	Frequency of CEO's direct communication -					
	Every day	00	00	00	00	00
	Once in a week	00	00	00	00	00
	Once in a month	00	00	00	00	00
	As required	01	00	00	00	01
	Rarely	00	00	00	00	00
	Reason -					
	Product marketing	00	00	00	00	00
	Exploration of new markets	00	00	00	00	00
	New opportunity for a new product	01	00	00	00	01
	Addressing customer complaint	00	00	00	00	00
TOTAL	Frequency of CEO's direct communication -					
	Every day	00	07	00	05	12
	Once in a week	00	01	00	04	05
	Once in a month	00	02	00	01	03

	As required	01	01	03	01	06
	Rarely	00	01	00	03	04
	Reason -					
	Product marketing	00	08	03	07	18
	Exploration of new markets	00	07	01	06	14
	New opportunity for a new product	01	07	00	05	13
	Addressing customer complaint	00	05	01	04	10

Table A2.46 - Customer Communication

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Readiness	00	04	00	06	10
MAHARASHTRA	Readiness	00	07	00	02	09
OTHERS	Readiness	00	00	00	00	00
TOTAL	Readiness	00	11	00	08	19

Table A2.47 - Transfer of Leadership to a Professional in case no Relative or Friend is found capable

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Target for own performance	00	02	01	04	07
MAHARASHTRA	Target for own performance	00	05	01	03	09
OTHERS	Target for own performance	00	00	00	00	00
TOTAL	Target for own performance	00	07	02	07	16

Table A2.48 - Setting target for self

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Frequency of meeting with Departmental / Functional Heads -					
	Any time required	00	02	00	03	05
	Daily	00	01	01	04	06
	Weekly	00	02	00	01	03
	Monthly	00	01	00	00	01
	Some times as per need	00	00	01	00	01
	Frequency of meeting with Shopfloor employees -					
	Never	00	01	00	00	01
	Often - on every visit to the shopfloor	00	01	02	03	06
	Once in a day	00	01	00	02	03
	Once in a week	00	01	00	01	02
	Once in a month	00	02	00	01	03
	Frequency of meeting with Customers -					
	Never	00	00	00	01	01

	Often	00	01	00	02	03
	Once in a day	00	02	00	02	04
	Once in a week	00	01	01	03	05
	Once in a month	00	01	00	00	01
MAHARASHTRA	Frequency of meeting with Departmental / Functional Heads -					
	Any time required	00	03	01	03	07
	Daily	00	01	01	03	05
	Weekly	00	01	00	00	01
	Monthly	00	00	00	00	00
	Some times as per need	00	00	00	02	02
	Frequency of meeting with Shopfloor employees -					
	Never	00	00	01	02	03
	Often - on every visit to the shopfloor	00	03	01	05	09
	Once in a day	00	00	00	00	00
	Once in a week	00	01	00	00	01
	Once in a month	00	01	00	01	02
	Frequency of meeting with Customers -					
	Never	00	01	01	05	07
	Often	00	02	00	02	04
	Once in a day	00	01	00	00	01
	Once in a week	00	01	00	01	02
	Once in a month	00	01	00	00	01
	OTHERS	Frequency of meeting with Departmental / Functional Heads -				
Any time required		00	01	00	00	01
Daily		01	00	00	00	01
Weekly		00	00	00	00	00
Monthly		00	00	00	00	00
Some times as per need		00	00	00	00	00
Frequency of meeting with Shopfloor employees -						
Never		00	00	00	00	00
Often - on every visit to the shopfloor		00	01	00	00	01
Once in a day		01	00	00	00	01
Once in a week		00	00	00	00	00
Once in a month		00	00	00	00	00
Frequency of meeting with Customers -						
Never		00	00	00	00	00
Often		00	01	00	00	01
Once in a day	00	00	00	00	00	
Once in a week	00	00	00	00	00	
Once in a month	00	00	00	00	00	
TOTAL	Frequency of meeting with Departmental / Functional Heads -					

	Any time required	00	06	01	06	13
	Daily	01	02	02	07	12
	Weekly	00	03	00	01	04
	Monthly	00	01	00	00	01
	Some times as per need	00	01	00	02	03
	Frequency of meeting with Shopfloor employees -					
	Never	00	01	01	02	04
	Often – on every visit to the shopfloor	00	05	03	08	16
	Once in a day	01	01	00	02	04
	Once in a week	00	02	00	01	03
	Once in a month	00	03	00	02	05
	Frequency of meeting with Customers -					
	Never	00	01	01	06	08
	Often	00	04	00	04	08
	Once in a day	00	03	00	02	05
	Once in a week	00	02	01	04	07
	Once in a month	00	02	00	00	02

Table A2.49 - General Communication

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Type of result -					
	Sales turnover	00	01	00	00	01
	Cost	00	01	01	02	04
	Profit	00	02	00	00	02
	Productivity	00	03	00	02	05
	Others	00	00	00	00	00
	Method -					
	Verbally – informally	00	03	01	02	06
	Verbally – formally	00	01	00	01	02
	Notice Board	00	00	00	01	01
	Newsletter	00	00	00	00	00
	Others	00	00	00	00	00
	MAHARASHTRA	Type of result -				
Sales turnover		00	03	00	03	06
Cost		00	02	00	02	04
Profit		00	02	00	02	04
Productivity		00	03	00	06	09
Others		00	01	00	01	02
Method -						
Verbally – informally		00	05	00	07	12
Verbally – formally		00	01	00	01	02
Notice Board		00	01	00	01	02
Newsletter		00	00	00	00	00
Others		00	00	00	00	00
OTHERS		Type of result -				
	Sales turnover	00	00	00	00	00
	Cost	00	01	00	00	01

	Profit	01	00	00	00	01
	Productivity	01	01	00	00	02
	Others	00	00	00	00	00
	Method -					
	Verbally – informally	01	01	00	00	00
	Verbally – formally	00	00	00	00	00
	Notice Board	00	00	00	00	00
	Newsletter	00	00	00	00	00
	Others	00	00	00	00	00
TOTAL	Type of result -					
	Sales turnover	00	04	00	03	07
	Cost	00	04	01	04	09
	Profit	01	04	00	02	07
	Productivity	01	07	00	08	16
	Others	00	01	00	01	02
	Method -					
	Verbally – informally	01	09	01	09	20
	Verbally – formally	00	02	00	02	04
	Notice Board	00	01	00	02	03
	Newsletter	00	00	00	00	00
	Others	00	00	00	00	00

Table A2.50 - Communication of Business Performance to the People

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Method of socialization -					
	Informal meeting	00	04	02	05	11
	Official Dinner / Lunch	00	00	00	01	01
	Family Gathering	00	01	00	02	03
	Frequency -					
	Once in a month	00	02	00	01	03
	Once in quarter	00	00	00	02	02
	Once in six month	00	02	00	00	02
	Annually	00	01	00	01	02
	Never	00	00	00	00	00
MAHARASHTRA	Method of socialization -					
	Informal meeting	00	05	00	05	10
	Official Dinner / Lunch	00	00	00	00	00
	Family Gathering	00	00	00	01	01
	Frequency -					
	Once in a month	00	03	00	02	05
	Once in quarter	00	00	00	02	02
	Once in six month	00	01	00	00	01
	Annually	00	01	00	01	02
	Never	00	00	00	00	00
OTHERS	Method of socialization -					
	Informal meeting	00	00	00	00	00
	Official Dinner / Lunch	00	00	00	00	00
	Family Gathering	00	00	00	00	00
	Frequency -					

	Once in a month	00	00	00	00	00
	Once in quarter	00	00	00	00	00
	Once in six month	00	00	00	00	00
	Annually	00	00	00	00	00
	Never	00	00	00	00	00
TOTAL	Method of socialization					
	Informal meeting	00	09	02	10	21
	Official Dinner / Lunch	00	00	00	01	01
	Family Gathering	00	01	00	03	04
	Frequency -					
	Once in a month	00	05	00	03	08
	Once in quarter	00	00	00	04	04
	Once in six month	00	03	00	00	03
	Annually	00	02	00	02	04
	Never	00	00	00	00	00

Table 2.52 - Socialisation with the People

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Review of suggestions of Quality Circle	00	02	02	06	10
MAHARASHTRA	Review of suggestions of Quality Circle	00	04	00	03	07
OTHERS	Review of suggestions of Quality Circle	00	01	00	00	01
TOTAL	Review of suggestions of Quality Circle	00	07	02	09	18

Table A2.53 - Review of QC

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Formal system for resource identification	00	03	01	02	06
MAHARASHTRA	Formal system for resource identification	00	04	00	01	05
OTHERS	Formal system for resource identification	00	01	00	00	01
TOTAL	Formal system for resource identification	00	08	01	03	12

Table A2.54 - Resource Identification

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Computer literacy - yes	00	03	01	05	09
	Self Planning - yes	00	04	02	07	13
	Frequency -					
	Every day	00	03	01	04	08
	Every week	00	01	01	01	03
	Every month	00	01	00	02	03
	Learning Plan - yes	00	03	01	07	11
MAHARASHTRA	Computer literacy - yes	00	06	01	05	12
	Self Planning - yes	00	05	00	04	09

	Frequency -					
	Every day	00	01	00	01	02
	Every week	00	03	00	00	03
	Every month	00	02	00	01	03
	Learning Plan – yes	00	05	00	05	10
OTHERS	Computer literacy – yes	01	01	00	00	02
	Self Planning – yes	01	01	00	00	02
	Frequency -					
	Every day	00	01	00	00	01
	Every week	00	00	00	00	00
	Every month	00	00	00	00	00
	Learning Plan – yes	00	00	00	00	01
TOTAL	Computer literacy – yes	01	10	02	10	23
	Self Planning – yes	01	10	02	11	24
	Frequency -					
	Every day	00	05	01	05	11
	Every week	00	04	01	01	06
	Every month	00	03	00	03	06
	Learning Plan – yes	00	09	01	12	22

Table A2.55 - Learning

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	First generation entrepreneur	00	03	02	07	12
	Family owned	00	04	00	04	08
	Self established – existing business	00	01	01	04	06
MAHARASHTRA	First generation entrepreneur	00	05	02	06	13
	Family owned	00	05	02	05	12
	Self established – existing business	00	05	02	06	13
OTHERS	First generation entrepreneur	01	01	00	00	02
	Family owned	01	00	00	00	01
	Self established – existing business	01	01	00	00	02
TOTAL	First generation entrepreneur	01	09	04	13	27
	Family owned	01	09	02	09	21
	Self established – existing business	01	07	03	10	21

Table A2.56 - Ownership Details

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Finance	00	03	02	05	10
	All functions	00	03	00	04	07
MAHARASHTRA	Finance	00	07	02	05	14
	All functions	00	00	00	00	00
OTHERS	Finance	01	01	00	00	02

	All functions	00	00	00	00	00
TOTAL	Finance	01	11	04	10	26
	All functions	00	03	00	04	07

Table A2.57 - Functional responsibilities of CEO / MD

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Relative of the CEO / MD	00	04	01	02	07
MAHARASHTRA	Relative of the CEO / MD	00	03	02	04	09
OTHERS	Relative of the CEO / MD	01	00	00	00	01
TOTAL	Relative of the CEO / MD	01	07	03	06	17

Table A2.58 - Status of other Directors

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Son or daughter	00	02	02	01	05
	Brother or sister	00	00	00	01	01
	Other relative	00	01	00	02	03
	Others	00	00	00	00	00
MAHARASHTRA	Son or daughter	00	03	01	04	08
	Brother or sister	00	00	00	00	00
	Other relative	00	00	00	00	00
	Others	00	02	00	01	03
OTHERS	Son or daughter	01	00	00	00	01
	Brother or sister	00	00	00	00	00
	Other relative	00	00	00	00	00
	Others	00	00	00	00	00
TOTAL	Son or daughter	01	05	03	05	14
	Brother or sister	00	00	00	01	01
	Other relative	00	01	00	02	03
	Others	00	02	00	01	03

Table A2.59 - Future Leadership

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Forecasting based on market trends without any scientific techniques & Target given by the customer	00	02	00	05	07
	Econometric Techniques	00	00	00	00	00
	Time Series	00	00	00	00	00
	Moving Average	00	00	00	00	00
	Exponential Methods	00	00	00	00	00
MAHARASHTRA	Forecasting based on market trends without any scientific techniques & Target given by the customer	00	05	00	02	07
	Econometric Techniques	00	01	00	00	01
	Time Series	00	00	00	00	00
	Moving Average	00	00	00	01	01

	Exponential Methods	00	00	00	00	00
OTHERS	Forecasting based on market trends without any scientific techniques & Target given by the customer & Target given by the customer	01	00	00	00	01
	Econometric Techniques	00	00	00	00	00
	Time Series	00	00	00	00	00
	Moving Average	00	00	00	00	00
	Exponential Methods	00	00	00	00	00
TOTAL	Forecasting based on market trends without any scientific techniques & Target given by the customer	01	07	00	07	15
	Econometric Techniques	00	01	00	00	01
	Time Series	00	00	00	00	00
	Moving Average	00	00	00	01	01
	Exponential Methods	00	00	00	00	00

Table A2.60 - Demand Forecasting

		INTRODUCTION	GROWTH	MATURITY	DEC LINE	TOTAL
MADHYA PRADESH	Budgeting and Fund Planning	00	02	00	02	04
	Material Planning	00	00	00	03	03
	Manpower Planning	00	01	00	02	03
	Production Planning	00	02	00	02	04
MAHARASHTRA	Budgeting and Fund Planning	00	03	00	01	04
	Material Planning	00	04	00	01	05
	Manpower Planning	00	02	00	01	03
	Production Planning	00	03	00	02	05
OTHERS	Budgeting and Fund Planning	01	00	00	00	01
	Material Planning	01	00	00	00	01
	Manpower Planning	01	00	00	00	01
	Production Planning	01	00	00	00	01
TOTAL	Budgeting and Fund Planning	01	05	00	03	09
	Material Planning	01	04	00	04	09
	Manpower Planning	01	03	00	03	07
	Production Planning	01	05	00	03	09

Table A2.61 - Benefits of Demand Forecasting

		INTRODUCTION	GROWTH	MATURITY	DEC LINE	TOTAL
MADHYA PRADESH	Never	00	01	00	00	01
	Very Rare	00	00	00	00	00
	Sometimes	00	01	00	05	06
	Very Often	00	00	00	00	00
	Almost Everytime	00	00	00	00	00
MAHARASHTRA	Never	00	00	01	00	01

	Very Rare	00	01	00	01	02
	Sometimes	00	03	00	03	06
	Very Often	00	01	00	00	01
	Almost Everytime	00	00	00	00	00
OTHERS	Never	00	00	00	00	00
	Very Rare	00	00	00	00	00
	Sometimes	00	00	00	00	00
	Very Often	01	00	00	00	01
	Almost Everytime	00	00	00	00	00
TOTAL	Never	00	01	01	00	02
	Very Rare	00	01	00	02	03
	Sometimes	00	04	00	08	12
	Very Often	01	01	00	00	02
	Almost Everytime	00	00	00	00	00

Table A2.62 - Frequency of Forecast Going Wrong

		INTRODUCTION	GROWTH	MATURITY	DEC LINE	TOTAL
MADHYA PRADESH	Assessment done	00	01	01	02	04
MAHARASHTRA	Assessment done	00	02	00	03	05
OTHERS	Assessment done	00	01	00	00	01
TOTAL	Assessment done	00	04	01	05	10

Table A2.63 - Assessment of Future Growth

		INTRODUCTION	GROWTH	MATURITY	DEC LINE	TOTAL
MADHYA PRADESH	Std. Literature	00	00	00	00	00
	CMIE Data	00	00	00	00	00
	CII Survey	00	00	00	00	00
	Others	00	00	00	00	00
MAHARASHTRA	Std. Literature	00	00	00	00	00
	CMIE Data	00	00	00	00	00
	CII Survey	00	00	00	00	00
	Others	00	00	00	00	00
OTHERS	Std. Literature	00	00	00	00	00
	CMIE Data	00	00	00	00	00
	CII Survey	00	00	00	00	00
	Others	00	00	00	00	00
TOTAL	Std. Literature	00	00	00	00	00
	CMIE Data	00	00	00	00	00
	CII Survey	00	00	00	00	00
	Others	00	00	00	00	00

Table A2.64 - Data source for Assessment of Future Growth

		INTRODUCTION	GROWTH	MATURITY	DECLINE	TOTAL
MADHYA PRADESH	Yes	00	02	00	01	03
	No	00	01	00	03	04
	Can not comment	00	02	01	03	06
	Not answered	00	01	01	02	04

MAHARASHTRA	Yes	00	02	00	01	03
	No	00	03	01	03	07
	Can not comment	00	02	00	02	04
	Not answered	00	00	01	02	03
OTHERS	Yes	00	00	00	00	00
	No	00	00	00	00	00
	Can not comment	00	01	00	00	01
	Not answered	01	00	00		01
TOTAL	Yes	00	04	00	02	06
	No	00	04	01	06	11
	Can not comment	00	05	01	05	11
	Not answered	01	01	02	04	08

Table A2.65 - Adequacy of the Existing System for Increasing Export

		INTRODUCTION						GROWTH						MATURITY						DE LINE						TOTAL					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
MADHYA PRADESH	Domestic Competition	00	00	00	00	00	00	03	00	00	00	01	00	02	00	00	00	00	00	06	01	00	01	00	01	11	01	00	01	01	01
	International Competition	00	00	00	00	00	00	03	00	00	00	01	00	02	00	00	00	00	00	06	01	00	01	00	01	11	1	0	1	1	1
	WTO threat	00	00	00	00	00	00	00	01	00	02	00	01	00	01	00	00	00	01	01	01	01	00	00	01	01	03	01	02	00	03
	China threat	00	00	00	00	00	00	01	00	00	00	01	02	00	00	00	00	00	01	01	01	01	00	02	00	01	02	01	00	02	01
	Policies of Govt. on SSI	00	00	00	00	00	00	01	02	02	00	00	00	00	00	01	00	00	00	01	02	00	00	00	00	02	04	04	01	01	00
	Policies of Banks & FI on SSI	00	00	00	00	00	00	01	00	01	00	02	00	00	00	02	00	00	00	01	02	00	00	00	00	02	02	03	00	02	00
MAHARASHTRA	Domestic Competition	00	00	00	00	00	00	04	02	01	00	00	00	01	01	00	00	00	00	07	01	01	00	00	00	12	04	02	00	00	00
	International Competition	00	00	00	00	00	00	02	01	01	00	00	01	00	00	00	00	00	00	00	00	00	00	01	01	01	02	01	01	00	01
	WTO threat	00	00	00	00	00	00	00	00	01	01	01	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00	01	01	01	02
	China threat	00	00	00	00	00	00	00	00	00	01	01	02	00	00	00	00	00	00	01	00	00	00	01	01	01	00	00	01	02	03
	Policies of Govt. on SSI	00	00	00	00	00	00	02	01	01	00	01	00	00	01	00	00	00	00	01	01	01	01	01	00	03	03	02	01	02	00
	Policies of Banks & FI on SSI	00	00	00	00	00	00	01	00	01	01	00	01	00	00	02	00	00	00	00	01	01	00	00	01	01	01	04	01	00	02
OTHERS	Domestic Competition	01	00	00	00	00	00	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	01	01	00	00	00	00
	International Competition	01	00	00	00	00	00	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	02	00	00	00	00	00
	WTO threat	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

	China threat	00	00	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	01	00	00	00
	Policies of Govt. on SSI	00	01	00	00	00	00	00	00	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	01	01	00	00
	Policies of Banks & FI on SSI	00	00	00	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	01	00	00
TOTAL	Domestic Competition	01	00	00	00	00	07	03	01	00	01	00	03	01	00	00	00	00	13	02	01	01	00	01	24	06	02	01	01
	International Competition	01	00	00	00	00	04	02	01	01	01	00	03	00	00	00	00	00	06	01	00	01	00	02	14	03	01	02	01
	WTO threat	00	00	00	00	00	00	01	01	03	01	02	00	01	00	00	00	01	01	01	01	00	00	02	01	03	02	03	01
	China threat	00	00	01	00	00	01	00	00	01	02	04	00	00	00	00	00	01	02	01	00	02	01	02	03	01	01	03	03
	Policies of Govt. on SSI	00	01	00	00	00	03	03	04	00	01	00	00	01	01	00	00	00	02	03	02	02	02	00	05	08	07	02	03
	Policies of Banks & FI on SSI	00	00	00	01	00	02	00	02	01	02	01	00	00	04	00	00	00	01	03	01	00	00	01	03	03	07	02	02

Table A2.66 - Problems due to external factors

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Protection Expected -					
	Yes	00	05	02	08	15
	Promotional Measures Expected -					
	Foreign Technical Collaboration	00	01	00	02	03
	R & D Facilities	00	02	00	01	03
	Product Standardisation	00	02	00	04	06
	Expansion of Market	00	03	02	02	07
	Financial Assistance	00	01	01	03	05
	Others	00	00	00	01	01
Concession in Custom Duty on Raw Material						
MAHARASHTRA	Protection Expected -					
	Yes	00	04	02	05	11
	Promotional Measures Expected -					
	Foreign Technical Collaboration	00	02	00	03	05
	R & D Facilities	00	01	00	02	03
	Product Standardisation	00	03	00	00	03
	Expansion of Market	00	03	01	02	06
	Financial Assistance	00	01	00	03	04
	Others	00	01	00	00	01
Concession in Custom Duty on Raw Material						

OTHERS	Protection Expected -					
	Yes	01	00	00	00	01
	Promotional Measures Expected -					
	Foreign Technical Collaboration	00	00	00	00	00
	R & D Facilities	01	00	00	00	01
	Product Standardisation	00	00	00	00	00
	Expansion of Market	00	00	00	00	00
	Financial Assistance	01	00	00	00	01
	Others	00	00	00	00	00
	Concession in Custom Duty on Raw Material					
TOTAL	Protection Expected -					
	Yes	01	09	04	13	17
	Promotional Measures Expected -					
	Foreign Technical Collaboration	00	03	00	05	08
	R & D Facilities	01	03	00	03	07
	Product Standardisation	00	05	00	04	09
	Expansion of Market	00	06	03	04	13
	Financial Assistance	01	02	01	06	10
	Others	00	01	00	01	02
	Concession in Custom Duty on Raw Material					

Table A2.67 - Support from Government Expected

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Anti Dumping Duty	00	00	00	00	00
	Countervailing Duty	00	00	00	00	00
MAHARASHTRA	Anti Dumping Duty	00	00	00	00	00
	Countervailing Duty	00	01	00	00	01
OTHERS	Anti Dumping Duty	00	00	00	00	00
	Countervailing Duty	00	00	00	00	00
TOTAL	Anti Dumping Duty	00	00	00	00	00
	Countervailing Duty	00	01	00	00	01

Table A2.68 - Duty Barriers

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Unfavourable Impact of lowering the investment limit from Rs. 3 to 1 Crore	00	03	00	03	06
	Impact on Technological upgradation	00	03	00	06	09
MAHARASHTRA	Unfavourable	00	03	00	02	05

	Impact of lowering the investment limit from Rs. 3 to 1 Crore					
	Impact on Technological upgradation	00	05	00	03	08
OTHERS	Unfavourable Impact of lowering the investment limit from Rs. 3 to 1 Crore	00	00	00	00	00
	Impact on Technological upgradation	00	00	00	00	00
TOTAL	Unfavourable Impact of lowering the investment limit from Rs. 3 to 1 Crore	00	06	00	05	11
	Impact on Technological upgradation	00	08	00	09	17

Table A2.69 - Investment Barriers

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Rs. 5 Crore	00	00	00	01	01
	Rs. 3 Crore	00	02	00	00	02
MAHARASHTRA	Rs. 5 Crore	00	00	01	02	03
	Rs. 3 Crore	00	01	00	00	01
OTHERS	Rs. 5 Crore	00	00	00	00	00
	Rs. 3 Crore	01	01	00	00	02
TOTAL	Rs. 5 Crore	00	00	01	03	04
	Rs. 3 Crore	01	04	0	01	06

Table A2.70 - Expected Investment Limit

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	In India	00	04	00	02	06
	At International Level	00	01	00	00	01
MAHARASHTRA	In India	00	03	00	00	03
	At International Level	00	02	00	01	03
OTHERS	In India	00	01	00	00	01
	At International Level	00	00	00	00	00
TOTAL	In India	00	08	00	02	10
	At International Level	00	03	00	01	04

Table A2.71 - Competition from Large Scale Industries

		INTRODUCTION				GROWTH				MATURITY				DE LINE				TOTAL			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MADHYA PRADESH	Excise exemption	00	00	00	00	01	04	00	01	02	00	00	00	04	04	00	00	06	08	00	01
	Large scale units with 50 % export obligation	00	00	00	00	02	02	01	01	01	01	00	00	03	02	01	02	06	05	02	03
	Units located in SEZ	00	00	00	00	01	01	01	03	00	01	00	01	01	01	04	01	02	03	05	05
	Units located in SEZ with 24 % foreign equity	00	00	00	00	02	00	01	02	01	00	00	01	02	01	01	02	05	01	02	05
	Composite loan limit	00	00	00	00	01	02	01	02	00	00	01	01	00	04	02	00	01	06	04	03
	Collateral security	00	00	00	00	01	02	00	01	00	01	00	01	01	02	01	01	02	05	01	03
	Credit Linked Capital Subsidy	00	00	00	00	00	03	00	02	00	01	00	01	02	02	00	02	02	06	00	05
	Credit Guarantee Scheme	00	00	00	00	01	03	01	01	00	02	00	00	01	03	02	00	02	08	03	01
	NSIC Composite Loan Scheme	00	00	00	00	03	01	00	02	00	00	00	02	02	01	00	01	05	02	00	05
	National Innovation Fund for farmers & artisans	00	00	00	00	01	00	02	01	01	00	00	01	01	03	01	01	03	03	03	03
	Anti Dumping & Counterveiling Duty	00	00	00	00	01	01	00	02	00	00	00	02	02	01	00	01	03	02	00	05
	Pledging USD 1 b for IT sector	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
Back ended capital subsidy for SSI on selected sectors	00	00	00	00	00	03	00	02	00	01	00	01	02	02	00	02	02	06	00	05	
MAHARASHTRA	Excise exemption	00	00	00	00	01	04	01	00	00	00	00	00	05	02	00	00	06	06	01	00
	Large scale units with 50 % export obligation	00	00	00	00	03	01	01	01	00	00	00	00	02	01	00	02	05	03	01	03
	Units located in SEZ	00	00	00	00	03	00	01	03	00	00	00	01	05	00	00	01	08	00	01	05
	Units located in SEZ with 24 % foreign equity	00	00	00	00	01	02	00	03	00	00	00	01	01	00	00	03	02	02	00	07
	Composite loan limit	00	00	00	00	03	02	01	00	00	00	00	01	01	01	01	01	04	03	02	02
	Collateral security	00	00	00	00	01	03	00	01	00	00	00	01	01	02	00	01	02	05	00	03

	Credit Linked Capital Subsidy	00	00	00	00	04	02	00	00	00	00	0	01	01	02	00	01	05	04	00	02
	Credit Guarantee Scheme	00	00	00	00	03	02	00	01	00	00	00	01	01	01	01	01	04	03	01	03
	NSIC Composite Loan Scheme	00	00	00	00	02	01	00	02	00	00	00	01	01	00	00	03	03	01	00	06
	National Innovation Fund for farmers & artisans	00	00	00	00	03	00	00	02	00	00	00	01	01	00	00	03	04	00	00	06
	Anti Dumping & Countervailing Duty	00	00	00	00	03	00	01	02	00	00	00	01	02	00	00	03	05	00	01	06
	Pledging USD 1 b for IT sector	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
	Back ended capital subsidy for SSI on selected sectors	00	00	00	00	04	02	00	00	00	00	00	01	01	02	00	01	05	04	00	02
OTHERS	Excise exemption	01	00	00	00	00	01	00	00	00	00	00	00	00	00	00	00	01	01	00	00
	Large scale units with 50 % export obligation	00	00	01	00	00	00	00	01	00	00	00	00	00	00	00	00	00	00	01	01
	Units located in SEZ	00	01	00	00	00	00	00	01	00	00	00	00	00	00	00	00	00	01	00	01
	Units located in SEZ with 24 % foreign equity	00	01	00	00	00	00	00	01	00	00	00	00	00	00	00	00	00	01	00	01
	Composite loan limit	00	01	00	00	00	00	01	00	00	00	00	00	00	00	00	00	00	01	01	00
	Collateral security	00	00	00	01	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	01
	Credit Linked Capital Subsidy	00	00	01	01	00	00	00	01	00	00	00	00	00	00	00	00	00	00	01	01
	Credit Guarantee Scheme	00	01	00	00	00	01	00	00	00	00	00	00	00	00	00	00	00	02	00	00
	NSIC Composite Loan Scheme	00	00	00	00	00	00	00	01	00	00	00	00	00	00	00	00	00	00	00	01
	National Innovation Fund for farmers & artisans	00	00	00	01	00	00	00	01	00	00	00	00	00	00	00	00	00	00	00	02
	Anti Dumping & Countervailing Duty	00	00	00	00	00	00	00	01	00	00	00	00	00	00	00	00	00	00	00	01
	Pledging USD	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

	1 b for IT sector																					
	Back ended capital subsidy for SSI on selected sectors	00	00	01	01	00	00	00	01	00	00	00	00	00	00	00	00	00	00	01	01	
TOTAL	Excise exemption	01	00	00	00	02	09	01	01	02	00	00	00	09	06	00	00	14	15	01	01	
	Large scale units with 50 % export obligation	00	00	01	00	05	03	02	03	01	01	00	00	05	03	01	04	11	08	04	07	
	Units located in SEZ	00	01	00	00	04	01	02	07	00	01	00	02	06	01	04	02	10	04	06	11	
	Units located in SEZ with 24 % foreign equity	00	01	00	00	03	02	01	06	01	00	00	02	03	01	01	05	07	04	02	13	
	Composite loan limit	00	01	00	00	04	04	03	02	00	00	01	02	01	05	03	01	04	10	07	05	
	Collateral security	00	00	00	01	02	05	00	02	00	01	00	02	02	04	01	02	04	10	01	67	
	Credit Linked Capital Subsidy	00	00	01	00	04	05	00	03	00	01	00	02	03	04	00	03	07	10	01	08	
	Credit Guarantee Scheme	00	01	00	00	04	06	01	02	00	02	00	01	02	04	03	01	06	13	04	04	
	NSIC Composite Loan Scheme	00	00	00	00	05	02	00	05	00	00	00	03	03	01	00	04	08	03	00	12	
	National Innovation Fund for farmers & artisans	00	00	00	01	04	00	02	04	01	00	00	02	02	03	01	04	07	03	03	11	
	Anti Dumping & Counterveiling Duty	00	00	00	01	04	01	01	05	00	00	00	03	04	01	00	04	08	02	01	12	
	Pledging USD 1 b for IT sector	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
	Back ended capital subsidy for SSI on selected sectors	00	00	01	01	04	05	00	03	00	01	00	01	03	04	00	03	07	10	01	08	

Table A2.71 - Adequacy of Government Policies

(1 : Adequate, 2 : Should be raised, 3 : Should be lowered & 4 : Can not comment)

		INTRODUCTION					GROWTH					MATURITY					DECLINE					TOTAL									
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5					
MADHYA PRADESH	Power Supply	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	6	0	0	0	5	0
	Roads	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	0	0	0	5	0	0	0	1	1

	Link Roads to the Industrial Units / Clusters	00	05	05	05
	Telephone	00	03	03	03
	Warehouse	00	04	04	04
	Space for expansion	00	04	05	03
	Water supply	00	05	05	04
	Effluent Treatment	00	05	05	05
	Railways	00	05	05	04
MAHARASHTRA	Power Supply	00	05	04	05
	Roads	00	03	03	05
	Link Roads to the Industrial Units / Clusters	00	05	03	05
	Telephone	00	03	03	03
	Warehouse	00	04	03	04
	Space for expansion	00	04	05	04
	Water supply	00	04	05	04
	Effluent Treatment	00	04	04	05
	Railways	00	05	00	05
OTHERS	Power Supply	05	05	00	00
	Roads	03	05	00	00
	Link Roads to the Industrial Units / Clusters	02	05	00	00
	Telephone	04	04	00	00
	Warehouse	04	04	00	00
	Space for expansion	05	05	00	00
	Water supply	05	05	00	00
	Effluent Treatment	04	05	00	00
	Railways	04	00	00	00

Table A2.73 - Major Infrastructure Gaps – The Top Rank

		INTRODUCTION	GROWTH	MATURITY	DE LINE
MADHYA PRADESH	Cost of technology from outside	00	00	00	00
	Year of transfer	00	00	00	00
	Name of the in- house technology developed	00	00	00	Data not given - 1
	Cost of development	00	00	00	00
	Year of development	00	00	00	00
MAHARASHTRA	Cost of technology from outside	00	00	00	4.00,000 (1 Company)
	Year of transfer	00	00	00	Data not given - 1
	Name of the in- house technology developed	00	2.00,000 5.00,000 (1 Company each)	00	1.00,000 (1 Company)
	Cost of development	00	00	00	00
	Year of development	00	00	00	00
OTHERS	Cost of technology from outside	00	00	00	00
	Year of transfer	00	00	00	00
	Name of the in- house	00	00	00	00

	technology developed				
	Cost of development	00	00	00	00
	Year of development	00	00	00	00

Table A2.74 - Technology Management

		INTRODUCTION	GROWTH	MATURITY	DE LINE
MADHYA PRADESH	With Indian Companies	00	00	00	00
	With foreign companies	00	00	00	00
MAHARASHTRA	With Indian Companies	00	00	00	00
	With foreign companies	00	02	00	01
OTHERS	With Indian Companies	00	00	00	00
	With foreign companies	00	00	00	00
TOTAL	With Indian Companies	00	00	00	00
	With foreign companies	00	02	00	01

Table A2.75 - Collaboration for Technology Transfer

		INTRODUCTION	GROWTH	MATURITY	DE LINE
MADHYA PRADESH	Cost of Technology -				
	Very High	00	03	01	05
	High	00	02	01	01
	Reasonable	00	00	00	00
	SIDBI Scheme -				
	Yes	00	00	00	00
MAHARASHTRA	Cost of Technology -				
	Very High	00	04	01	02
	High	00	02	01	03
	Reasonable	00	02	00	01
	SIDBI Scheme -				
	Yes	00	01	00	00
OTHERS	Cost of Technology -				
	Very High	01	01	00	00
	High	00	00	00	00
	Reasonable	00	00	00	00
	SIDBI Scheme -				
	Yes	01	00	00	00
TOTAL	Cost of Technology -				
	Very High	01	08	02	07
	High	00	04	02	04
	Reasonable	00	02	00	01
	SIDBI Scheme -				
	Yes	01	01	00	00

Table A2.76 - Finance for Technology Collaboration / Transfer

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Innovative product development	00	00	00	00	00
	Product Development – Reverse Engineering	00	01	00	00	01

	Improvement in existing products	00	00	00	03	03
	Innovative manufacturing process development	00	00	00	00	00
	Improvement in existing manufacturing processes	00	01	00	02	03
MAHARAS HTRA	Innovative product development	00	03	00	02	05
	Product Development – Reverse Engineering	00	01	00	01	02
	Improvement in existing products	00	02	00	02	04
	Innovative manufacturing process development	00	00	00	02	02
	Improvement in existing manufacturing processes	00	00	00	01	01
OTHERS	Innovative product development	00	00	00	00	00
	Product Development – Reverse Engineering	00	00	00	00	00
	Improvement in existing products	01	00	00	00	01
	Innovative manufacturing process development	01	00	00	00	01
	Improvement in existing manufacturing processes	00	00	00	00	00
TOTAL	Innovative product development	00	03	00	02	05
	Product Development – Reverse Engineering	00	02	00	01	03
	Improvement in existing products	01	02	00	05	08
	Innovative manufacturing process development	01	00	00	02	03
	Improvement in existing manufacturing processes	00	01	00	03	04

Table A2.77 - Scope of R & D in the light of WTO Agreement

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Self initiated quality improvement	00	00	00	00	00
	Self initiated cost reduction	00	00	00	02	02
	Self initiated product simplification or value engineering	00	01	00	02	03
	Facilitation in product repair or servicing	00	00	00	00	00
	Reduction in manufacturing cycle time	00	00	00	02	02
	Quality improvement : additional need of customer	00	00	00	00	00
	Cost reduction : existing customer	00	01	00	01	02
	Product simplification : customer	00	00	00	00	00
	New market segment	00	00	00	00	00
	Product benchmarking	00	01	00	00	01
	Process benchmarking	00	00	00	00	00
MAHARAS	Self initiated quality improvement	00	02	00	02	04

HTRA	Self initiated cost reduction	00	02	00	02	04
	Self initiated product simplification or value engineering	00	00	00	01	01
	Facilitation in product repair or servicing	00	00	00	01	01
	Reduction in manufacturing cycle time	00	01	00	02	03
	Quality improvement : additional need of customer	00	01	00	02	03
	Cost reduction : existing customer	00	00	00	01	01
	Product simplification : customer	00	01	00	01	02
	New market segment	00	01	00	02	03
	Product benchmarking	00	01	00	02	03
	Process benchmarking	00	01	00	02	03
OTHERS	Self initiated quality improvement	01	00	00	00	01
	Self initiated cost reduction	01	00	00	00	01
	Self initiated product simplification or value engineering	00	00	00	00	00
	Facilitation in product repair or servicing	00	00	00	00	00
	Reduction in manufacturing cycle time	01	00	00	00	01
	Quality improvement : additional need of customer	00	00	00	00	00
	Cost reduction : existing customer	00	00	00	00	00
	Product simplification : customer	00	00	00	00	00
	New market segment	00	00	00	00	00
	Product benchmarking	00	00	00	00	00
Process benchmarking	00	00	00	00	00	
TOTAL	Self initiated quality improvement	01	02	00	02	05
	Self initiated cost reduction	01	02	00	04	08
	Self initiated product simplification or value engineering	00	01	00	03	04
	Facilitation in product repair or servicing	00	00	00	01	01
	Reduction in manufacturing cycle time	01	01	00	04	06
	Quality improvement : additional need of customer	00	01	00	02	03
	Cost reduction : existing customer	00	01	00	02	03
	Product simplification : customer	00	01	00	01	02
	New market segment	00	01	00	02	03
	Product benchmarking	00	02	00	02	04
Process benchmarking	00	01	00	02	03	

Table A2.78 - Reason for innovation or improvement

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Engineering or Technical Colleges	00	00	00	00	00
	CSIR	00	00	00	00	00
	Independent Consultants	00	01	00	00	01

	Others	00	00	00	00	00
MAHARAS HTRA	Engineering or Technical Colleges	00	01	00	02	03
	CSIR	00	00	00	01	01
	Independent Consultants	00	00	00	01	01
	Others	00	00	00	01	01
OTHERS	Engineering or Technical Colleges	00	00	00	00	00
	CSIR	00	00	00	00	00
	Independent Consultants	00	00	00	00	00
	Others	00	00	00	01	01
TOTAL	Engineering or Technical Colleges	00	01	00	02	03
	CSIR	00	00	00	01	01
	Independent Consultants	00	01	00	02	02
	Others	00	00	00	01	01

Table A2.79 - Support from outside agencies for R & D

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Through consultants	00	01	00	01	02
	Through membership of associations	00	01	00	01	02
	Through participation in trade mission to abroad	00	00	00	00	00
	Through seminar or conferences in abroad	00	00	00	00	00
MAHARAS HTRA	Through consultants	00	02	00	02	04
	Through membership of associations	00	03	00	01	04
	Through participation in trade mission to abroad	00	01	00	01	02
	Through seminar or conferences in abroad	00	02	00	01	03
OTHERS	Through consultants	00	00	00	00	00
	Through membership of associations	00	00	00	00	00
	Through participation in trade mission to abroad	00	00	00	00	00
	Through seminar or conferences in abroad	00	00	00	00	00
TOTAL	Through consultants	00	03	00	03	06
	Through membership of associations	00	04	00	02	06
	Through participation in trade mission to abroad	00	01	00	01	02
	Through seminar or conferences in abroad	00	02	00	01	03

Table A2.80 - Mode of Technology Search

		INTRODUCTION	GROWTH	MATURIT Y	DE LINE	TOTAL
MADHYA PRADESH	Assistance in form of subsidy for inhouse R & D	00	01	01	03	05
	Assistance through enhancing tax relief	00	02	01	03	06
	Assistance through creation of common facility	00	01	00	02	03
	Through creation of incubation lab	00	02	00	02	04
MAHARAS HTRA	Assistance in form of subsidy for inhouse R & D	00	01	00	01	02

	Assistance through enhancing tax relief	00	02	00	03	05
	Assistance through creation of common facility	00	01	00	02	03
	Through creation of incubation lab	00	02	00	02	04
OTHERS	Assistance in form of subsidy for inhouse R & D	01	00	00	00	01
	Assistance through enhancing tax relief	01	00	00	00	01
	Assistance through creation of common facility	00	00	00	00	00
	Through creation of incubation lab	01	00	00	00	01
TOTAL	Assistance in form of subsidy for inhouse R & D	01	02	01	04	08
	Assistance through enhancing tax relief	01	02	01	03	07
	Assistance through creation of common facility	00	01	00	02	03
	Through creation of incubation lab	01	04	00	04	09

Table A2.81 - Expectations from the Government in Technology Management

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	Preparedness to face WTO challenges -					
	Fully prepared	00	00	00	00	00
	Partially prepared	00	00	00	00	00
	Not prepared so far	00	00	00	00	00
	Can not comment	00	00	00	00	00
	Patents in possession -					
	Product	00	00	00	00	00
Process	00	00	00	00	00	
MAHARAS HTRA	Preparedness to face WTO challenges -					
	Fully prepared	00	00	00	00	00
	Partially prepared	00	00	00	00	00
	Not prepared so far	00	00	00	00	00
	Can not comment	00	00	00	00	00
	Patents in possession -					
	Product	00	00	00	00	00
Process	00	00	00	00	00	
OTHERS	Preparedness to face WTO challenges -					
	Fully prepared	00	00	00	00	00
	Partially prepared	00	00	00	00	00
	Not prepared so far	00	00	00	00	00
	Can not comment	00	00	00	00	00
	Patents in possession -					
	Product	00	00	00	00	00
Process	00	00	00	00	00	
TOTAL	Preparedness to face WTO challenges -					
	Fully prepared	00	00	00	00	00
	Partially prepared	00	00	00	00	00
	Not prepared so far	00	00	00	00	00
	Can not comment	00	00	00	00	00

	Patents in possession -					
	Product	00	00	00	00	00
	Process	00	00	00	00	00

Table A2.82 - WTO & Patents

		INTRODUCTION	GROWTH	MATURITY	DE LINE	TOTAL
MADHYA PRADESH	CAD or similar technology in use	00	00	00	00	00
	Documentation or preservation of R & D effort	00	02	00	01	03
	Indexed system of knowledge preservation	00	00	00	01	01
MAHARASHTRA	CAD or similar technology in use	00	00	00	00	00
	Documentation or preservation of R & D effort	00	02	00	01	03
	Indexed system of knowledge preservation	00	02	00	00	02
OTHERS	CAD or similar technology in use	00	00	00	00	00
	Documentation or preservation of R & D effort	00	00	00	00	00
	Indexed system of knowledge preservation	00	00	00	00	00
TOTAL	CAD or similar technology in use	00	00	00	00	00
	Documentation or preservation of R & D effort	00	04	00	02	06
	Indexed system of knowledge preservation	00	02	00	01	05

Table A2.83 - R & D efforts and knowledge preservation

DATA ANALYSIS

Critical value of χ^2 at 2 d.f. is 7.82 and at 1 d.f. is 3.84 at 5% significance level. Critical value of z is 1.96 at 5% significance level.

Finance & Credit Management

ASPECTS ANALYSED	HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Initial Capital to establish the business	Initial capital was brought by the promoters' own sources of SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth, Maturity and Decline, are – 3.96, - 1.14 and 1.87, respectively.	Initial capital brought by the promoters' own sources by SSI is not significant at any phase of life cycle.	--
	Initial capital was brought by the promoters' own sources of SSI by SSI of Madhya Pradesh and Maharashtra.	$z = 0.78$	Initial capital brought by the promoters' own sources by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Initial capital was brought borrowed from the bank by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 42.86 % SSI borrowed initial capital from bank. The values of z for Growth and Decline are - 0.55 and – 1.87, respectively.	Initial capital borrowed from the bank by SSI is not significant at any phase of life cycle.	--
	Initial capital was brought borrowed from the bank by SSI of Madhya Pradesh and Maharashtra.	$z = 2.20$	Initial capital borrowed from the bank by SSI in Madhya Pradesh and Maharashtra varies significantly, more number of SSI from Madhya Pradesh borrows	--

			from banks than Maharashtra.	
Initial capital was brought borrowed from SIDBI by SSI at all phases of life cycle.	No SSI has borrowed capital from SIDBI.		--	--
Initial capital was brought borrowed from SIDBI by SSI of Madhya Pradesh and Maharashtra.	No SSI has borrowed capital from SIDBI.		--	--
Initial capital was brought borrowed from other FI by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth, Maturity and Decline are - 3.96, - 1.14 and - 7.35, respectively.		This system is in practice at Introduction phase. Initial capital borrowed from the other FI by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
Initial capital was brought borrowed from other FI by SSI of Madhya Pradesh and Maharashtra.	$z = 1.07$		Initial capital borrowed from the bank by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Initial capital was brought from private borrowings by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Maturity and Decline are 0 and - 3.59, respectively.		Initial capital brought from private borrowings by SSI is not significant at any phase of life cycle.	--
Initial capital was brought from private borrowings by SSI of Madhya Pradesh and Maharashtra.	$z = 0.49$		Initial capital brought from private borrowings by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Initial capital was brought from other sources by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth is - 6.12.		Initial capital brought from other sources by SSI is not significant at any phase of life cycle.	--

	Initial capital was brought from other sources by SSI of Madhya Pradesh and Maharashtra.	$z = 0.98$	Initial capital brought from other sources by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Source of Capital for expansion	Capital for expansion was arranged from internal savings by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 52.94 % of SSI have arranged capital from internal savings in Decline phase. The values of z for growth, maturity and decline are – 1.79, 1.14 and 0.25, respectively.	This system is in practice at Introduction phase. Capital brought for expansion from internal savings by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Capital for expansion was arranged from internal savings by SSI of Madhya Pradesh and Maharashtra.	$z = 2.44$	Capital brought from internal savings by SSI in Madhya Pradesh and Maharashtra varies significantly, the number of SSI of Maharashtra bringing capital for expansion from internal savings is more than Madhya Pradesh.	--
	Capital for expansion was borrowed from bank by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 50 and 52.94 % of SSI borrowed from bank of expansion in Growth and Decline phase, respectively. The values of z for growth, maturity and decline are 0, - 1.14 and 0.25, respectively.	Capital borrowed from bank for expansion by SSI is not significant at any phase of life cycle.	--
	Capital for expansion was borrowed from bank by SSI of Madhya Pradesh and Maharashtra.	$z = 2.08$	Capital borrowed from bank for expansion by SSI in Madhya Pradesh and Maharashtra varies significantly, the number of SSI	--

			of Madhya Pradesh borrowing capital for expansion from bank is more than Maharashtra.	
	Bill discounting is being availed by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 50 % of SSI are availing bill discounting facility in Growth phase. The values of z for growth and decline are 0 and - 4.78, respectively.	Availing bill discounting by SSI is not significant at any phase of life cycle.	No SSI has commented on loan for expansion from SIDBI, other FIs, private borrowing or any other sources.
	Bill discounting is being availed by SSI of Madhya Pradesh and Maharashtra.	$z = 1.18$	Availing bill discounting by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Comment on adequacy of credit	Adequate credit is available from banks to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 50, 50 and 47.06 % SSI feel that the credit available is adequate in Growth, Maturity and Decline phases, respectively. The values of z for growth, maturity and decline are 0, 0 and - 0.25, respectively.	This phenomenon is positive at Introduction phase. Adequacy of credit available from banks being felt by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Adequate credit is available from banks to SSI of Madhya Pradesh and Maharashtra.	$z = 2.42$	Adequacy of credit available from banks being felt by SSI in Madhya Pradesh and Maharashtra varies significantly, more number of SSI of Madhya Pradesh feel that the credit is adequate than Maharashtra.	--
	Adequate credit is available from SFC / FI to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied.	This phenomenon is positive at Introduction phase. Adequacy of credit	--

		The values of z for growth and decline are - 3.96 and - 3.59, respectively.	available from SFC / FI being felt by SSI is not significant at any phase of life cycle, except at Introduction phase.	
	Adequate credit is available from SFC / FI to SSI of Madhya Pradesh and Maharashtra.	z = 0.78	Adequacy of credit available from banks being felt by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Adequate credit is available for exports to SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for growth and decline are - 6.12 and - 3.59, respectively.	Adequacy of credit available for export finance being felt by SSI is not significant at any phase of life cycle.	--
	Adequate credit is available for exports to SSI of Madhya Pradesh and Maharashtra.	z = 0	Adequacy of credit available from banks being felt by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Comment on cost of credit	Cost of credit available from banks is satisfactory for SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. 50 % SSI in Growth and Maturity phases, both are satisfied with cost of capital from banks. The values of z for growth, maturity and decline are 0, 0 and - 2.65, respectively.	This phenomenon is positive at Introduction phase. Satisfaction on cost of credit available from banks being felt by SSI is not significant at any phase of life cycle, except at Introduction phase.	No SSI has commented on cost of credit of SFC, SIDBI or for export finance.
	Cost of capital available from banks is satisfactory for SSI of Madhya Pradesh and Maharashtra.	z = 1.73 52.94 % SSI from Madhya Pradesh are satisfied with cost of capital from banks.	Adequacy of credit available from banks being felt by SSI in Madhya Pradesh and Maharashtra varies significantly, more number of SSI of Madhya Pradesh feel that the credit is adequate than Maharashtra.	--

Comment timeliness of loan sanction	Loan is sanctioned by the banks within one month to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for growth is - 2.59.	Loan sanction within one month to SSI is not significant at any phase of life cycle.	--
	Loan is sanctioned by the banks within one month to SSI of Madhya Pradesh and Maharashtra.	$z = 1.76$	Loan sanction within one month to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Loan is sanctioned by the banks from one to three months to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 58.82 % SSI feels that loan is sanctioned by banks within one to three month. The values of z for growth, maturity and decline are - 1.10, 0 and 0.74, respectively.	This phenomenon is positive at Introduction phase. Loan sanction within one to three months to SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Loan is sanctioned by the banks from one to three months to SSI of Madhya Pradesh and Maharashtra.	$z = 2.42$	Loan sanction within one to three months to SSI in Madhya Pradesh and Maharashtra varies significantly; number of SSI of Madhya Pradesh is more than Maharashtra.	--
	Loan is sanctioned by the banks from three to six months to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth and decline are - 3.97 and - 4.78, respectively.	Loan sanction within three to six months to SSI is not significant at any phase of life cycle.	--
	Loan is sanctioned by the banks from three to six months to SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Loan sanction within three to six months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Loan is sanctioned by the	Due to low frequency of data χ^2		--

	banks in more than six months to SSI at all phases of life cycle.	- test can not be applied. The values of z for growth, maturity and decline are - 3.96, - 1.14 and - 4.78, respectively.	Loan sanction in more than six months to SSI is not significant at any phase of life cycle.	
	Loan is sanctioned by the banks in more than six months to SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Loan sanction in more than six months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Loan is sanctioned by the SFC / FI between one to three months to SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for growth and decline are - 3.97 and - 1.87, respectively.	This phenomenon is positive at Introduction phase. Loan sanction between one to three months to SSI is not significant at any phase of life cycle.	No SSI is sanctioned loan within one month by SFC / FI.
	Loan is sanctioned by the SFC / FI between one to three months to SSI of Madhya Pradesh and Maharashtra.	$z = 0.42$	Loan sanction between one to three months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Loan is sanctioned by the SFC / FI from three to six months to SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for growth, maturity and decline are - 6.12, - 1.14 and - 7.35, respectively.	Loan sanction between three to six months to SSI is not significant at any phase of life cycle.	--
	Loan is sanctioned by the SFC / FI from three to six months to SSI of Madhya Pradesh and Maharashtra.	$z = 0.59$	Loan sanction between three to six months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Loan is sanctioned by the SFC / FI in more than six months to SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for growth is - 3.96.	Loan sanction in more than six months to SSI is not significant at any phase of life cycle.	--

	Loan is sanctioned by the SFC / FI in more than six months to SSI of Madhya Pradesh and Maharashtra.	$z = 0.98$	Loan sanction in more than six months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Export finance is sanctioned from one to three months to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth and decline are – 6.12 and - 3.59, respectively.	This phenomenon is positive at Introduction phase. Loan sanction between one to three months to SSI is not significant at any phase of life cycle.	No SSI has reported to get export finance within one month.
	Export finance is sanctioned by from one to three months to SSI of Madhya Pradesh and Maharashtra.	$z = 1.26$	Loan sanction between one to three months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Export finance is sanctioned in more than six months to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for growth is – 6.12.	This phenomenon is positive at Introduction phase. Loan sanction between one to three months to SSI is not significant at any phase of life cycle.	No SSI has reported to get export finance between three to six months.
	Export finance is sanctioned in more than six months to SSI of Madhya Pradesh and Maharashtra.	$z = 0.59$	Loan sanction between one to three months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Comment timeliness of loan disbursement	Loan is disbursed by the SFC / FI within one month to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for decline is - 7.35.	This phenomenon is positive at Introduction phase. Loan disbursement within one month to SSI is not significant at any phase of life cycle, except in Introduction phase.	--
	Loan is disbursed by the SFC / FI within one month to SSI of Madhya Pradesh and Maharashtra.	$Z = 0.98$	Loan disbursement within one month to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Loan is disbursed by the	Due to low frequency of data χ^2		--

SFC / FI from one to three months to SSI at all phases of life cycle.	<p>– test can not be applied.</p> <p>The values of z for growth and decline are - 3.96 and – 2.64, respectively.</p>	Loan disbursement within one to three months to SSI is not significant at any phase of life cycle.	
Loan is disbursed by the SFC / FI from one to three months to SSI of Madhya Pradesh and Maharashtra.	Z = 0.90	Loan disbursement within one to three months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Loan is disbursed by the SFC / FI from three to six months to SSI at all phases of life cycle.	<p>Due to low frequency of data χ^2 – test can not be applied.</p> <p>The values of z for growth, maturity and decline are - 6.12, - 1.14 and – 4.78, respectively.</p>	Loan disbursement within three to six months to SSI is not significant at any phase of life cycle.	--
Loan is disbursed by the SFC / FI from three to six months to SSI of Madhya Pradesh and Maharashtra.	z = 0	Loan disbursement within three to six months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Loan is disbursed by the SFC / FI in more than six months to SSI at all phases of life cycle.	<p>Due to low frequency of data χ^2 – test can not be applied.</p> <p>The values of z for growth, maturity and decline are - 6.12, - 1.14 and – 4.78, respectively.</p>	Loan disbursement within three to six months to SSI is not significant at any phase of life cycle.	--
Loan is disbursed by the SFC / FI in more than six months to SSI of Madhya Pradesh and Maharashtra.	z = 0	Loan disbursement within three to six months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Export finance is disbursed within one month to SSI at all phases of life cycle.	<p>Due to low frequency of data χ^2 – test can not be applied.</p> <p>The values of z for growth and decline are - 6.12 and – 7.35,</p>	Export finance disbursement within one month to SSI is not significant at any phase of life	--

		respectively.	cycle.	
	Export finance is disbursed within one month to SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Export finance disbursement within one month to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Export finance is disbursed from one to three months to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for decline is – 4.78.	Loan disbursement from one to three months to SSI is not significant at any phase of life cycle.	--
	Export finance is disbursed by from one to three months to SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Loan disbursement from one to three months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Export finance is disbursed in more than six months to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth is - 6.12.	Loan disbursement in more than six months to SSI is not significant at any phase of life cycle.	No SSI report to have received export finance between three to six months.
	Export finance is disbursed in more than six months to SSI of Madhya Pradesh and Maharashtra.	$z = 0.98$	Loan disbursement in more than six months to SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Satisfactory performance of SIDBI	Satisfactory performance of single window scheme is felt by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth and decline are is - 2.59 and – 7.35, respectively.	Satisfactory performance of single window scheme felt by SSI is not significant at any phase of life cycle.	--
	Satisfactory performance of single window scheme is felt by SSI of Madhya Pradesh and	$z = 0$	Satisfaction on performance of single window scheme felt by SSI in Madhya Pradesh and Maharashtra	--

	Maharashtra.		does not vary significantly.	
	Requirement of collateral is a constraint felt by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth, maturity and decline are - 1.78, - 1.14 and – 7.35, respectively.	Requirement of collateral as a constraint felt by SSI is not significant at any phase of life cycle.	--
	Requirement of collateral is a constraint felt by SSI of Madhya Pradesh and Maharashtra.	$z = 0.90$	Requirement of collateral as a constraint felt by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Awareness about collateral free loan is present in SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth is - 3.96.	Awareness about collateral free loan present in SSI is not significant at any phase of life cycle.	--
	Awareness about collateral free loan is present in SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Awareness about collateral free loan present in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Major reasons for inadequate or delayed loan assistance	Requirement of collateral is the reason for inadequate or delayed loan assistance to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth and decline phases are - 3.96 and – 4.78, respectively.	Requirement of collateral is the reason for inadequate or delayed loan assistance in SSI is not significant at any phase of life cycle.	--
	Requirement of collateral is the reason for inadequate or delayed loan assistance to SSI of Madhya Pradesh and Maharashtra.	$z = 1.06$	Requirement of collateral is the reason for inadequate or delayed loan assistance in SSI in Madhya Pradesh and Maharashtra does not vary	--

			significantly.	
	Reluctance to provide loans to the SSI is the reason for inadequate or delayed loan assistance to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth and decline phases are - 3.96 and - 7.53, respectively.	Reluctance to provide loans to the SSI is the reason for inadequate or delayed loan assistance in SSI is not significant at any phase of life cycle.	--
	Reluctance to provide loans to the SSI is the reason for inadequate or delayed loan assistance to SSI of Madhya Pradesh and Maharashtra.	$z = 1.76$	Reluctance to provide loans to the SSI is the reason for inadequate or delayed loan assistance in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Red tapism or corruption is the reason for inadequate or delayed loan assistance to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth, maturity and decline phases are - 2.59, - 1.14 and - 2.65, respectively.	Red tapism or corruption is the reason for inadequate or delayed loan assistance in SSI is not significant at any phase of life cycle.	--
	Red tapism or corruption is the reason for inadequate or delayed loan assistance to SSI of Madhya Pradesh and Maharashtra.	$z = 1.26$	Red tapism or corruption is the reason for inadequate or delayed loan assistance in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Incomplete papers by the borrowers is the reason for inadequate or delayed loan assistance to SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for growth is - 0.12.	Incomplete papers by the borrowers is the reason for inadequate or delayed loan assistance in SSI is not significant at any phase of life cycle.	--

	Incomplete papers by the borrowers is the reason for inadequate or delayed loan assistance to SSI of Madhya Pradesh and Maharashtra.	$z = 1.26$	Incomplete papers by the borrowers is the reason for inadequate or delayed loan assistance in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Comment on credit rating system	Credit rating is agreed by the SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 50 % SSI are in favour of a Credit Rating system in Growth phase. The values of z for maturity and decline are - 1.14 and - 1.87, respectively.	Agreement on a credit rating system agreed by SSI is not significant at any phase of life cycle.	--
	Credit rating is agreed by SSI of Madhya Pradesh and Maharashtra.	$z = 0.74$ 41.18 % SSI of Madhya Pradesh is in favour of a credit rating system.	Agreement on a credit rating system agreed by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Comment on extent of delay in receiving payments from customers	Payment is received with a delay of 15 days by the SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth and maturity are - 6.12 and - 1.14, respectively.	Payment received with a delay of 15 days by SSI is not significant at any phase of life cycle.	--
	Payment is received with a delay of 15 days by SSI of Madhya Pradesh and Maharashtra.	$z = 1.47$	Payment received with a delay of 15 days by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Payment is received with a delay of 15 to 30 days by the SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for maturity is - 4.78.	This phenomenon is reported at Introduction phase. Payment received with a delay of 15 to 30 days by SSI is not significant at any phase of life cycle, except at Introduction phase.	--

	Payment is received with a delay of 15 to 30 days by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Payment received with a delay of 15 to 30 days by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Payment is received with a delay of 30 to 45 days by the SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth, maturity and decline phases are – 3.96, - 1.14 and – 1.87, respectively.	Payment received with a delay of 30 to 45 days by SSI is not significant at any phase of life cycle.	--
	Payment is received with a delay of 30 to 45 days by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Payment received with a delay of 30 to 45 days by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Payment is received with a delay of 45 to 90 days by the SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for growth and decline phases are – 2.59 and – 1.87, respectively.	Payment received with a delay of 45 to 90 days by SSI is not significant at any phase of life cycle.	--
	Payment is received with a delay of 45 to 90 days by SSI of Madhya Pradesh and Maharashtra.	$z = 0.78$	Payment received with a delay of 45 to 90 days by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Payment is received with a delay of more than 90 days by the SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 57.14 % SSI in Growth phase receive payment with a delay of more than 90 days. The values of z for growth, maturity and decline phases are 0.60, – 1.14 and – 2.65, respectively.	Payment received with a delay of beyond 90 days by SSI is not significant at any phase of life cycle.	--

	Payment is received with a delay of more than 90 days by SSI of Madhya Pradesh and Maharashtra.	z = 0.74 41.18 % SSI in Maharashtra receive payment with a delayed of more than 90 days.	Payment received with a delay of beyond 90 days by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Comment on impact of SSI and Ancillary Undertaking Act, 1993	Payment release by the customers has improved due to the Act is felt by the SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for decline phase is – 7.35.	This phenomenon is reported at Introduction phase. Payment release by the customers has improved due to the Act felt by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Payment release by the customers has improved due to the Act is felt by the SSI of Madhya Pradesh and Maharashtra.	z = 0.98	Payment release by the customers has improved due to the Act felt by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Payment release by the customers has not improved due to the Act is felt by the SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 71.43 and 58.82 % of SSI in Growth and Decline phases feel that payment receivables from customers did not improve after enactment of the Act. The value of z for growth and decline phases are 1.78 and 0.74, respectively.	This phenomenon is reported at Introduction phase. Payment release by the customers has not improved due to the Act felt by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Payment release by the customers has not improved due to the Act is felt by the SSI of Madhya Pradesh and Maharashtra.	z = 0.69 52.94 and 64.71 % SSI in Madhya Pradesh and Maharashtra feel that payment receivable did not improve after enactment of the Act.	Payment release by the customers has not improved due to the Act felt by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The SSI at all phases of life cycle are not	Due to low frequency of data χ^2 – test can not be	Unawareness on the Act by SSI is not significant at any	--

	aware about the Act.	applied. 50 % SSI in Maturity phase are not aware about the Act. The value of z for growth and decline phases are - 1.79 and - 4.78, respectively.	phase of life cycle, except in Introduction phase.	
	The SSI of Madhya Pradesh and Maharashtra are not aware about the Act.	$z = 1.26$	Unawareness on the Act by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Problems in getting credit – - Collateral Security - Attitude of FI - Attitude of banks - Government policies - Interest Rates - Repayment Terms	The SSI at all phases of life cycle face problem in getting credit due to Collateral Security.	The value of z for Growth, Maturity and Decline phases are - 0.55, - 3.59 and 2.65, respectively.	This phenomenon is reported at Introduction phase. The problem in getting credit due to Collateral Security is significant at Introduction and Decline phase.	--
	The SSI of Madhya Pradesh and Maharashtra face problem in getting credit due to Collateral Security.	$z = 0$	The problem in getting credit due to Collateral Security by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The SSI at all phases of life cycle face problem in getting credit due to attitude of FI.	The value of z for Growth and Decline phases are - 1.10 and 0.74, respectively.	This phenomenon is reported at Introduction phase. The problem in getting credit due to attitude of FI is not significant at any phase of life cycle.	--
	The SSI of Madhya Pradesh and Maharashtra face problem in getting credit due to attitude of FI.	$z = 0.35$	The problem in getting credit due to attitude of FI by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The SSI at all phases of life cycle face problem in getting credit due to attitude of banks.	The value of z for Growth and Decline phases are - 1.78, - 3.59 and 0.74, respectively.	The problem in getting credit due to attitude of banks is not significant at any phase of life cycle.	--

	The SSI of Madhya Pradesh and Maharashtra face problem in getting credit due to attitude of banks.	$z = 0.74$	The problem in getting credit due to attitude of banks by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The SSI at all phases of life cycle face problem in getting credit due to government policy.	The value of z for Growth and Decline phases are - 6.12, - 3.59 and 1.22, respectively.	This phenomenon is reported at Introduction phase. The problem in getting credit due to government policy is not significant at any phase of life cycle, except at Introduction phase.	--
	The SSI of Madhya Pradesh and Maharashtra face problem in getting credit due to government policy.	$z = 1.04$	The problem in getting credit due to government policy towards SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The SSI at all phases of life cycle face problem in getting credit due to interest rates.	The value of z for Growth and Decline phases are - 6.12, - 3.59 and 1.22, respectively.	The problem in getting credit due to interest rates is not significant at any phase of life cycle.	--
	The SSI of Madhya Pradesh and Maharashtra face problem in getting credit due to interest rates.	$z = 0.35$	The problem in getting credit due to interest rates towards SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The SSI at all phases of life cycle face problem in getting credit due to repayment terms.	The value of z for Growth and Decline phases are - 1.78, - 1.14 and - 0.25, respectively.	The problem in getting credit due to repayment terms is not significant at any phase of life cycle.	--
	The SSI of Madhya Pradesh and Maharashtra face problem in getting credit due to repayment terms.	$z = 0.35$	The problem in getting credit due to repayment terms for SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--

Financial Control

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED	INFERENCE	REMARKS ON INFERENCE
Budgeting system in practice	Budgeting system is in practice by SSI at all stages of business life cycle do not vary from the mean performance.	For Growth : $\chi^2 = 0.88$ For Maturity : $\chi^2 = 1.0$ For Decline : $\chi^2 = .026$ 57.14 and 52.94 % SSI practice budgeting in Growth and Decline phases, respectively. The values of z are 0.55, 0.74 and 0.25 for Growth, Maturity and Decline, respectively.	Budgeting system is in practice by one SSI at the Introduction phase. Budgeting system in practice by SSI at the Growth, Maturity and Decline phases do not vary significantly from the mean performance. Budgeting system in practice at SSI is not significant at any phase of life cycle.	--
	Budgeting system in practice by SSI of Madhya Pradesh and Maharashtra do not vary significantly.	$z = 0.07$ 47.06 and 58.82 % SSI in Madhya Pradesh and Maharashtra, respectively practice budgeting system.	Budgeting system is in practice by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Product Costing	Product costing is being carried out by SSI at all stages of business life cycle do not vary from the mean performance.	For Growth : $\chi^2 = 1.18$ For Maturity : $\chi^2 = 0$ For Decline : $\chi^2 = 0.06$ 50 % SSI in Maturity phase practice product costing. The values of z are 2.60, 0 and 11.03 for Growth, Maturity and Decline phases, respectively.	Product costing system in practice by SSI at the Growth, Maturity and Decline phases do not vary significantly from the mean performance. Product costing system in practice is significant at Introduction, Growth and Decline phases.	--
	Product costing is being carried out by SSI of Madhya	$z = 1.29$ 70.59 and 58.82 %	Product costing system is in practice by SSI in Madhya	--

	Pradesh and Maharashtra do not vary significantly.	SSI practice product costing system in Madhya Pradesh and Maharashtra, respectively.	Pradesh and Maharashtra does not vary significantly.	
	Frequency of product costing is carried out in a planned manner by SSI at all stages of business life cycle.	For Growth : $\chi^2 = 0.56$ For Decline : $\chi^2 = 0.14$ The values of z are 0 and 3.59 for Growth and Decline phases, respectively.	Monthly product costing system in practice by SSI at the Growth and Decline phases do not vary significantly from the mean performance. This is not in practice at Maturity phase. Product costing carried out on monthly basis is significant at Introduction and Decline phases.	--
	Frequency of product costing is carried out in a planned manner by SSI of Madhya Pradesh and Maharashtra.	$z = 0.35$ 41.17 % SSI in Madhya Pradesh practice product costing on monthly basis.	Monthly product costing system in practice by SSI in Madhya Pradesh and Maharashtra does not significantly.	--
Process Costing	Process costing is being carried out by SSI at all stages of business life cycle.	For Growth : $\chi^2 = 0.74$ For Maturity : $\chi^2 = 0.50$ For Decline : $\chi^2 = 0.04$ 64.29 and 70.59 % SSI practice process costing in Growth and Decline phases, respectively. The values of z are 1.10, 0.74 and 1.87 for Growth, Maturity and Decline phases, respectively.	Process costing system in practice by SSI at the Growth, Maturity and Decline phases do not vary significantly from the mean performance. The process costing is not significant in SSI at any phase of life cycle.	--
	Process costing is being carried out by SSI of Madhya Pradesh and Maharashtra.	$z = 0.72$ 58.82 and 70.59 % SSI in Madhya Pradesh and Maharashtra practice product costing, respectively.	Process costing system in practice by SSI in Madhya Pradesh and Maharashtra vary significantly.	--

	<p>Process costing is being carried out in a planned manner by SSI at all stages of business life cycle.</p>	<p>For Growth : $\chi^2 = 1.18$</p> <p>For Maturity : $\chi^2 = 0$</p> <p>For Decline : $\chi^2 = 0.01$</p> <p>58.82 % SSI practice process costing in regular interval as per pre – determined frequency at Decline phase.</p> <p>The values of z are 1.10 and 0.74 for Growth and Decline, respectively.</p>	<p>Planned process costing system in practice by SSI at the Growth and Decline phases do not vary significantly from the mean performance. This system is not under practice at Maturity phase.</p> <p>Process costing in a planned manner is not significant at any phase of life cycle.</p>	--
	<p>Process costing is being carried out in a planned manner by SSI of Madhya Pradesh and Maharashtra do not vary significantly.</p>	<p>$z = 0.35$</p> <p>41.18 and 47.06 % SSI practice process costing at regular interval as per pre – determined frequency in Madhya Pradesh and Maharashtra, respectively.</p>	<p>Planned process costing system in practice by SSI in Madhya Pradesh and Maharashtra vary significantly.</p>	--
Human Resource Costing	<p>Human Resource costing is being carried out by SSI at all stages of business life cycle.</p>	<p>As the frequency is very low χ^2 - test can not be performed.</p> <p>The values of z are - 3.97, 0.74 and - 7.35 for Growth, Maturity and Decline, respectively.</p>	<p>The Human Resource costing is not significant at any phase of life cycle.</p>	--
	<p>Human Resource costing is being carried out by SSI of Madhya Pradesh and Maharashtra.</p>	<p>$z = 0$</p>	<p>Human Resource Costing system in practice by SSI in Madhya Pradesh and Maharashtra do not vary significantly.</p>	--
Quality Costing	<p>Quality costing is being carried out by SSI at all stages of business life cycle.</p>	<p>As the frequency is very low χ^2 - test can not be performed.</p> <p>The values of z are 2.60, 0.74 and 1.23 for Growth, Maturity and Decline,</p>	<p>The quality costing is not significant at any phase of life cycle.</p>	--

		respectively.		
	Quality costing is being carried out by SSI of Madhya Pradesh and Maharashtra.	$z = 1.89$	Quality Costing system in practice by SSI in Madhya Pradesh and Maharashtra vary significantly.	--

People Management

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Independent Person to look after welfare & training	Independent person looks after the welfare and training in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 0.39$ For Maturity : $\chi^2 = 0$ For Decline : $\chi^2 = 1.92$ The values of z are - 1.09 and - 4.78 for Growth and Maturity, respectively.	Independent person does not look after the welfare and training system in SSI at the Introduction phase. The system of an independent person looking after the welfare and training is in practice by SSI at the Growth, Maturity and Decline phases do not vary significantly from the mean performance. The system of independent person looking after welfare and training is not in practice significantly at any phase of life cycle.	--
	Independent person looks after the welfare and training in SSI of Madhya Pradesh and Maharashtra.	$z = 0.42$	The system of an independent person looking after the welfare and training is in practice by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Training Budget	Provision of a training budget is made in SSI at all	Provision of training budget is made by 2 and 1 SSI in Growth		--

	stages of business life cycle.	and Decline phases, respectively. The values of z are - 3.97 and - 7.35, respectively.	Keeping provision of training budget is not significant in SSI at any phase of life cycle.	
	Provision of a training budget is made in SSI of Madhya Pradesh and Maharashtra.	The data does not indicate any attempt creating a provision for a separate training budget.	There is no practice of creating a separate training budget by SSI of Madhya Pradesh and Maharashtra.	--
Employment - Time Rated, Piece Rated, Contractual, Casual, or Badli	The nature of employment – other than permanent employment is similar in SSI at all stages of business life cycle.	Due to low frequencies χ^2 – test can not be applied. The values of z are 0, 0.74 and 0.68 for Growth, Maturity and Decline, respectively.	The nature of employment does not indicate significance for any phase of life cycle.	--
	The nature of employment – other than permanent employment is similar in SSI of Madhya Pradesh and Maharashtra.	$z = 2.94$	The nature of employment in Madhya Pradesh and Maharashtra vary significantly. Maharashtra employs more number of employees.	--
Strategic Training Plan	There is a system of making a strategic training plan in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 5.71$ For Maturity : $\chi^2 = 0$ For Decline : $\chi^2 = 1.19$ The values of z are 0.55 and - 4.79 for Growth and Decline, respectively.	Strategic training planning system in SSI is not in practice at the Introduction phase. The system of strategic training planning is in practice by SSI at the Growth, Maturity and Decline phases do not vary significantly from the mean performance. The system of making strategic training plan is not significant in any phase of life cycle.	--
	There is a system	$z = 0$	The system of	--

	of making a strategic training plan in SSI of Madhya Pradesh and Maharashtra.		strategic training planning is in practice by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	
HR Forecasting	There is a system of HR forecasting in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 2.21$ For Maturity : $\chi^2 = 0$ For Decline : $\chi^2 = 1.19$ The values of z are 0.55, 0.74 and - 3.59 for Growth, Maturity and Decline, respectively.	HR Forecasting system in SSI is not in practice at the Introduction phase. The system of HR Forecasting is in practice by SSI at the Growth, Maturity and Decline phases do not vary significantly from the mean performance. The system of HR forecasting is not significant at any phase of life cycle.	--
	There is a system of HR forecasting in SSI of Madhya Pradesh and Maharashtra.	$z = 0.76$	The system of strategic training planning is in practice by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Basis of HR forecasting - Business Plan, Skill forecasting, Skill inventory	The basis of HR forecasting in SSI at all stages of business life cycle.	In 6, 1 and 3 SSI there is a system in practice for HR forecasting based on Business Plan, Skill forecasting or Skill inventory at Growth, Maturity and Decline phases, respectively. The values of z are 0.55, 0.74 and - 3.59 for Growth, Maturity and Decline phases, respectively.	The basis for HR forecasting is not significant at any phase of life cycle.	--
	The basis of HR forecasting in SSI of Madhya Pradesh and Maharashtra.	The data indicate that there no system in practice for HR forecasting based on	There is no practice of creating a data based HR forecasting by SSI	--

		Business Plan, Skill forecasting or Skill inventory.	of Madhya Pradesh and Maharashtra.	
Functions of Employment of contractual workmen - Unskilled labour, Skilled labour, Office Staff, Security, Canteen, Functional specialists	The contractual employees are deployed as skilled and unskilled labour in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 2.28$ For Maturity : $\chi^2 = 7.3$ For Decline : $\chi^2 = 0.24$ 62.29 75 and 47.06 % contractual employments are in the form of skilled and unskilled labours in SSI in Growth, Maturity and Decline phases, respectively. The value of z are - 9.23, - 5.36 and - 1.47 for Growth, Maturity and Decline, respectively.	The contractual employees are deployed as skilled and unskilled labour by SSI at the Growth, Maturity and Decline phases, this does not vary significantly from the mean performance. The deployment of contractual employees is not significant at any phase of life cycle.	--
	The contractual employees are deployed as unskilled and semi-skilled labour in SSI of Madhya Pradesh and Maharashtra.	$z = 0.35$	The system of strategic training planning is in practice by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Reason for employment - Seasonal production demand, export, sporadic demand	The reason for deploying contractual employees for meeting peak or seasonal production demand is similar in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 1.61$ For Maturity : $\chi^2 = 4.26$ For Decline : $\chi^2 = 0.77$ All SSI at Maturity phase employ because of one or more reasons.	The reason for deployment of contractual employees in SSI is not reported in the data for Introduction phase. The reason for deploying contractual employees for meeting peak or seasonal production demand by SSI at the Growth, Maturity and Decline phases, this does not vary significantly from the mean	--

		The values of z are 1.79 and - 2.65 for Growth and Decline, respectively.	performance. The reasons of deployment are significant at Maturity phase. At the other phases the reason is not significant.	
	The reason for deploying contractual employees for meeting peak or seasonal production demand is similar in SSI of Madhya Pradesh and Maharashtra.	z = 1.10	The reason for deploying contractual employees for meeting peak or seasonal production demand is by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Training of contractual employees - on the job training, formal induction & skill training	The method of training of contractual employees is similar in SSI at all stages of business life cycle.	5 and 4 SSI provide on the job or formal training to the contractual employees at various phases of life cycle. The values of z are - 2.60, 1.14, 1.47 for Growth, Maturity and Decline, respectively.	Training method to SSI is not significant at any phase of life cycle.	--
	The method of training of contractual employees is similar in SSI of Madhya Pradesh and Maharashtra.	z = 1.98	The system of on the job training, formal induction training & skill training planning is in practice by SSI in Madhya Pradesh and Maharashtra vary significantly. The number of SSI in Madhya Pradesh providing such training is more than Maharashtra.	--
Cost Performance Data Sharing	The system of sharing cost related data among the employees is similar in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 2.63$ For Maturity : $\chi^2 = 0$ For Decline : $\chi^2 = 1.15$ 50 SSI in Growth	The system of sharing cost related data among the employees in SSI is reported at the Introduction phase. The system of sharing cost related data among the	--

		<p>phase share cost related data with employees.</p> <p>The values of z are 0 and 1.23 for Growth and Decline, respectively.</p>	<p>employees by the SSI at Growth. Maturity and Decline phases is in practice. this does not vary significantly from the mean performance.</p> <p>The system of sharing cost related data among the employees by the SSI is not significant at any phase of life cycle.</p>	
	<p>The system of sharing cost related data among the employees is similar in SSI of Madhya Pradesh and Maharashtra.</p>	<p>z = 1.47</p> <p>47.06 % SSI of Maharashtra share cost related data with employees.</p>	<p>The system of sharing cost related data among the employees in Madhya Pradesh and Maharashtra does not vary significantly.</p>	--
<p>Type of data being shared - product cost, process cost, profit & loss</p>	<p>The type of data being shared among the employees is similar in SSI at all stages of business life cycle.</p>	<p>The values of z for product cost are - 2.60 and - 2. 65 for Growth and Decline phases, respectively.</p> <p>The values of z for process cost are - 1.79 and - 2. 65 for Growth and Decline phases, respectively.</p> <p>The values of z for profit & loss are - 0.55 and - 7. 35 for Growth and Decline phases, respectively.</p>	<p>Data sharing on product cost, process cost and profit & loss are not significant at any phase of life cycle.</p>	--
	<p>The type of data being shared among the employees is similar in SSI of Madhya Pradesh and Maharashtra.</p>	<p>Product and process cost related data and other data related to profit and loss are shared by 3, 4 and 3 SSI at various phases of life cycle in Madhya Pradesh and 4, 4, 3 SSI share such data with the employing</p>		--
<p>Data based performance analysis</p>	<p>The system of data based performance analysis is similar</p>	<p>For Growth : $\chi^2 = 1.9$</p>	<p>The system of data based performance analysis is identical</p>	--

system in practice	in SSI at all stages of business life cycle.	For Maturity : $\chi^2 = 1.8$ For Decline : $\chi^2 = 1.0$ The values of z are - 1.10, 0 and - 3.59 for Growth, Maturity and Decline phases, respectively.	by the SSI at Growth, Maturity and Decline phases is in practice, this does not vary significantly from the mean performance. The system of data based performance analysis is not significant at any phase of life cycle.	
	The system of data based performance analysis is similar in SSI of Madhya Pradesh and Maharashtra.	$z = 3.9$	The system of data based performance analysis by the SSI in Madhya Pradesh and Maharashtra is significantly different. The number of SSI of Maharashtra is more than Madhya Pradesh.	--
Basis for Pay Rise - owners' discretion, data based performance of production, data based performance of production & quality, annual sales growth, others	Owner's discretion is the basis of pay rise in SSI at all stages of business life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z are - 1.10, 0.74 and - 1.87 for Growth, Maturity and Decline phases, respectively.	Owner's discretion as the basis for pay rise is identical by the SSI at Introduction, Growth, Maturity and Decline phases, this does not vary significantly from the mean performance. The system of owner's discretion in deciding the pay rise is not significant any phase of life cycle.	--
	Owner's discretion is the basis of pay rise in SSI of Madhya Pradesh and Maharashtra.	$z = 1.01$ In 41.18 % SSI pay rise is based on owner's discretion in Madhya Pradesh.	Owner's discretion as the basis for pay rise is identical in the SSI in Madhya Pradesh and Maharashtra.	--
Method of Performance Evaluation - annual performance appraisal, group performance	The methods of performance evaluation is similar in SSI at all stages of business life cycle.	Annual performance appraisal is being made by 3, 1 and 2 SSI, respectively in growth, maturity and decline phases. 50 % SSI in Maturity phase follow some	There is no systematic method to evaluate the performance of the employee, in general. The method of	--

appraisal, general organisational performance		method of performance evaluation. The values of z are - 2.60, 0.74 and - 4.78 for Growth, Maturity and Decline, respectively.	performance evaluation is not significant at any phase of life cycle.	
	The methods of performance evaluation is similar in SSI of Madhya Pradesh and Maharashtra.	Annual performance appraisal is being made by 3 and 2 SSI, respectively in Madhya Pradesh and Maharashtra. 41.18 % SSI in Maharashtra follow some method of performance evaluation.	Absence of a systematic method for performance appraisal is identical in the SSI in Madhya Pradesh and Maharashtra.	Performance appraisal is considered to be one of the major gaps in SSI irrespective of state.

Marketing Management

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Demand Forecasting	Demand forecasting is done without any scientific techniques and based on targets given by customers by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. 50 and 41.18 % SSI in Growth and Decline phase forecast demand based on projections given by the customer. The values of z for Growth and Decline are 0.	Demand forecasting is done without any scientific techniques and based on targets given by customers by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Demand forecasting is done without any scientific techniques and based on targets given by customers by SSI of Madhya Pradesh and Maharashtra.	z = 0.74	The system of demand forecasting done without any scientific techniques and based on targets given by customers sales incentive given by SSI in Madhya Pradesh and Maharashtra	--

			does not vary significantly.	
	Demand forecasting is done with the help of statistical techniques by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth and Decline are - 6.12 and - 7.35, respectively.	Demand forecasting done with the help of statistical techniques by SSI is not significant at any phase of life cycle.	
	Demand forecasting is done with the help of statistical techniques by SSI of Madhya Pradesh and Maharashtra.	$z = 1.47$	The system of demand forecasting done with the help of statistical techniques by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	
Benefits of Demand Forecasting	Budgeting & fund planning based on demand forecasting is done by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth and Decline are - 1.10 and - 3.59, respectively.	The system is in practice at Introduction phase. Budgeting & fund planning based on demand forecasting done by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Budgeting & fund planning based on demand forecasting is done by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Budgeting & fund planning based on demand forecasting done by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Material planning based on demand forecasting is done by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth and Decline are - 1.79 and - 2.64, respectively.	The system is in practice at Introduction phase. Material planning based on demand forecasting done by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Material planning based on demand forecasting is done by SSI of Madhya Pradesh and Maharashtra.	$z = 0.78$	Material planning based on demand forecasting done by SSI in Madhya Pradesh and Maharashtra does	--

			not vary significantly.	
	Manpower planning based on demand forecasting is done by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth and Decline are – 2.59 and – 3.59, respectively.	The system is in practice at Introduction phase. Manpower planning based on demand forecasting done by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Manpower planning based on demand forecasting is done by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Manpower planning based on demand forecasting done by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Production planning based on demand forecasting is done by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth and Decline are – 1.10 and – 3.59, respectively.	The system is in practice at Introduction phase. Production planning based on demand forecasting done by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Production planning based on demand forecasting is done by SSI of Madhya Pradesh and Maharashtra.	$z = 0.39$	Production planning based on demand forecasting done by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Frequency of Demand Forecast going wrong	Rarely or never demand forecast goes wrong in SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth, Maturity and Decline are - 3.97, - 1.14 and – 7.35, respectively.	Rarely or never demand forecast going wrong in SSI is not significant at any phase of life cycle.	--
	Rarely or never demand forecast goes wrong in SSI of Madhya Pradesh and Maharashtra.	$z = 0.78$	Rarely or never demand forecast going wrong in SSI in Madhya Pradesh and Maharashtra does not vary	--

		.	significantly.	
	Sometimes demand forecast goes wrong in SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 47.06 % SSI in Growth phase feel that sometimes demand forecasting goes wrong. The value of z for Growth and Decline are - 1.79 and – 0.25, respectively.	Sometimes demand forecast going wrong in SSI is not significant at any phase of life cycle.	
	Sometimes demand forecast goes wrong in SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Sometimes demand forecast going wrong in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	
	Very often or every time demand forecast goes wrong in SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth is - 6.12.	The system is in practice at Introduction phase: Very often or every time demand forecast going wrong in SSI is not significant at any phase of life cycle.	
	Very often or every time demand forecast goes wrong in SSI of Madhya Pradesh and Maharashtra.	$z = 0.98$	Very often or every time demand forecast going wrong in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	
Assessment of future demand growth	Assessment of future demand is done by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth, Maturity and Decline are - 1.79, - 1.14 and – 1.87, respectively.	Assessment of future demand is done by SSI is not significant at any phase of life cycle.	--
	Assessment of future demand is done by SSI of Madhya Pradesh and Maharashtra.	$z = 0.39$	Assessment of future demand is done by SSI in Madhya Pradesh and Maharashtra	--

			does not vary significantly.	
Data source for assessment of future demand growth	Assessment of future demand is done based on standard literature, surveys or similar sources by SSI at all phases of life cycle.	No data is reported.	Assessment of future demand is not done based on standard literature, surveys or similar sources by SSI.	--
	Assessment of future demand is done based on standard literature, surveys or similar sources by SSI of Madhya Pradesh and Maharashtra.	No data is reported.	Assessment of future demand is not done based on standard literature, surveys or similar sources by SSI.	--
Adequacy of resources for export	Existing resources are adequate to increase export by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are - 1.79 and - 7.35, respectively.	Adequacy of existing resources to increase export by SSI is not significant at any phase of life cycle.	--
	Existing resources are adequate to increase export by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Adequacy of existing resources to increase export by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Adequacy of existing resources to increase export can not be commented by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth, Maturity and Decline are - 1.10, - 1.14 and - 1.87, respectively.	Inability to comment on adequacy of existing resources to increase export by SSI is not significant at any phase of life cycle.	1, 1, 2 and 4 SSI at Introduction, Growth, Maturity and Decline phases, respectively have not answered this question.
	Adequacy of existing resources to increase export can not be commented by SSI of Madhya Pradesh and Maharashtra.	$z = 0.74$	Inability to comment on adequacy of existing resources to increase export by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	4 and 1 SSI of Madhya Pradesh and Maharashtra, respectively have not answered this question.

Sales Management

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Sales incentives	Sales incentive is given by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth, Maturity and Decline are - 1.79, 0.74 and - 1.87, respectively.	Sales incentive given by SSI is not significant at any phase of life cycle.	--
	Sales incentive is given by SSI of Madhya Pradesh and Maharashtra.	$z = 0.74$	The system of sales incentive given by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Sales commission is given by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth, Maturity and Decline are - 3.96, 0.74 and - 4.48, respectively.	Sales commission system adopted by SSI is not significant at any phase of life cycle.	--
	Sales commission is given by SSI of Madhya Pradesh and Maharashtra.	$z = 1.26$	The system of sales commission adopted by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Sales incentive after meeting the sales targets is given by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth, Maturity and Decline are - 2.60, 0.74 and - 4.48, respectively.	Sales incentive after meeting the sales targets by SSI is not significant at any phase of life cycle.	--
	Sales incentive after meeting the sales targets is given by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	The system of sales incentive after meeting the sales targets by SSI in Madhya Pradesh and	--

			Maharashtra does not vary significantly.	
	Sales incentive after getting new customer is given by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Decline is - 7.35.	Sales incentive after getting new customer by SSI is not significant at any phase of life cycle.	--
	Sales incentive after getting new customer is given by SSI of Madhya Pradesh and Maharashtra.	$z = 0.98$	The system of sales incentive after getting new customer by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	For sales monitoring, linking incentive with travel bill is in practice by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 3.96 and - 7.35, respectively.	Sales monitoring by linking incentive with travel bill is in practice by SSI is not significant at any phase of life cycle.	--
	For sales monitoring, linking incentive with travel bill is in practice by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	The system of sales monitoring by linking incentive with travel bill is in practice by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Sales Personnel	Sales management is being looked after by a person with full time responsibility by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. 57.14, 75 and 52.94% SSI employ sales personnel with full time responsibility in Growth, Maturity and Decline phases, respectively. The values of z for Growth, Maturity and Decline are 0.42, 1.34 and 0.25, respectively.	The system is in practice at Introduction phase. Sales management being looked after by a person with full time responsibility by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Sales management is being looked after by a person with	$z = 1.03$ 47.06 and 64.71 % SSI employ sales personnel	Sales management being looked after by a person	--

	full time responsibility by SSI of Madhya Pradesh and Maharashtra.	with full time responsibility in Madhya Pradesh and Maharashtra. respectively.	with full time responsibility by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	
	Sales management is being looked after by a person with full time responsibility – on contract by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth, Maturity and Decline are - 0.61 and - 4.48, respectively.	Sales management being looked after by a person with full time responsibility – on contract by SSI is not significant at any phase of life cycle.	--
	Sales management is being looked after by a person with full time responsibility – on contract by SSI of Madhya Pradesh and Maharashtra.	$z = 0.59$	Sales management being looked after by a person with full time responsibility – on contract by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Sales personnel is selected by direct interview by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. 57.14 and 47.06 % SSI in Growth and Decline phases select experienced sales personnel by direct interview, respectively. The values of z for Growth, Maturity and Decline are 0.42, 1.34 and - 0.25, respectively.	The system is in practice at Introduction phase. Sales personnel being selected by direct interview by SSI is not significant at any phase of life cycle. except at Introduction phase.	--
	Sales personnel is selected by direct interview by SSI of Madhya Pradesh and Maharashtra.	$z = 1.73$ 64.71 % SSI in Maharashtra select experienced sales personnel by direct interview.	Sales personnel being selected by direct interview by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Fresh MBAs are selected and trained by SSI at	Due to low frequency of data χ^2 – test can not be applied.	Fresh MBAs are selected and trained by SSI is	--

	all phases of life cycle.	The value of z for Growth is - 3.96.	not significant at any phase of life cycle.	
	Fresh MBAs are selected and trained by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Fresh MBAs are selected and trained by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Sales Training	A structured sales training system is in practice by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 1.79 and - 4.48, respectively.	The system is in practice at Introduction phase. Structured sales training system by SSI is not significant at any phase of life cycle.	--
	A structured sales training system is in practice by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Structured sales training system by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Future plan for on line selling	On line selling is in plan for future by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 3.96 and - 3.59, respectively.	On line selling is in plan for future by SSI is not significant at any phase of life cycle.	--
	On line selling is in plan for future by SSI of Madhya Pradesh and Maharashtra.	$z = 1.47$	On line selling is in plan for future by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Awareness about SIDBI	Awareness about SIDBI schemes exists in SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth is - 0.61.	Awareness about SIDBI schemes in SSI is not significant at any phase of life cycle.	--
	Awareness about SIDBI schemes exists in SSI of Madhya Pradesh and Maharashtra.	$z = 1.47$	Awareness about SIDBI schemes in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--

Operation Planning Process

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Assessment of manufacturing capacity	Assessment of manufacturing capacity is carried out by SSI based on Supplier's Manual at all phases of life cycle.	For Growth : $\chi^2 = 0.94$ For Maturity & Decline : $\chi^2 = 0.31$ 52.94 % SSI carry out assessment of manufacturing capacity based on Supplier's Manual in Decline phase. The values of z for Growth, Maturity and Decline are 3.57, 1.14 and 0.25, respectively.	The system of assessment of manufacturing capacity by SSI at the Growth, Maturity and Decline phases do not vary significantly from the mean performance. Hence assessment of manufacturing capacity is significant at Introduction and Growth phase.	--
	Assessment of manufacturing capacity is carried out based on Supplier's Manual by SSI of Madhya Pradesh and Maharashtra.	$z = 0.35$ 58.82 and 52.94 % SSI carry out assessment of manufacturing capacity based on Supplier's Manual in Madhya Pradesh and Maharashtra, respectively.	The system of assessment of manufacturing capacity is carried out by Supplier's Manual by SSI in Madhya Pradesh and Maharashtra and this does not vary significantly.	--
	Assessment of manufacturing capacity is carried out by SSI based on Industrial Engineering study at all phases of life cycle.	Assessment of manufacturing capacity is carried out by Industrial Engineering study by 4, 2 and 7 SSI at Growth, Maturity and Decline phases, respectively. 50 and 41.18 % SSI carry out assessment of manufacturing capacity at Maturity and Decline phase, respectively. The values of z are - 1.78, 0 and - 0.73, respectively.	Assessment of manufacturing capacity carried out by Industrial Engineering study by SSI is not significant at any phase of life cycle.	--

	Assessment of manufacturing capacity is carried out based on Industrial Engineering study by SSI of Madhya Pradesh and Maharashtra.	$z = 0.35$	The system of assessment of manufacturing capacity is carried out based on Industrial Engineering by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Assessment of critical factors affecting the manufacturing process is carried out by SSI at all phases of life cycle.	Assessment of critical factors affecting the manufacturing process is carried out by 11, 1* and 7 SSI at Growth, Maturity and Decline phases, respectively. 41.18 % SSI assess critical factors affecting the manufacturing process in Decline phase. The values of z are 2.60, 1.14 and - 0.73, respectively, at Growth, Maturity and Decline phases, respectively.	Assessment of critical factors affecting the manufacturing process carried out by SSI is significant at Growth phase.	--
	Assessment of critical factors affecting the manufacturing process is carried out by SSI of Madhya Pradesh and Maharashtra.	$z = 0$ 52.94 % SSI carry out assessment of critical factors affecting the manufacturing process in both Madhya Pradesh and Maharashtra.	The system of assessment of critical factors affecting the manufacturing process is carried out by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Material or purchase planning	Material or purchase planning is carried out by SSI at all phases of life cycle.	For Growth : $\chi^2 = 6:26$ For Maturity & Decline : $\chi^2 = 0.84$ 50 and 64.71 % carry out material or purchase planning in Maturity and Decline phases, respectively. At Introduction and Growth all the organisations carry out material purchase planning system. Values	The system followed for material or purchase planning by SSI at the Growth phase vary significantly from that of Maturity and Decline phases. Material or purchase planning carried out by SSI is	--

		of z for Maturity and Decline are 0 and 1.22, respectively.	significant at Introduction and Growth phase.	
	Material or purchase planning is carried out by SSI of Madhya Pradesh and Maharashtra.	z = 0 76.47 % SSI in Madhya Pradesh and Maharashtra both carry out material or purchase planning.	The system of material or purchase planning is carried out by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Material or purchase planning is carried out once in a month by SSI at all phases of life cycle.	For Growth : $\chi^2 = 1.54$ For Maturity & Decline : $\chi^2 = 0.29$ 50 and 64.71 % SSI in Maturity and Decline phases carry out material or purchase planning, respectively. The values of z are 3.96, -0.25 and 1.22, respectively for Growth, Maturity and Decline phases.	The system followed for material or purchase planning by SSI once in a month at the Growth, Maturity and Decline phases do not vary significantly from mean performance. At Introduction and Growth phases the material purchase planning carried out by SSI once in a month are significant.	--
	Material or purchase planning is carried out once in a month by SSI of Madhya Pradesh and Maharashtra.	z = 1.96	The system of material or purchase planning once in a month carried out by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Production planning	Production planning is	For Growth : $\chi^2 = 5.07$	Production planning at	--

	carried out by SSI at all phases of life cycle.	For Maturity & Decline : $\chi^2 = 2.41$ The values of z are 1.98, 1.14 and 3.54, respectively for Growth, Maturity and Decline phases.	Growth phase vary significantly from that of Maturity and Decline phases. Production planning is carried out by SSI are significantly at Introduction, Growth and Decline phases.	
	Production planning is carried out by SSI of Madhya Pradesh and Maharashtra.	$z = 0$ 88.24 % SSI in Madhya Pradesh and Maharashtra carry out production planning.	The system of production planning is carried out by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Production planning is carried out once in a month by SSI at all phases of life cycle.	Monthly production planning is carried out by 4, 1 and 7 SSI at Growth, Maturity and Decline phases, respectively. 41.18 % SSI carry out production planning once in a month in Decline phase. The values of z are 0.99, 1.14 and 1.26 for Growth, Maturity and Decline phases, respectively.	Production planning is not carried out significantly by SSI once in a month at any phase of life cycle.	--
	Production planning is carried out once in a month by SSI of Madhya Pradesh and Maharashtra.	$z = 1.96$ 47.06 % SSI carry out production planning once in month in Maharashtra.	The system production planning once in a month carried out by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--

	Sometimes production plan is revised by SSI at all phases of life cycle.	Sometimes production plan is revised by 4, 2 and 6 SSI at Growth, Maturity and Decline phases, respectively. 50 % SSI feel that sometimes production planning is revised in Maturity phase. The values of z are 1.79, 0, 1.23 for Growth, Maturity and Decline phases, respectively.	Production plan is not revised significantly by SSI at any phase of life cycle.	--
	Sometimes production plan is revised by SSI of Madhya Pradesh and Maharashtra.	$z = 1.02$ 41.18 % SSI feel that production plan is revised in Madhya Pradesh.	Sometimes change in production plan reported by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Production plan is revised by SSI due to change in customers' schedule at all phases of life cycle.	5, 1 and 6 SSI reported that production plan is revised due to change in customers' schedule at Growth, Maturity and Decline phases, respectively. 41.18 % SSI feel that production plan is revised by SSI due to change in customer schedule. The values of z are - 0.55, - 1.14 and - 0.73 for Growth, Maturity and Decline phases, respectively.	--	As the revision is of production plan is not significant, analysis of reason is not carried out.
	Production plan is revised by SSI of Madhya Pradesh and Maharashtra due to change in customers' schedule.	$z = 0.73$	Sometimes change in production plan reported by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	
JIT in practice	JIT system is in practice by SSI at all phases of life cycle.	3 and 5 SSI implement JIT at Growth and Decline phases, respectively. The values of z for	JIT is not practiced by SSI at Introduction and Maturity phases. In Growth and	--

		Growth and Decline are - 2.64, respectively.	Decline phases the performance do not vary significantly from mean performance. JIT is not practiced significantly by SSI at any phase of life cycle.	
	JIT system is in practice by SSI of Madhya Pradesh and Maharashtra.	$z = 0.78$	JIT implementation by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The reason for JIT implementation by SSI at all phases of life cycle is customer's requirement.	2 and 4 SSI implement JIT at Growth and Decline phases, respectively due to customer's requirement.	--	Since JIT is not implemented by SSI at any phase, analysis of the reason is not carried out.
	The reason for JIT implementation by SSI of Madhya Pradesh and Maharashtra is customer's requirement.	3 SSI, each from Madhya Pradesh and Maharashtra implement JIT due to customer's requirement	--	--
	The reason for JIT implementation by SSI at all phases of life cycle is inventory control.	1 and 2 SSI implement JIT at Growth and Decline phases, respectively for inventory control.	--	Since JIT is not implemented by SSI at any phase, analysis of the reason is not carried out.
	The reason for JIT implementation by SSI of Madhya Pradesh and Maharashtra is inventory control.	2 and 1 SSI from Madhya Pradesh and Maharashtra, respectively implement JIT for inventory control.	--	--

Manufacturing & Quality Management

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Reason for ISO 9000 / QS 9000 / USFDA certification	Requirement of customer or for obtaining business from the government is the reason for getting ISO 9000 / QS 9000 / USDFA certification in SSI at all stages of business life cycle.	1,1,2 SSI are ISO 9000 certified at introduction, maturity and decline phase, many are in the process of getting certified. The reason for getting ISO 9000 / QS 9000 / USFDA is the requirement of customer or for getting government business is reported by 1, 2, 2 and 4 SSI at introduction, growth, maturity and decline phases, respectively. The values of z are - 3.96, 0 and 1.65 for Growth, Maturity and Decline phases, respectively.	The data indicate that the reason for getting ISO 9000 / QS 9000 / USFDA is neither customer nor government business. No SSI implemented ISO / QS 9000 for fulfilling the requirement of customer or for getting government business significantly at any phase of life cycle.	--
	Requirement of customer or for obtaining business from the government is the reason for getting ISO 9000 / QS 9000 / USDFA certification in SSI of Madhya Pradesh and Maharashtra.	The reason for getting ISO 9000 / QS 9000 / USFDA is the requirement of customer or for getting government business is reported by 1 and 7 SSI of Madhya Pradesh and Maharashtra, respectively.	The number of SSI from Maharashtra is larger than Madhya Pradesh in implementing ISO 9000 / QS 9000 / USFDA due to requirement of customer or for getting government business.	--
	Drive for improvement is the reason for getting ISO 9000 / QS 9000 / USDFA certification in SSI at all stages of business life cycle.	No SSI has reported any of these as possible reason for getting ISO 9000 / QS 9000 / USDFA certification.	No SSI considers drive for improvement as one of the reasons for getting ISO 9000 / QS 9000 / USDFA certification.	--
	Establishing a documented system or considering it to	No SSI has reported any of these as possible reason for getting ISO 9000 / QS 9000 /	--	--

	be the first step towards TQM implementation is the reason for getting ISO 9000 / QS 9000 / USDFA certification in SSI of Madhya Pradesh and Maharashtra.	USDFA certification.		
Quality Control systems in practices	Incoming inspection of all material in practices all stages of business life cycle.	For Growth & Maturity : $\chi^2 = 2.68$ For Decline : $\chi^2 = 0.35$ 71.43 and 64.71 % SSI carry out incoming inspection in Growth and Decline phases, respectively. Incoming inspection system is in practice by 10, 1 and 11 SSI at Growth, Maturity and Decline phases, respectively. The values of z are 1.78, -1.14 and 1.23 for Growth, Maturity and Decline phases, respectively	Incoming inspection system by SSI at the Growth, Maturity and Decline phases do not vary significantly from the mean performance. SSI do not carry out incoming inspection significantly at any phase of life cycle.	--
	Incoming inspection of all material is in practice in SSI of Madhya Pradesh and Maharashtra.	$z = 0.35$ 64.71 % carry out incoming inspection in Madhya Pradesh and Maharashtra, each.	Incoming inspection system practiced by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Vendor performance analysis or conducting second party audit is in practice in SSI at all stages of business life cycle.	Vendor performance analysis or conducting second party audit is in practice by 8 and 4 SSI at growth and decline phases, respectively. No SSI in introduction or maturity phase implements this practice. 71.43 % SSI carry out vendor analysis or second party audit in The values of z are -0.55, 0 and - 2.64, respectively at Growth, Maturity and Decline phases,	SSI do not implement vendor performance analysis or second party audit system significantly at any phase of life cycle.	--

		respectively.		
	Vendor performance analysis or conducting second party audit is in SSI of Madhya Pradesh and Maharashtra.	$z = 0.74$	Vendor performance analysis or second party audit system practiced by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Machine set up or first piece approval is in practice in SSI at all stages of business life cycle.	Machine set up or first piece approval is in practice by 3 and 4 SSI at growth and decline phases, respectively. No SSI in introduction or maturity phase implements this practice. The values of z are - 2.60, 0 and - 2.65 for Growth, Maturity and Decline phases, respectively.	SSI do not implement machine set up or first piece approval system significantly at any phase of life cycle.	--
	Machine set up or first piece approval is in practice in SSI of Madhya Pradesh and Maharashtra.	$z = 2.94$	Machine set up or first piece approval is in practice by SSI in Madhya Pradesh and Maharashtra vary significantly. More no of SSI of Maharashtra carry out this practice.	--
	Patrol inspection during manufacturing is in practice in SSI at all stages of business life cycle.	Patrol inspection system is in practice by 4 and 9 SSI at growth and decline phases, respectively. No SSI in introduction or maturity phase implements this practice. 64.23 % SSI carry our patrol inspection during manufacturing at Decline phase. The values of z are - 1.79 and 0.25 for Growth and Decline phase, respectively.	SSI do not carry out patrol inspection significantly at any phase of life cycle.	--

	Patrol inspection during manufacturing is in practice in SSI of Madhya Pradesh and Maharashtra.	Patrol inspection system is in practice by 6 SSI each in Madhya Pradesh and Maharashtra.	There is no difference in performance by the SSI of Madhya Pradesh and Maharashtra in patrol inspection.	--
	Sampling inspection after manufacturing is in practice in SSI at all stages of business life cycle.	Sampling inspection system during manufacturing is in practice by 5, 4 and 5 SSI at growth, maturity and decline phases, respectively. No SSI in introduction phase implements this practice. 42.86 % SSI carry out sampling inspection after manufacturing at Growth phase. The values of z are - 0.55, - 1.14 and - 1.8 for Growth, Maturity and Decline phases, respectively.	SSI do not carry out sampling inspection significantly at any phase of life cycle.	--
	Sampling inspection after manufacturing is in practice in SSI of Madhya Pradesh and Maharashtra.	Sampling inspection system is in practice by 5 and 6 SSI each in Madhya Pradesh and Maharashtra, respectively.	There is no difference in performance by the SSI of Madhya Pradesh and Maharashtra in sampling inspection.	--
	Customer inspection system in the respective SSI or in his place is in practice in SSI at all stages of business life cycle.	Customer inspection system during manufacturing is in practice by 13, 1 and 9 SSI at growth, maturity and decline phases, respectively. No SSI in introduction phase implements this practice. The values of z are 0 and - 2.64 for Growth and Decline, respectively.	SSI products are not subjected to customer inspection the SSI at phase of life cycle.	--
	Customer inspection system in the respective SSI or in his place is in	Customer inspection system is in practice by 10 and 12 SSI each in Madhya Pradesh and Maharashtra,	There is no difference in performance by the SSI of Madhya Pradesh	--

	practice in SSI of Madhya Pradesh and Maharashtra.	respectively.	and Maharashtra in sampling inspection.	
Maintenance system in practices	Preventive or predictive maintenance system is in practice in SSI at all stages of business life cycle.	Preventive or predictive maintenance system is in practice by 10, 1 and 10 SSI at growth, maturity and decline phases, respectively. No SSI in introduction phase implements this practice. 71.43 and 58.82 % SSI practice preventive or predictive maintenance system in Growth and Decline phases, respectively. The values of z are 1.79, - 1.14 and 0.74 for Growth, Maturity and Decline phases, respectively.	Preventive or predictive maintenance system is not in practice by SSI significantly at any phase of life cycle.	--
	Preventive or predictive maintenance system is in practice in SSI of Madhya Pradesh and Maharashtra.	Preventive or predictive maintenance system is in practice by 11 and 10 SSI each in Madhya Pradesh and Maharashtra, respectively. 64.71 and 58.82 % SSI practice preventive or predictive maintenance system in Madhya Pradesh and Maharashtra, respectively.	Preventive or predictive maintenance system is in practice uniformly by SSI in Madhya Pradesh and Maharashtra.	--
	Condition based maintenance system or TPM is in practice in SSI at all stages of business life cycle.	No SSI has reported implementation of condition based maintenance or TPM at any phase of life cycle. The values of z is - 3.59 for Decline phase.	SSI do not implement condition based maintenance or TPM significantly at any phase of life cycle.	--
	Condition based maintenance system or TPM is in practice in SSI of Madhya Pradesh and Maharashtra.	No SSI has reported implementation of condition based maintenance or TPM in Madhya Pradesh.	--	--
Automation	Automation is adopted in SSI for value addition or quality check in SSI at all stages	Automation is adopted for value addition or quality check by 8 and 7 SSI at Growth and Decline, phases	SSI do not adopt automation significantly for value addition or quality check	--

	of business life cycle.	<p>respectively. Automation is not adopted in SSI for any reasons at the Introduction and Maturity.</p> <p>57.14 and 41.18 % SSI have adopted automation in Growth and Decline phases, respectively.</p> <p>The values of z are - 0.55 and - 0.74 for Growth and Decline, respectively.</p>	at any phase life cycle.	
	Automation is adopted in SSI of Madhya Pradesh and Maharashtra for value addition or quality check.	<p>Automation is adopted by 6 and 7 SSI of Madhya Pradesh and Maharashtra, respectively for value addition or quality check.</p> <p>41.18 % SSI have adopted automation in Maharashtra.</p>	There is no difference in performance by the SSI of Madhya Pradesh and Maharashtra.	--
Internal Audit of the manufacturing and quality system	Internal Audit system is in practice in SSI at all stages of business life cycle.	<p>For Growth : $\chi^2 = 1.29$</p> <p>For Maturity & Decline : $\chi^2 = 3.22$</p> <p>52.94 % SSI have adopted internal audit system in Decline phase.</p> <p>All SSI at Growth phase implement the audit system. No SSI at Maturity phase implement the audit system. The value of z is 0.74 for Decline phase.</p>	Internal Audit system is not in practice in SSI at Introduction, Maturity and Decline phases. Internal audit system is in practice at Growth phase.	--
	Internal Audit system is in practice in SSI of Madhya Pradesh and Maharashtra.	$z = 1.38$	There is no difference in Internal Audit system implemented by SSI of Madhya Pradesh and Maharashtra.	--
	Planned Internal Audit system is in practice in SSI at all stages of business life cycle.	11 SSI carry out Internal Audit in a planned manner with frequency from one month to one quarter while 2 SSI carry out Internal Audit once in six month or one year. No SSI in Introduction		

		and Maturity phases carry out audits. The values of z are 0 and 1.23 for Growth and Decline, respectively.	SSI do not carry out planned internal audit significantly at any phase of life cycle.	
	Planned Internal Audit system is in practice in SSI of Madhya Pradesh and Maharashtra.	6 and 5 SSI of Madhya Pradesh and Maharashtra, respectively carry out audit with frequency from one month to one quarter while 1 SSI, each carry out Internal Audit once in six month or one year.	There is no difference in performance by the SSI of Madhya Pradesh and Maharashtra.	--
Audit conducted by customers	Customers carry out Audit in SSI at all stages of business life cycle.	Customers of 11 and 12 SSI carry out audit in Growth and Decline phases, respectively. No customer of SSI in Introduction and Maturity phases carries out audits. 57.14 and 52.94 SSI are subjected to customer audit in Growth and Decline phases, respectively. The values of z are 2.59 and 1.87 for Growth and Decline, respectively.	Customers of SSI at Growth phase carry out audit significantly. At all other phases the customers of SSI do not carry out audit significantly.	--
	Customers carry out Audit in SSI of Madhya Pradesh and Maharashtra.	$z = 2.08$	There is significant difference in Customer Audit system carried out at SSI of Madhya Pradesh and Maharashtra. More number of customers of SSI of Madhya Pradesh carry out audit.	--
	Customers carry out focused Audit (Audit of manufacturing and quality control related	For Growth : $\chi^2 = 6.08$ For Maturity : $\chi^2 = 0$ For Decline : $\chi^2 = 2.32$	No customer of SSI in Introduction and phase carry out audit. Focused Audit is carried	--

	systems) in SSI at all stages of business life cycle.	41.17 % SSI are subjected to focused audit in Decline phase. The values of z are 0.55 and 0.25 for Growth and Maturity, respectively.	out by customers of SSI at Growth phase significantly varies from the mean performance of Maturity and Decline phases. But the customer audit for SSI is not significant at any phase of life cycle.	
	Customers carry out focused Audit Audit of manufacturing and quality control related systems) in SSI of Madhya Pradesh and Maharashtra.	$z = 2.57$	There is difference in planned Customer audit system carried out at SSI of Madhya Pradesh and Maharashtra. More number of customers of SSI of Madhya Pradesh carry out planned audit.	--

Information & Information Technology Management

Critical value of χ^2 at 2 d.f. is 7.82 and at 1 d.f. is 3.84 at 5% significance level. Critical value of z is 1.96 at 5% significance level.

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Usage of computer	Computer is used in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 7.00$ For Maturity & Decline : $\chi^2 = 3.91$ All SSI at Growth phase use computers. The values of z are - 1.34 and 2. 64 for Maturity and Decline, respectively.	SSI using computer is more than the mean in Growth, and Decline phases. The use of computers is significant at Introduction, Growth and	--

			Decline phases.	
	Computer is used in SSI of Madhya Pradesh and Maharashtra	$z = 0.42$	Usage of computer by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Computer is used for routine office work in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 4.84$ For Maturity & Decline : $\chi^2 = 3.22$ All SSI at Growth phase use computers for routine office work. 58.82 % SSI in Decline phase use computer for office work. The values of z are - 1.34 and 0.74 for Maturity and Decline, respectively.	Computer is not used for routine office works by SSI at the Introduction phase. Usage of computer for routine office work by SSI at the Growth and Decline phases do not vary significantly from the mean performance. Usage of computer for office work is significant at Growth phase of SSI, usages are not significant at any other phases of life cycle.	--
	Computer is used for routine office work in SSI of Madhya Pradesh and Maharashtra	$z = 0.24$ 76.47 and 64.71 % SSI use computer for routine office work in Madhya Pradesh and Maharashtra.	Usage of computer for routine office use by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Computer is used for inventory record in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 1.48$ For Maturity & Decline : $\chi^2 = 0.18$ 42.86 % SSI use computer for inventory recording in Growth phase. The values of z are - 0.55, 0.74 and 1.23 for Growth, Maturity and Decline, respectively	Computer is not used for inventory recording in SSI at the Introduction phase. Usage of computer for inventory recording by SSI at the Growth and Decline phases do not vary significantly	--

			from the mean performance. Usage of computers for inventory control is not significant at any phase of life cycle.	
	Computer is used for inventory record in SSI of Madhya Pradesh and Maharashtra	z = 0.35 50 % SSI in Madhya Pradesh use computer for inventory recording.	Usage of computer for inventory recording by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Computer is used for day - today reporting in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 1.19$ For Maturity & Decline : $\chi^2 = 0.02$ 64.29 and 47.06 % SSI use computer for day – today reporting purpose in Growth and Decline phases, respectively. The values of z are 1.10 and – 0.25 for Growth and Decline, respectively.	Computer is not used SSI at the Introduction phase. Usage of computers for day – today reporting is not significant at any phase of life cycle.	--
	Computer is used for day – today reporting in SSI of Madhya Pradesh and Maharashtra	z = 0.35 47.06 and 52.94 % SSI use computer for day – today reporting in Madhya Pradesh and Maharashtra, respectively.	Usage of computer by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Usage of internet	Internet is available in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 3.47$ For Maturity & Decline : $\chi^2 = 0.73$ 52.94 % SSI use computer in Decline phase. The values of z are 2.58, 0.74 and 0.25 for Growth, Maturity and Decline phases, respectively.	Internet is not available in SSI at the Introduction phase. Usage of internet by SSI at the Growth and Decline phases do not vary significantly from the mean performance. Availability of internet in SSI is significant in	--

			Growth phase. At all other phases of life cycle the availability is not significant.	
	Internet is available in SSI of Madhya Pradesh and Maharashtra	$z = 2.08$	Usage of internet by SSI in Madhya Pradesh and Maharashtra vary significantly. more SSI in Maharashtra use internet.	--
	Internet is used for email and global data access in SSI at all stages of business life cycle.	3. 1 and 5 SSI use internet for global data access at Growth, Maturity and Decline phases, respectively. The values of z are - 2.60, 0.74 and - 1.87 for Growth, Maturity and Decline, respectively.	Usage of internet for global data access is not significant at any phase of life cycle.	--
	Internet is used for email and global data access in SSI of Madhya Pradesh and Maharashtra	$z = 2.44$	Usage of computer for routine office use by SSI in Madhya Pradesh and Maharashtra vary significantly. More SSI in Maharashtra use for email and global data access.	--
Usage of email	Email is used for communicating with customers and suppliers in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 3.52$ For Maturity & Decline : $\chi^2 = 0.59$ 64.29 and 47.06 SSI use email for communicating with customers and suppliers in Growth and Decline phases, respectively. The values of z are 1.19, - 1.66 and 1.12 for Growth, Maturity and Decline, respectively.	Email is used for communicating with customers and suppliers by SSI at any phase do not vary significantly from the mean performance. Use of email for communicating with customers and suppliers by SSI at any phase is not significant.	--

	Email is used for communicating with customers and suppliers in SSI of Madhya Pradesh and Maharashtra	$z = 2.44$	Usage of mail for communicating with customers and suppliers vary significantly by SSI in Madhya Pradesh and Maharashtra. More number of SSI of Maharashtra use email for communicating with customers and suppliers than Madhya Pradesh.	--
Usage of website	Website is available and updated regularly by SSI at all stages of business life cycle.	The number of SSI having website and updating regularly are 6, 1 and 5 for Growth, Maturity and Decline, respectively. No χ^2 - test can be performed. 42.86 % SSI have website in Growth phase. The values of z are - 0.55, 0.74 and 1.87 for Growth, Maturity and Decline, respectively.	The availability of website by SSI is not significant at any phase of life cycle.	--
	Website is available and updated regularly by SSI of Madhya Pradesh and Maharashtra	$z = 3.64$ The number of SSI having website and updating regularly almost negligible.	More SSI in Maharashtra have website than Madhya Pradesh. But very few of them update regularly.	--
Usage of ERP or similar systems	ERP or similar system is used by SSI at all stages of business life cycle.	No SSI is having a system like ERP in practice.	No SSI is having a system like ERP in practice.	No analysis is called for.
	ERP or similar system is used by SSI of Madhya Pradesh and Maharashtra	No SSI is having a system like ERP in practice.	--	--

Technology Management

Critical value of χ^2 at 2 d.f. is 7.82 and at 1 d.f. is 3.84 at 5% significance level. Critical value of z is 1.96 at 5% significance level.

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
<p>Technology Transfer</p> <p>3 SSI (2 of Growth and 1 of Decline phases) of Maharashtra have provided data on in house technology development. The costs of development were Rs. 1 Lakh, 2 Lakh and 5 Lakh, respectively.</p> <p>1 SSI has provided data on technology transfer costing Rs. 4 Lakh.</p> <p>3 SSI (2 of Growth and 1 of Decline phases) had technology transfer arrangement with foreign companies.</p>	<p>Cost of technology transfer is high or very high is felt by SSI at all phases of life cycle.</p>	<p>For Growth : $\chi^2 = 0.23$</p> <p>For Maturity & Decline : $\chi^2 = 0.04$</p> <p>The values of z for Growth and Decline are 3.97 and 1.22, respectively.</p> <p>In maturity phase 100 % SSI agreed to this.</p>	<p>High or very high cost of technology transfer felt by SSI at the Growth. Maturity and Decline phases do not vary significantly from the mean performance.</p> <p>High or very high cost of technology transfer felt by SSI is significant at Growth and Maturity phase. It is not significant at Introduction and Decline phase.</p>	--
	<p>Cost of technology transfer is high or very high is felt by SSI of Madhya Pradesh and Maharashtra.</p>	<p>$z = 0$</p>	<p>High or very high cost of technology transfer felt by SSI in Madhya Pradesh and Maharashtra does not vary significantly.</p>	--
	<p>Cost of technology transfer is reasonable is felt by SSI at all phases of life cycle.</p>	<p>Due to low frequency of data χ^2 - test can not be applied.</p> <p>The values of z for Growth and Decline are - 3.97 and - 7.35, respectively.</p>	<p>Reasonable cost of technology transfer felt by SSI is not significant at any phase of life cycle.</p>	--
	<p>Cost of technology transfer is reasonable is felt</p>	<p>$z = 1.96$</p>	<p>Reasonable cost of technology transfer felt by SSI in Madhya</p>	--

	by SSI of Madhya Pradesh and Maharashtra.		Pradesh and Maharashtra does not vary significantly.	
	Awareness about SIDBI scheme on technology transfer is there by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth is - 6.12.	Awareness about SIDBI scheme on technology transfer is known by SSI is not significant at any phase of life cycle.	--
	Awareness about SIDBI scheme on technology transfer is there by SSI of Madhya Pradesh and Maharashtra.	z = 0.98	Awareness about SIDBI scheme on technology transfer by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Comment on scope of R & D in the light of WTO	Innovative product development should be the reason for meeting the challenge is felt by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 2.60 and - 3.47, respectively.	Innovative product development should be the reason for meeting the challenge felt by SSI is not significant at any phase of life cycle.	--
	Innovative product development should be the reason for meeting the challenge is felt by SSI of Madhya Pradesh and Maharashtra.	z = 2.45	Innovative product development should be the reason for meeting the challenge felt by SSI in Madhya Pradesh and Maharashtra vary significantly. The frequency of Maharashtra is more than Madhya Pradesh.	--
	Product development through reverse engineering should be the reason for meeting the	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 3.97 and - 7.35,	Product development through reverse engineering should be the reason for meeting the	--

	challenge by SSI at all phases of life cycle.	respectively.	challenge by SSI is not significant at any phase of life cycle, except at Introduction phase.	
	Product development through reverse engineering should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 0.65$	Product development through reverse engineering should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Improvement in existing products should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 3.97 and - 1.87, respectively.	The system is in practice at Introduction phase. Improvement in existing products should be the reason for meeting the challenge by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Improvement in existing products should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 0.14$	Improvement in existing products should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Innovative manufacturing process development should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Decline is - 3.47.	The system is in practice at Introduction phase. Innovative manufacturing process development should be the	--

			reason for meeting the challenge by SSI is not significant at any phase of life cycle, except at Introduction phase.	
	Innovative manufacturing process development should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 1.96$	Innovative manufacturing process development should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Improvement in existing manufacturing processes should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 6.12 and - 3.59, respectively.	Improvement in existing manufacturing processes by SSI is not significant at any phase of life cycle.	--
	Improvement in existing manufacturing processes should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 1.47$	Improvement in existing manufacturing processes by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Reasons for innovation or improvement	Self initiated quality improvement should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 3.97 and - 4.48, respectively.	The system is in practice at Introduction phase. Self initiated quality improvement should be the reason for meeting the challenge by SSI is not significant at	--

			any phase of life cycle, except at Introduction phase.	
	Self initiated quality improvement should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 1.80$	Self initiated quality improvement should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra vary significantly. Frequency of Maharashtra is more than Madhya Pradesh.	--
	Self initiated cost reduction should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 3.96 and - 2.64, respectively.	The system is in practice at Introduction phase. Self initiated cost reduction should be the reason for meeting the challenge by SSI is not significant at any phase of life cycle.	--
	Self initiated cost reduction should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 0.90$	Self initiated cost reduction should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Self initiated product simplification or value engineering should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 3.59, respectively.	Self initiated product simplification or value engineering should be the reason for	--

			meeting the challenge by SSI is not significant at any phase of life cycle.	
	Self initiated product simplification or value engineering should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 1.07$	Self initiated product simplification or value engineering should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Facilitation in product repair or servicing should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Decline is - 7.35.	Facilitation in product repair or servicing should be the reason for meeting the challenge by SSI is not significant at any phase of life cycle.	--
	Facilitation in product repair or servicing should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 0.06$	Facilitation in product repair or servicing should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Reduction in manufacturing cycle time should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.78, respectively.	The system is in practice at Introduction phase. Reduction in manufacturing cycle time should be the reason for meeting the challenge by SSI is not	--

			significant at any phase of life cycle, except in Introduction phase.	
	Reduction in manufacturing cycle time should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 1.76$	Reduction in manufacturing cycle time should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Quality improvement for meeting the additional needs of customers should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.78, respectively.	Quality improvement for meeting the additional needs of customers should be the reason for meeting the challenge by SSI is not significant at any phase of life cycle.	--
	Quality improvement for meeting the additional needs of customers should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 1.76$	Quality improvement for meeting the additional needs of customers should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Cost reduction for the existing customers should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.78, respectively.	Cost reduction for the existing customers should be the reason for meeting the	--

			challenge by SSI is not significant at any phase of life cycle.	
	Cost reduction for the existing customers should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 0.59$	Cost reduction for the existing customers should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Product simplification for the customers should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 7.35, respectively.	Product simplification for the customers should be the reason for meeting the challenge by SSI is not significant at any phase of life cycle.	--
	Product simplification for the customers should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 1.47$	Product simplification for the customers should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Catering to a new market segment should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.78, respectively.	Catering to a new market segment should be the reason for meeting the challenge by SSI is not significant at	--

			any phase of life cycle.	
	Catering to a new market segment should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 1.76$	Catering to a new market segment should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Product benchmarking should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.78, respectively.	Product benchmarking should be the reason for meeting the challenge by SSI. is not significant at any phase of life cycle.	--
	Product benchmarking should be the reason for meeting the challenge by SSI of Madhya Pradesh and Maharashtra.	$z = 1.76$	Product benchmarking should be the reason for meeting the challenge by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Process benchmarking should be the reason for meeting the challenge by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.78, respectively.	Process benchmarking should be the reason for meeting the challenge by SSI is not significant at any phase of life cycle.	--
	Process benchmarking should be the reason for meeting the challenge by SSI	$z = 1.76$	Process benchmarking should be the reason for meeting the challenge by	--

	of Madhya Pradesh and Maharashtra.		SSI in Madhya Pradesh and Maharashtra does not vary significantly.	
Support from outside agencies for R & D	Support is taken from engineering or technical colleges by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.78, respectively.	Support taken from engineering or technical colleges by SSI is not significant at any phase of life cycle.	--
	Support is taken from engineering or technical colleges by SSI of Madhya Pradesh and Maharashtra.	$z = 1.76$	Support taken from engineering or technical colleges by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Support is taken from CSIR by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Decline is - 7.35.	Support taken from CSIR by SSI is not significant at any phase of life cycle.	--
	Support is taken from CSIR is taken by SSI of Madhya Pradesh and Maharashtra.	$z = 0.06$	Support taken from CSIR by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Support is taken from independent consultant or others by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 1.87, respectively.	Support taken from independent consultant or others should be the reason for meeting the challenge by SSI is not significant at	--

			any phase of life cycle.	
	Support is taken from independent consultant or others by SSI of Madhya Pradesh and Maharashtra.	$z = 0.59$	Support taken from independent consultant or others should be the reason for meeting the challenge, by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Mode of technology search	Technology search is made through consultant by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 2.60 and - 3.5, respectively.	Technology search made through consultant by SSI is not significant at any phase of life cycle.	--
	Technology search is made through consultant by SSI of Madhya Pradesh and Maharashtra.	$z = 0.9$	Technology search made through consultant by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Technology search is made through membership of association by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 1.78 and - 4.78, respectively.	Technology search made through membership of association by SSI is not significant at any phase of life cycle.	--
	Technology search is made through membership of association by SSI of Madhya Pradesh and Maharashtra.	$z = 0.9$	Technology search made through membership of association by SSI in Madhya Pradesh and Maharashtra does not vary	--

			significantly.	
	Technology search is made through participation in trade mission or seminar or conference abroad by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 2.60 and - 4.78. respectively.	Technology search made through participation in trade mission or seminar or conference abroad by SSI is not significant at any phase of life cycle.	--
	Technology search is made through participation in trade mission or seminar or conference abroad by SSI of Madhya Pradesh and Maharashtra.	$z = 2.45$	Technology search made through participation in trade mission or seminar or conference abroad by SSI in Madhya Pradesh and Maharashtra vary significantly.	--
Expectations from the Government	Assistance is expected in the form of subsidy for in house R & D by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth, Maturity and Decline are - 3.97, - 1.34 and - 2.64, respectively.	The expectation prevails at Introduction phase. Expectation of assistance in the form of subsidy for in house R & D by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Assistance is expected in the form of subsidy for in house R & D by SSI of Madhya Pradesh and Maharashtra.	$z = 1.26$	Technology search made through participation in trade mission or seminar or conference abroad by SSI in Madhya Pradesh and Maharashtra vary significantly.	--

	Assistance is expected through enhancing tax relief by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth, Maturity and Decline are – 1.79, - 1.34 and – 1.22, respectively.	The expectation prevails at Introduction phase. Expectation of assistance expected through enhancing tax relief by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Assistance is expected through enhancing tax relief by SSI of Madhya Pradesh and Maharashtra.	$z = 0.37$	Expectation of assistance expected through enhancing tax relief by SSI in Madhya Pradesh and Maharashtra vary significantly.	--
	Assistance is expected through creation of common facilities by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are – 3.96 and – 2.64, respectively.	Expectation of assistance expected through creation of common facilities by SSI is not significant at any phase of life cycle.	--
	Assistance is expected through creation of common facilities by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Expectation of assistance expected through creation of common facilities by SSI in Madhya Pradesh and Maharashtra vary significantly.	--
	Assistance is expected through creation of incubation lab by SSI at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are – 1.79 and – 11.25,	The expectation prevails at Introduction phase. Expectation of assistance	--

		respectively.	expected through creation of incubation lab by SSI is not significant at any phase of life cycle, except at Introduction phase.	
	Assistance is expected through creation of incubation lab by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Expectation of assistance expected through creation of incubation lab by SSI in Madhya Pradesh and Maharashtra vary significantly. SSI of Maharashtra expects more than that of Madhya Pradesh.	--
Preparedness to face WTO challenges	The SSI are fully or partially prepared to face the WTO challenges at all phases of life cycle.	No SSI has reported to implement this aspect.	SSI fully or partially prepared to face WTO challenges is not significant at any phase of life cycle.	--
	The SSI of Madhya Pradesh and Maharashtra are fully or partially prepared to face the WTO challenges.	No SSI has reported to implement this aspect.	SSI fully or partially prepared to face WTO challenges in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The SSI are not prepared to face the WTO challenges at all phases of life cycle.	No SSI has reported to implement this aspect.	The SSI are not prepared to face the WTO challenges at any phase of life cycle.	--
	The SSI of Madhya Pradesh and Maharashtra are not prepared to face the WTO challenges.	No SSI has reported to implement this aspect.	The SSI not prepared to face the WTO challenges in Madhya Pradesh and Maharashtra does not vary significantly.	--
Product or process patents in	The SSI are in possession of	No SSI has reported to be in possession of product	The SSI are not prepared to face	--

possession	product or process patents at all phases of life cycle.	or process patents.	the global competitiveness challenge at any phase of life cycle.	
	The SSI of Madhya Pradesh and Maharashtra are in possession of product or process patents.	No SSI has reported to be in possession of product or process patents.	The SSI not prepared to face the global competitiveness challenges in Madhya Pradesh and Maharashtra does not vary significantly.	--
Gadgets in use & knowledge preservation	CAD or similar technology is use for R & D by SSI at all phases of life cycle.	No SSI has reported using CAD or similar technology.	The SSI are not using CAD or similar technology at any phase of life cycle.	--
	CAD or similar technology is use for R & D by SSI of Madhya Pradesh and Maharashtra.	No SSI has reported using CAD or similar technology.	The SSI not using CAD or similar technology in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Documentation is done to preserve the R & D efforts by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 1.79 and - 4.78, respectively.	Documentation done to preserve the R & D efforts by SSI is not significant at any phase of life cycle.	--
	Documentation is done to preserve the R & D efforts by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Documentation done to preserve the R & D efforts by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Indexed system is in practice for knowledge preservation by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 3.97 and - 0.59, respectively.	Indexed system for knowledge preservation by SSI is not significant at any phase of life	--

			cycle.	
	Indexed system is in practice for knowledge preservation by SSI of Madhya Pradesh and Maharashtra.	$z = 0.58$	Indexed system for knowledge preservation by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--

Strategic Management

Critical value of χ^2 at 2 d.f. is 7.82 and at 1 d.f. is 3.84 at 5% significance level. Critical value of z is 1.96 at 5% significance level.

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Support taken from outside experts	The system of taking support from outside experts is similar in SSI at all stages of business life cycle.	χ^2 - test can not be applied. 3 and 1 SSI each in Growth and Decline phase has taken outside support of consultant. The values of z are - 2.60 and - 7.35 for Growth and Decline phases, respectively.	The support taken from outside consultants is not significant at any phase of life cycle.	--
	The system of taking support from outside experts is similar in SSI of Madhya Pradesh and Maharashtra.	Only 2 SSI each in Madhya Pradesh and Maharashtra has taken outside support of consultant	There is no difference in Madhya Pradesh and Maharashtra in this aspect.	--
Association of students for training	The system of associating students for imparting training is similar in SSI at all stages of business life cycle.	Only 3 SSI each in Growth and Maturity phase associate students for training. χ^2 - test can not be applied. The values of z are - 2.60 and - 3.60 for Growth and Decline phases, respectively.	Association of students for training is not significant any phase of life cycle.	--
	The system of associating students for imparting training is similar in SSI of Madhya Pradesh and	Only 3 SSI each in Madhya Pradesh and Maharashtra associate students for training.	There is no difference in Madhya Pradesh and Maharashtra in this aspect.	--

	Maharashtra.			
Reason for not accepting students for providing training - no value added work, problem creation, no interest in learning, no policy exists	The reasons for not accepting students for imparting training is similar in SSI at all stages of business life cycle.	Only 3 SSI each from Madhya Pradesh and Maharashtra responded to this question. The respondents were of the opinion that the students do not do a value added work, create problems or there is no such policy exists. The values of z are - 2.60 and - 3.60 for Growth and Decline phases, respectively.	No reason for not associating students is significant at any phase of life cycle.	--
	The reasons for not accepting students for imparting training is similar in SSI of Madhya Pradesh and Maharashtra.	Only 3 SSI each from Madhya Pradesh and Maharashtra responded to this question. The respondents were of the opinion that the students do not do a value added work, create problems or there is no such policy exists.	There is no difference in Madhya Pradesh and Maharashtra in this aspect.	--
TQM implementation	The system of TQM implementation is similar in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 0.94$ For Maturity & Decline : $\chi^2 = 0.49$ 50 % SSI in Growth phase are implementing TQM. The values of z are 0, 0.74 and - 2.65 for Growth, Maturity and Decline, respectively.	The TQM implementation is not significant at any phase of life cycle.	--
	The system of TQM implementation is similar in SSI of Madhya Pradesh and Maharashtra.	$z = 0$	The number of SSI implementing TQM in Madhya Pradesh and Maharashtra does not vary significantly.	--
Level of TQM implementation - only training, training & implementation - limited way, implementation - advanced level	The level of TQM implementation is similar in SSI at all stages of business life cycle.	1 SSI each in Growth and Decline phase is implementing TQM at advanced stage. 3 and 2 SSI are implementing in a limited way in Growth and Decline phases. The values of z are - 1.79 and - 1.96 for	The TQM implementation is not significant at any phase of life cycle.	--

		Growth and Decline phases, respectively.		
	The level of TQM implementation is similar in SSI of Madhya Pradesh and Maharashtra.	3 and 4 SSI in Madhya Pradesh and Maharashtra are implementing TQM at advanced stage or in a limited way.	There is no significant difference in Madhya Pradesh and Maharashtra.	--
Measurement of results - customer satisfaction with data base, customer satisfaction – without data base, quality performance parameter, value addition, six sigma implementation, productivity, training effectiveness, others	The measurement parameters of results of TQM implementation is similar in SSI at all stages of business life cycle.	5 SSI in Growth phase 2 SSI in Decline phase are using some measurement system to evaluate the results of TQM implementation. The values of z are - 1.10 and – 4.78 for Growth and Decline, respectively.	The measurement system is not significant at any phase of life cycle.	--
	The measurement parameters of results of TQM implementation is similar in SSI of Madhya Pradesh and Maharashtra.	1 SSI in Madhya Pradesh and 4 in Maharashtra have adopted a system for measurement of results of TQM implementation.	There is no significant difference method is adopted for measurement of results of TQM implementation between Madhya Pradesh and Maharashtra.	--
Quality circle implementation	The system of quality circle implementation is similar in SSI at all stages of business life cycle.	1 SSI in Growth phase and 4 in Decline phase are implementing quality circle. The values of z are - 6.12 and – 2.64 for Growth and Decline, respectively.	Quality circle implementation is not significant at any phase of life cycle.	--
	The system of quality circle implementation is similar in SSI of Madhya Pradesh and Maharashtra.	2 SSI from Madhya Pradesh and 3 from Maharashtra are implementing quality circle.	There is no significant difference in implementation of quality circle between Madhya Pradesh and Maharashtra.	--
Acceptance of implementation of recommendation of the quality circle	The level of acceptance of recommendations of quality circles is similar in SSI at all stages of business life cycle.	1 SSI in growth phase and 2 in decline phase are accepting the suggestions. The values of z are - 6.12 and – 4.78 for Growth and Decline, respectively.	The acceptance of suggestions by quality circles is not significant at any phase of life cycle.	--

	The level of acceptance of recommendations of quality circles is similar in SSI of Madhya Pradesh and Maharashtra.	2 SSI from Madhya Pradesh and 1 from Maharashtra are accepting the suggestions of quality circle.	There is no difference in performance between Madhya Pradesh and Maharashtra.	--
Method of strategy planning - discussion with other Directors, discussion with Managers, Discussion with other employees	Strategy planning is done in consultation with other directors in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 0.8$ For Maturity : $\chi^2 = 1.78$ For Decline : $\chi^2 = 0.31$ In 50 and 41.18 % SSI in Maturity and Decline phases, respectively, discussion with other Directors is held for strategy planning. The values of z are - 1.10, 0, - 0.74 for Growth, Maturity and Decline, respectively.	This indicates that there is no significant variation from the mean performance. Strategy planning in consultation with the directors is not significant at any phase of life cycle.	--
	Strategy planning done in consultation with other directors is similar in SSI of Madhya Pradesh and Maharashtra.	$z = 0.69$ In 47.06 % SSI of Madhya Pradesh discussion is held with other Directors for strategy planning.	The system of strategy planning in consultation with other directors is similar in Madhya Pradesh and Maharashtra.	--
	Strategy planning is done in consultation with manager in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 2.43$ For Maturity & Decline : $\chi^2 = 0.35$ The values of z are - 1.10, 0 and 0.74 for Growth, Maturity and Decline, respectively. In 50 and 52.82 % SSI in Maturity and Decline phases, respectively, discussion is held with managers for strategy planning.	The system of strategy planning in consultation with managers is similar in all stages of life cycle, there is no significant variation from the mean performance. Strategy planning in consultation with managers is not significant in SSI at any phase of life cycle.	--
	Strategy planning done in consultation with managers is similar in SSI of	$z = 0.34$ In 52.94 and 47.06 % SSI of Madhya Pradesh and Maharashtra,	There is no significant variation from the mean performance.	--

	Madhya Pradesh and Maharashtra.	respectively, discussion is held with managers for strategy planning.		
	Strategy planning is done in consultation with other employees in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 2.55$ For Maturity & Decline : $\chi^2 = 2.05$ The values of z are 0.11 and - 0.74 for Growth and Decline, respectively. In 41.17 % SSI in Decline phase, discussion is held with other employees for strategy planning.	The system of strategy planning in consultation with other employees is similar in all stages of life cycle. This indicates that there is no significant variation from the mean performance. Strategy planning in consultation with other employees is not significant in SSI at any phase of life cycle.	--
	Strategy planning done in consultation with other employees is similar in SSI of Madhya Pradesh and Maharashtra.	$z = 0.74$	The system of strategy planning in consultation with other employees is similar in Madhya Pradesh and Maharashtra. This indicates that there is no significant variation from the mean performance.	--
Frequency of review of strategies & plans – quarterly, six monthly, annually, as & when necessary	The review of strategy plan six monthly or quarterly is similar in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 0.85$ For Maturity & Decline : $\chi^2 = 1.14$ The values of z are - 0.55, 0.74 and - 1.23 for Growth, Maturity and Decline, respectively.	The system of review of strategy plan every six monthly or quarterly is similar in all stages of life cycle. This indicates that there is no significant variation from the mean performance. Planned strategy	--

			planning is not significant in SSI at any phase of life cycle.	
	Six monthly or quarterly review of strategy plan is similar in SSI of Madhya Pradesh and Maharashtra.	$z = 1.04$	There is no significant difference between Madhya Pradesh and Maharashtra from in system of review of strategy plan every six monthly or quarterly.	--
	The practice of unplanned review of strategy plan is similar in SSI at all stages of business life cycle.	For Growth : $\chi^2 = 2.28$ For Maturity & Decline : $\chi^2 = 0.51$ The values of z are - 1.79 and 1.23 for Growth and Decline, respectively.	The system of unplanned review of strategy plan is similar in all stages of life cycle. This indicates that there is no significant variation from the mean performance. The unplanned review is not significant at any phase of life cycle.	--
	Unplanned review of strategy plan is similar in SSI of Madhya Pradesh and Maharashtra.	$z = 1.73$	The system of unplanned review of strategy plan is similar in Madhya Pradesh and Maharashtra. This indicates that there is no significant variation from the mean performance.	--

Leader's Perception about External Environment

Critical value of χ^2 at 2 d.f. is 7.82 and at 1 d.f. is 3.84 at 5% significance level. Critical value of z is 1.96 at 5% significance level.

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Protection expected by the Government	Protection is expected from the Government by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. 64.29 % SSI expects protection in Growth phase. The values of z for Growth and Decline are 1.10 and 2.64, respectively. In maturity phase all SSI reported to in favour of protection.	This phenomenon is reported at Introduction phase. Protection expected from the Government by SSI significant at Introduction, Maturity and Decline phases.	--
	Protection is expected from the Government by SSI of Madhya Pradesh and Maharashtra.	$z = 1.57$ 88.24 and 64.70 % SSI of Madhya Pradesh and Maharashtra expects protection from Government, respectively.	Protection expected from the Government by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Promotional support expected	Promotional support is expected by SSI through foreign technical collaboration at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 2.86 and - 1.87, respectively.	Promotional support expected by SSI through foreign technical collaboration is not significant at any phases of life cycle.	--
	Promotional support is expected by SSI of Madhya Pradesh and Maharashtra through foreign technical collaboration.	$z = 0.78$	Promotional support expected by SSI through foreign technical collaboration in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Promotional support is expected by SSI through R & D facilities at all phases of life	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are	This phenomenon is reported at Introduction phase.	--

	cycle.	- 2.87 and - 3.59, respectively.	Promotional support expected by SSI through R & D facilities is not significant at any phases of life cycle, except at Introduction phase.	
	Promotional support is expected by SSI of Madhya Pradesh and Maharashtra through R & D facilities.	$z = 0$	Promotional support expected by SSI through R & D facilities in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Promotional support is expected by SSI through product standardisation at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 1.10 and - 2.64, respectively.	Promotional support expected by SSI through product standardisation is not significant at any phases of life cycle.	
	Promotional support is expected by SSI of Madhya Pradesh and Maharashtra through product standardisation.	$z = 1.18$	Promotional support expected by SSI through product standardisation in Madhya Pradesh and Maharashtra does not vary significantly.	
	Promotional support is expected by SSI through expansion of market at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth, Maturity and Decline are - 0.55, 1.14 and - 2.64, respectively.	Promotional support expected by SSI through expansion of market is not significant at any phases of life cycle.	
	Promotional support is expected by SSI	$z = 0.35$	Promotional support expected by SSI	

	of Madhya Pradesh and Maharashtra through expansion of market.		through expansion of market in Madhya Pradesh and Maharashtra does not vary significantly.	
	Promotional support is expected by SSI through financial assistance at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth, Maturity and Decline are - 3.97, - 1.14 and - 1.23, respectively.	This phenomenon is reported at Introduction phase. Promotional support expected by SSI through financial assistance is not significant at any phases of life cycle, except at Introduction phase.	
	Promotional support is expected by SSI of Madhya Pradesh and Maharashtra through financial assistance.	$z = 0.39$	Promotional support expected by SSI through financial assistance in Madhya Pradesh and Maharashtra does not vary significantly.	
	Promotional support is expected by SSI through other methods at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The values of z for Growth, Maturity and Decline are -6.12 and - 7.35, respectively.	Promotional support expected by SSI through other methods is not significant at any phases of life cycle.	
	Promotional support is expected by SSI of Madhya Pradesh and Maharashtra through other methods.	$z = 0$	Promotional support expected by SSI through other methods in Madhya Pradesh and Maharashtra does not vary significantly.	
Status of duty barriers	Anti dumping duty barrier is	No SSI is experiencing anti dumping duty	Anti dumping duty barrier is	--

	experienced by SSI at all phases of life cycle.	barrier.	not the reason for low performance in SSI.	
	Anti dumping duty barrier is experienced by SSI of Madhya Pradesh and Maharashtra.	--	--	--
	Countervailing duty barrier is experienced by SSI at all phases of life cycle.	1 SSI in Maharashtra is experiencing countervailing duty barrier at growth phase.	Countervailing duty barrier is not the reason for low performance in SSI.	--
	Countervailing duty barrier is experienced by SSI of Madhya Pradesh and Maharashtra.	--	--	--
Status of investment barriers	Lowering of investment limit from Rs. 3 Crore to 1 Crore has an unfavourable impact on the performance of SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Maturity and Decline are - 0.55 and - 1.87, respectively.	Unfavourable impact due to lowering the investment limit in SSI is not significant at any phases of life cycle.	--
	Lowering of investment limit from Rs. 3 Crore to 1 Crore has an unfavourable impact on the performance of SSI of Madhya Pradesh and Maharashtra.	$z = 0.37$	Unfavourable impact due to lowering the investment limit in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Lowering of investment limit from Rs. 3 Crore to 1 Crore has an unfavourable impact on the technological upgradation of SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Maturity and Decline are 0.55 and 0.25, respectively.	Unfavourable impact on technological upgradation due to lowering the investment limit in SSI is not significant at any phases of life cycle.	--

	Lowering of investment limit from Rs. 3 Crore to 1 Crore has an unfavourable impact on the technological upgradation of SSI of Madhya Pradesh and Maharashtra.	$z = 0.35$	Unfavourable impact on technological upgradation due to lowering the investment limit in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Expected investment limits	The expected investment limit is Rs. 5 Crore by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Maturity and Decline are - 1.14 and - 3.59, respectively.	Expected investment limit of Rs. 5 Crore by SSI is not significant at any phases of life cycle.	--
	The expected investment limit is Rs. 5 Crore by SSI of Madhya Pradesh and Maharashtra.	$z = 1.07$	Expected investment limit of Rs. 5 Crore by in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The expected investment limit is Rs. 3 Crore by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 1.79 and - 7.35, respectively.	This phenomenon is reported at Introduction phase. Expected investment limit of Rs. 3 Crore by SSI is not significant at any phases of life cycle, except at Introduction phase.	--
	The expected investment limit is Rs. 3 Crore by SSI of Madhya Pradesh and Maharashtra.	$z = 1.07$	Expected investment limit of Rs. 3 Crore by in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Competition from large scale industries	The SSI are facing competition from large scale	Due to low frequency of data χ^2 - test can not be applied. 57.14 % SSI are facing competition from	Competition from large scale industries for SSI in India is	--

	industries in India at all phases of life cycle.	large scale industries in India at Growth phase. The values of z for Growth and Decline are 0.55 and - 4.78, respectively.	not significant at any phase of life cycle.	
	The SSI of Madhya Pradesh and Maharashtra are facing competition from large scale industries in India.	$z = 1.18$	Competition from large scale industries in India for SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	The SSI are facing competition from large scale industries at international level at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 2.86 and - 7.35, respectively.	Competition from large scale industries for SSI at international level is not significant at any phase of life cycle.	--
	The SSI of Madhya Pradesh and Maharashtra are facing competition from large scale industries at international level.	$z = 1.07$	Competition from large scale industries at international level for SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
External factors as barriers – - Domestic competition - International competition	The SSI are facing problem due to domestic competition at all phases of life cycle.	The values of z for Growth, Maturity and Decline are 0, 1.14 and 2.65, respectively. 50, and 75 % SSI in Growth and Maturity phase feel that there is a problem due to domestic competition, respectively.	Competition in domestic market for SSI is significant at Introduction and Decline phases.	--
	The SSI of Madhya Pradesh and Maharashtra are facing problem due to domestic competition.	$z = 1.80$ 64.71 and 70.59 % of SSI are facing problem due to domestic competition, respectively.	Competition in domestic market for SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	The SSI are facing problem due to international competition at all phases of life cycle.	The values of z for Growth, Maturity and Decline are - 1.78, 1.14 and - 1.23, respectively.	Competition in domestic market for SSI is not significant at any phase of life cycle.	--

	The SSI of Madhya Pradesh and Maharashtra are facing problem due to international competition.	$z = 4.11$	Competition in domestic market for SSI of Madhya Pradesh and Maharashtra varies significantly, SSI of Madhya Pradesh are facing more competition than Maharashtra.	--
<p>Satisfaction on government policies –</p> <ul style="list-style-type: none"> - on excise duty exemption - on Credit Guarantee Scheme - on Composite Loan Limit - on Collateral Security - on Credit Linked Capital Subsidy - on Back Ended Capital Subsidy 	Exemption on excise is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are – 1.78 and – 2.64, respectively. 64.29 % SSI in Growth phase do not feel adequacy of excise duty exemption.	Exemption on excise considered to be inadequate by SSI is not significant at any phase of life cycle, except in Introduction phase.	--
	Exemption on excise is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 0.69$ 47.06 % SSI do not feel that excise duty exemption is adequate.	Exemption on excise considered to be inadequate by SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	Credit Guarantee Scheme is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are – 2.86, 0 and – 3.59, respectively.	Credit Guarantee Scheme considered to be inadequate by SSI is not significant at any phase of life cycle.	--
	Credit Guarantee Scheme is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 1.83$ 42.86 and 50 % SSI in Growth and Maturity phase, respectively feel that existing system in Credit Guarantee Scheme is not adequate.	Credit Guarantee Scheme is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	Composite Loan Limit is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth and Decline are – 1.78 and – 1.87, respectively. 47.06 % of SSI of Madhya Pradesh feel that	Composite Loan Limit considered to be inadequate by SSI is not significant at any phase of life	--

		the existing system in Credit Guarantee Scheme is inadequate.	cycle.	
	Composite Loan Limit is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 1.18$	Composite Loan Limit considered to be inadequate by SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	Collateral Security is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are - 1.10, - 1.14 and - 2.64, respectively.	Collateral Security considered to be inadequate by SSI is not significant at any phase of life cycle.	--
	Collateral Security is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Collateral Security considered to be inadequate by SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	Credit Linked Capital Subsidy is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are - 1.10, - 1.14 and - 2.64, respectively.	Credit Linked Capital Subsidy considered to be inadequate by SSI is not significant at any phase of life cycle.	--
	Credit Linked Capital Subsidy is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 0.74$	Credit Linked Capital Subsidy considered to be inadequate by SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	Back Ended Capital Subsidy is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are - 1.10, - 1.14 and - 2.64, respectively.	Back Ended Capital Subsidy considered to be inadequate by SSI is not significant at any phase of life cycle.	--
	Back Ended Capital Subsidy is considered to be inadequate by	$z = 0.74$	Back Ended Capital Subsidy considered to be inadequate by	--

	SSI of Madhya Pradesh and Maharashtra.		SSI of Madhya Pradesh and Maharashtra does not vary significantly.	
<p>Satisfaction on existing infrastructure –</p> <ul style="list-style-type: none"> - Telephone - Link Roads to Industrial Units / Clusters - Roads - Power Supply - Water Supply - Effluent Treatment - Space for expansion 	Telephone service is considered to be adequate by SSI at all phases of life cycle.	The values of z for Growth and Decline are 2.60 and 1.22, respectively. All SSI at Maturity phase follow this. At Decline phase 58.82 % SSI feel satisfied with the service.	Telephone service considered to be adequate by SSI is significant at Growth and Maturity phase.	--
	Telephone service is considered to be adequate by SSI of Madhya Pradesh and Maharashtra.	$z = 2.35$	Telephone service is considered to be adequate by SSI of Madhya Pradesh and Maharashtra varies significantly, more number of SSI of Maharashtra is satisfied than Madhya Pradesh.	--
	Link Roads to Industrial Units / Clusters is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are 0, - 1.14 and - 0.25, respectively.	Link Roads to Industrial Units / Clusters considered to be inadequate by SSI is not significant at any phase of life cycle.	--
	Link Roads to Industrial Units / Clusters is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 1.04$	Link Roads to Industrial Units / Clusters considered to be inadequate by SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	General Roads is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are - 1.10, - 1.14 and 0.25, respectively.	General Roads considered to be inadequate by SSI are not significant at any phase of life cycle.	--
	General Roads is considered to be inadequate by SSI of Madhya	$z = 1.04$	General Roads considered to be inadequate by SSI of Madhya	--

	Pradesh and Maharashtra.		Pradesh and Maharashtra do not vary significantly.	
	Power Supply is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth and Decline are - 0.55 and - 0.25, respectively.	Power Supply considered to be inadequate by SSI is not significant at any phase of life cycle.	--
	Power Supply is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 2.20$	Power Supply considered to be inadequate by SSI of Madhya Pradesh and Maharashtra varies significantly, more number of SSI of Madhya Pradesh considers Power Supply to be inadequate than Maharashtra.	--
	Water Supply is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are - 0.55, - 1.14 and - 1.87, respectively.	Water Supply considered to be inadequate by SSI is not significant at any phase of life cycle.	--
	Water Supply is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 1.10$	Water Supply considered to be inadequate by SSI of Madhya Pradesh and Maharashtra do not vary significantly.	--
	Effluent Treatment is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are - 0.55, - 1.14 and - 2.64, respectively.	Effluent Treatment considered to be inadequate by SSI is not significant at any phase of life cycle.	--
	Effluent Treatment is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 0.74$	Effluent Treatment is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra do not vary significantly.	--

	Space for expansion is considered to be inadequate by SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are - 1.78, 0 and - 3.59, respectively.	Space for expansion considered to be inadequate by SSI is not significant at any phase of life cycle.	--
	Space for expansion is considered to be inadequate by SSI of Madhya Pradesh and Maharashtra.	$z = 0.78$	Space for expansion considered to be inadequate by SSI of Madhya Pradesh and Maharashtra do not vary significantly.	--

Change Management

Critical value of χ^2 at 2 d.f. is 7.82 and at 1 d.f. is 3.84 at 5% significance level. Critical value of z is 1.96 at 5% significance level.

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Change facilitation	The change process is facilitated by a consultant in SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth, Maturity and Decline are - 6.12, - 1.14 and - 7.35, respectively.	Change process facilitation by a consultant in SSI is not significant at any phase of life cycle.	--
	The change process is facilitated by a consultant in SSI of Madhya Pradesh and Maharashtra.	$z = 0.59$	Change process facilitation by a consultant in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The change process is facilitated by an external agent in SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Maturity are - 6.12 and - 1.14, respectively.	Change process facilitation by an external agent is not significant at any phase of life cycle.	--
	The change process is	$z = 1.47$	Change process facilitation by	--

	facilitated by an external agent in SSI of Madhya Pradesh and Maharashtra.		an external agent in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	
	The change process is facilitated by CEO in SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth, Maturity and Decline are - 0.55, 1.14 and - 2.64, respectively.	This phenomenon is available at Introduction phase. Change process facilitation by CEO is not significant at any phase of life cycle, except at Introduction phase.	--
	The change process is facilitated by CEO in SSI of Madhya Pradesh and Maharashtra.	z = 0.35	Change process facilitation by CEO in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The change process is facilitated by one of the family members joined recently in SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth is - 6.12.	Change process facilitation by one of the family members who joined recently, is not significant at any phase of life cycle.	--
	The change process is facilitated by one of the family members joined recently in SSI of Madhya Pradesh and Maharashtra.	z = 0.98	Change process facilitation by one of the family members who joined recently, in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Most important reason for change - - Value improvement	Value improvement is most important reason for change process in SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are - 1.78, - 1.14 and - 4.78, respectively.	Change process for value improvement in SSI is not significant at any phase of life cycle.	--
- Meeting the requirements of	Value improvement is	z = 1.26	Change process for value	--

<p>existing customers</p> <p>- Manufacturing cycle time reduction</p> <p>- New opportunity in the country</p>	most important reason for change process in SSI of Madhya Pradesh and Maharashtra.		improvement in SSI of Madhya Pradesh and Maharashtra does not vary significantly.	
	Meeting requirements of existing customers is the most important reason for change process in SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are – 3.57, - 1.14 and – 2.64, respectively.	Change process for meeting requirements of existing customer in SSI is not significant at any phase of life cycle.	--
	Meeting requirements of existing customers is the most important reason for change process in SSI of Madhya Pradesh and Maharashtra.	$z = 0.42$	Change process for meeting requirements of existing customer in SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	Manufacturing cycle time reduction is the most important reason for change process in SSI at all phases of life cycle.	The values of z for Growth and Decline are – 3.57 and – 3.57, respectively.	Change process for reduction in manufacturing cycle time in SSI is not significant at any phase of life cycle.	--
	Manufacturing cycle time reduction is the most important reason for change process in SSI of Madhya Pradesh and Maharashtra.	$z = 1.35$	Change process for reduction in manufacturing cycle time in SSI of Madhya Pradesh and Maharashtra does not vary significantly.	--
	New opportunity in the country is the most important reason for change process in SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are – 6.12, - 1.14 and – 3.59, respectively.	Change process for exploring new opportunity in the country by SSI is not significant at any phase of life cycle.	--
	New opportunity in the country is the most important reason for change process in SSI of Madhya Pradesh and Maharashtra.	$z = 1.35$	Change process for exploring new opportunity in the country by SSI of Madhya Pradesh and Maharashtra	--

			does not vary significantly.	
Least important reason for change – - Implementation of a Business Excellence Model - Implementation of a ERP or similar package	Implementation of business excellence model is the least important reason for change process in SSI at all phases of life cycle.	The values of z for Growth and Decline are 1.09 and 4.78, respectively. All SSI at maturity phase have reported positive.	Least importance of implementation of business excellence model by SSI for change is significant at Maturity and Decline phase.	
	Implementation of business excellence model is the least important reason for change process in SSI of Madhya Pradesh and Maharashtra.	$z = 0.42$	Least importance of implementation of business excellence model by SSI for change in Madhya Pradesh and Maharashtra does not vary significantly.	
- Anticipate change in global competition - System Benchmarking - Retaining the skilled manpower - Exploring new business opportunity abroad - Process Benchmarking - Product Benchmarking	Implementation of ERP or similar package is the least important reason for change process in SSI at all phases of life cycle.	The values of z for Growth and Decline are 1.09 and 2.65, respectively. All SSI at maturity phase have reported positive.	Least importance of implementation of ERP or similar package by SSI for change is significant at Decline phase.	
	Implementation of ERP or similar package is the least important reason for change process in SSI of Madhya Pradesh and Maharashtra.	$z = 0.39$	Least importance of implementation of ERP or similar package by SSI for change in Madhya Pradesh and Maharashtra does not vary significantly.	
	Anticipation of change in global competition is the least important reason for change process in SSI at all phases of life cycle.	The values of z for Growth and Decline are 0 and 1.87, respectively. All SSI at maturity phase have reported positive.	Least importance for anticipation of change in global competition by SSI for change is not significant at any phase of life cycle.	
	Anticipation of change in global competition is the	$z = 0.37$	Least importance for anticipation of	

	least important reason for change process in SSI of Madhya Pradesh and Maharashtra.		change in global competition by SSI for change in Madhya Pradesh and Maharashtra does not vary significantly.	
	System benchmarking is the least important reason for change process in SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are 0.55, 1.14 and 1.87, respectively.	Least importance of system benchmarking by SSI for change is not significant at any phase of life cycle.	
	System benchmarking is the least important reason for change process in SSI of Madhya Pradesh and Maharashtra.	$z = 0.74$	Least importance of system benchmarking by SSI for change in Madhya Pradesh and Maharashtra does not vary significantly.	
	Retaining skilled manpower is the least important reason for change process in SSI at all phases of life cycle.	The values of z for Growth and Decline are 0.55 and 1.22, respectively. All SSI at maturity phase have reported positive.	Least importance of retaining skilled manpower by SSI for change is significant at any phase of life cycle.	
	Retaining skilled manpower is the least important reason for change process in SSI of Madhya Pradesh and Maharashtra.	$z = 0$	Least importance of system benchmarking by SSI for change in Madhya Pradesh and Maharashtra does not vary significantly.	
	New business opportunity abroad is the least important reason for change process in SSI at all phases of life cycle.	The values of z for Growth and Decline are 0 and 1.22, respectively. All SSI at maturity phase have reported positive.	Least importance for new business opportunity abroad by SSI for change is not significant at any phase of life cycle.	
	New business opportunity	$z = 0.35$	Least importance for	

	abroad is the least important reason for change process in SSI of Madhya Pradesh and Maharashtra.		new business opportunity abroad by SSI for change in Madhya Pradesh and Maharashtra does not vary significantly.	
	Process benchmarking is the least important reason for change process in SSI at all phases of life cycle.	The values of z for Growth and Decline are 0.55 and 0.25, respectively. All SSI at maturity phase have reported positive.	Least importance of process benchmarking by SSI for change is not significant at any phase of life cycle.	
	Process benchmarking is the least important reason for change process in SSI of Madhya Pradesh and Maharashtra.	$z = 0.69$	Least importance of process benchmarking by SSI for change in Madhya Pradesh and Maharashtra does not vary significantly.	
	Product benchmarking is the least important reason for change process in SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are 0.55, 1.14 and 0.25, respectively.	Least importance of product benchmarking by SSI for change is not significant at any phase of life cycle.	
	Product benchmarking is the least important reason for change process in SSI of Madhya Pradesh and Maharashtra.	$z = 0.35$	Least importance of product benchmarking by SSI for change in Madhya Pradesh and Maharashtra does not vary significantly.	
Result of change implementation	Result of change process is unfavourable in SSI at all phases of life cycle.	The values of z for Growth, Maturity and Decline are 3.97, 0 and 7.35, respectively.	Unfavourable result of change process by SSI is significant at Growth and Decline phases of life cycle.	--
	Result of change process is	$z = 1.07$	Unfavourable result of change	--

	unfavourable in SSI of Madhya Pradesh and Maharashtra.		process by SSI of Madhya Pradesh and Maharashtra does not vary significantly.	
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Leadership Style

Critical value of χ^2 at 2 d.f. is 7.82 and at 1 d.f. is 3.84 at 5% significance level. Critical value of z is 1.96 at 5% significance level.

ASPECTS ANALYSED	NULL HYPOTHESIS	TEST STATISTIC CALCULATED / COMMENT ON DATA	INFERENCE	REMARKS ON INFERENCE
Vision and Corporate Policy	Formal vision statement is available with SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The values of z for Growth and Decline are - 1.78 and - 2.64, respectively.	This is available at Introduction phase. Availability of a formal vision statement in SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Formal vision statement is available with SSI of Madhya Pradesh and Maharashtra.	$z = 0.78$	Availability of a formal vision statement in SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	Formal corporate policy statement is available with SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. Corporate Policy statement is available with 42.86 % of SSI at Growth phase. The values of z for Growth and Decline are - 0.55 and - 2.64, respectively.	Availability of a formal corporate policy statement in SSI is not significant at any phase of life cycle.	--
	Formal corporate policy statement is available with SSI of Madhya	$z = 0.74$	Availability of a formal corporate policy statement in SSI	--

	Pradesh and Maharashtra.		in Madhya Pradesh and Maharashtra does not vary significantly.	
Long Term Planning	Long term planning is done by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied.	The system is in practice at Introduction phase. Long term planning by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Long term planning is done by SSI of Madhya Pradesh and Maharashtra.	$z = 0.98$	Long term planning by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The plan is updated every year by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Decline is - 7.35.	Updating of plan every year by SSI is not significant at any phase of life cycle.	--
	The plan is updated every year by SSI of Madhya Pradesh and Maharashtra.	$z = 0.98$	Updating of plan every year by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The plan is updated as per need by SSI at all phases of life cycle.	No SSI in growth, maturity or decline phase updates the plan as per need.	The system is in practice at Introduction phase.	--
	The plan is updated as per need by SSI of Madhya Pradesh and Maharashtra.	No SSI in Madhya Pradesh or Maharashtra updates the plan as per need.	--	--
Medium Term Planning	Medium term planning is done by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth, Maturity and Decline are - 0.30, - 1.32 and - 0.31, respectively.	The system is in practice at Introduction phase. Medium term planning done by SSI is not significant at	--

			any phase of life cycle, except at Introduction phase.	
	Medium term planning is done by SSI of Madhya Pradesh and Maharashtra.	$z = -0.92$ Medium term planning is carried out by 47.06 % SSI of Maharashtra.	Medium term planning done by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The plan is updated every six months by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12, and - 7.35, respectively.	Updating the plan every six months by SSI is not significant at any phase of life cycle.	--
	The plan is updated every six months by SSI of Madhya Pradesh and Maharashtra.	$z = 1.46$	Updating the medium term plan every six months by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The plan is updated every year by SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 2.59 and - 1.84, respectively.	Updating the medium term plan every year by SSI is not significant at any phase of life cycle.	--
	The plan is updated every year by SSI of Madhya Pradesh and Maharashtra.	$z = 1.06$	Updating the medium term plan every year by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
	The plan is updated as per need by SSI at all phases of life cycle.	No SSI in growth, maturity or decline phase updates the plan as per need.	The system is in practice at Introduction phase.	--
	The plan is updated as per need by SSI of Madhya Pradesh and Maharashtra.	No SSI in Madhya Pradesh or Maharashtra updates the plan as per need.	--	
Tactical Planning	Tactical planning is done by SSI at	Due to low frequency of data χ^2 - test can not be		--

	all phases of life cycle.	<p>applied. Tactical planning is carried out by 50 % SSI, each at Growth and Decline phases.</p> <p>The value of z for Growth, Maturity and Decline are 0, 0 and - 0.3, respectively.</p>	Tactical planning done by SSI is not significant at any phase of life cycle.	
	Tactical planning is done by SSI of Madhya Pradesh and Maharashtra.	<p>$z = 0.35$</p> <p>Medium term planning is carried out by 47.06 and 41.18 % by SSI Madhya Pradesh and Maharashtra, respectively.</p>	Tactical planning done by SSI in Madhya Pradesh and Maharashtra does not vary significantly.	--
Customer relationship	CEOs of SSI communicate with customer every day at all phases of life cycle.	<p>Due to low frequency of data χ^2 – test can not be applied. Communication is carried out with customer every day by 50 % of SSI at Growth phase.</p> <p>The value of z for Growth, Maturity and Decline are 0, 0 and - 0.3, respectively.</p>	Communication with customer every day by CEO of SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with customer every day.	<p>$z = 1.26$</p> <p>Communication is carried out with customer every day by 41.18 % by SSI of Maharashtra, respectively.</p>	Communication with customer every day by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI communicate with customer once in a week at all phases of life cycle.	<p>Due to low frequency of data χ^2 – test can not be applied.</p> <p>The value of z for Growth and Decline are - 6.12 and - 2.64, respectively.</p>	Communication with customer once in a week by CEO of SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with customer once in a week.	<p>$z = 0.49$</p>	Communication with customer once in a week by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--

	CEOs of SSI communicate with customer once in a month at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are – 3.97 and – 1.84, respectively.	Communication with customer once in a month by CEO of SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with customer once in a month.	$z = 0.59$	Communication with customer once in a month by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI communicate with customer as per need at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth, Maturity and Decline are – 6.12, 1.14 and – 1.84, respectively.	The system is in practice at Introduction phase. Communication with customer as per need by CEO of SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with customer as per need.	$z = 0.49$	Communication with customer as per need by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI communicate with customer rarely at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth, Maturity and Decline are – 6.12, 1.14 and – 1.84, respectively.	Rare communication with customer by CEO of SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with customer rarely.	$z = 0$	Rare communication with customer CEO of SSI does not vary significantly in Madhya Pradesh and	--

			Maharashtra.	
	Product marketing is the reason for communication by the CEOs of SSI with customer at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. Product marketing is the reason for communication in 57.14, 75 and 41.18 % SSI in Growth, Maturity and Decline phases, respectively. The value of z for Growth, Maturity and Decline are 0.55, 1.14 and – 0.74, respectively.	Communication with customer for product marketing by CEO of SSI is not significant at any phase of life cycle.	--
	Product marketing is the reason for communication by the CEOs of SSI of Madhya Pradesh and Maharashtra with customer.	$z = 0.69$ Product marketing is the reason for communication with customer in 58.82 % SSI of Madhya Pradesh.	Communication with customer for product marketing by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	Exploring new market opportunities is the reason for communication by the CEOs of SSI with customer at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. Exploring new markets is the reason for communication in 50 % SSI in Growth phase. The value of z for Growth, Maturity and Decline are 0, - 1.32 and – 0.3, respectively.	Communication with customer for exploring new market opportunities by CEO of SSI is not significant at any phase of life cycle.	--
	Exploring new market opportunities is the reason for communication by the CEOs of SSI of Madhya Pradesh and Maharashtra with customer.	$z = 0.69$ Exploring new market is the reason for communication with customer in 47.06 % SSI of Maharashtra.	Communication with customer for exploring new market opportunities by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	Exploring opportunities for new product is the reason for communication by the CEOs of SSI with customer at all phases of life cycle.	Due to low frequency of data χ^2 – test can not be applied. Exploring new opportunity for new product is the reason for communication in 50 % SSI in Growth phase. The value of z for Growth and Decline are	Communication with customer for exploring new product opportunities by CEO of SSI is	--

		0 and - 1.87, respectively.	not significant at any phase of life cycle.	
	Exploring opportunities for new product is the reason for communication by the CEOs of SSI of Madhya Pradesh and Maharashtra with customer.	$z = 0$	Communication with customer for exploring new product opportunities by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI communicate with customer to settle the complaints at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth, Maturity and Decline are - 0.30, - 1.32 and - 2.64, respectively.	Communication with customer to settle customer complaints by CEO of SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with customer to settle the complaints.	$z = 0.78$	Communication with customer to settle customer complaints by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
Opinion on future leadership	Son or daughter is considered to be the future leaders of SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth, Maturity and Decline are 1.10, 1.14 and 1.87, respectively.	This phenomenon is in practice at Introduction phase. Projecting son or daughter as future leader of SSI is not significant at any phase of life cycle, except at Introduction phase.	--
	Son or daughter is considered to be the future leaders of SSI of Madhya Pradesh.	$z = 1.04$	Projecting son or daughter as future leader of SSI does not vary	--

			significantly in Madhya Pradesh and Maharashtra.	
	Brother or sister is considered to be the future leaders of SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Decline is - 7.35.	Projecting brother or sister as future leader of SSI is not significant at any phase of life cycle.	--
	Brother or sister is considered to be the future leaders of SSI of Madhya Pradesh.	$z = 0.98$	Projecting brother or sister as future leader of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	Other relative is considered to be the future leaders of SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.78, respectively.	Projecting other relative as future leader of SSI is not significant at any phase of life cycle.	--
	Other relative is considered to be the future leaders of SSI of Madhya Pradesh.	$z = 1.76$	Projecting other relative as future leader of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	Other person (not in relation) is considered to be the future leaders of SSI at all phases of life cycle.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 3.97 and - 7.35, respectively.	Projecting other person (not in relation) as future leader of SSI is not significant at any phase of life cycle.	--
	Other person (not in relation) is	$z = 1.76$	Projecting other person (not in	--

	considered to be the future leaders of SSI of Madhya Pradesh.		relation) as future leader of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	
Transfer of leadership in case no one within the family is found suitable	CEOs of SSI at all phases of life cycle are ready to transfer leadership to other in case no one within the family is found suitable.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are – 2.59 and – 0.25, respectively.	CEOs of SSI's readiness to transfer leadership to others in case no one within the family is found suitable is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra are ready to transfer leadership to other in case no one within the family is found suitable.	$z = 0.34$	CEOs of SSI's readiness to transfer leadership to others in case no one within the family found suitable does not vary significantly in Madhya Pradesh and Maharashtra.	--
Target for self performance	CEOs of SSI at all phases of life cycle set target for own performance.	Due to low frequency of data χ^2 – test can not be applied. 50, 50 and 41.18 % of CEO of SSI set target for self performance at Growth, Maturity and Decline phases, respectively. The value of z for Growth, Maturity and Decline are 0, 0 and – 0.71, respectively.	Setting targets for self by CEOs of SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra set target for own performance.	$z = 0.69$ 50 and 52.94 % CEO of SSI set target for self performance in Madhya Pradesh and Maharashtra, respectively.	Setting targets for self by CEOs of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--

Communication with departmental heads	CEOs of SSI at all phases of life cycle communicate with departmental heads any time required.	Due to low frequency of data χ^2 - test can not be applied. Communication with departmental heads takes place at any time required in 40 % SSI at Growth phase. The value of z for Growth, Maturity and Decline are - 0.55, - 1.32 and - 0.31, respectively.	Communication of CEOs of SSI with departmental heads any time required is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with departmental heads any time required.	$z = 0.74$ Communication with departmental heads takes place any time required in 50 % SSI of Maharashtra.	Communication of CEOs of SSI with departmental heads any time required does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle communicate with departmental heads daily.	Due to low frequency of data χ^2 - test can not be applied. Communication with departmental heads takes place daily in 40 % SSI in Decline phase. The value of z for Growth, Maturity and Decline are - 3.97, 0 and - 0.74, respectively.	This phenomenon is in practice at Introduction phase. Communication of CEOs of SSI with departmental heads daily is not significant at any phase of life cycle, except at Introduction phase.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with departmental heads daily.	$z = 0.37$	Communication of CEOs of SSI with departmental heads daily does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle communicate with departmental heads once in a week.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 2.59 and - 1.84, respectively.	Communication of CEOs of SSI with departmental heads on weekly basis is not significant at any phase of	--

			life cycle.	
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with departmental heads once in a week.	$z = 1.07$	Communication of CEOs of SSI with departmental heads on weekly basis does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle communicate with departmental heads once in a month.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth is - 6.12.	Communication of CEOs of SSI with departmental heads on monthly basis is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with departmental heads once in a month.	$z = 0.15$	Communication of CEOs of SSI with departmental heads on monthly basis does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle communicate with departmental heads sometime as per need.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.24, respectively.	Communication of CEOs of SSI with departmental heads sometimes as per need is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with departmental heads sometime as per need.	$z = 0.59$	Communication of CEOs of SSI with departmental heads sometimes as per need does not vary significantly in Madhya Pradesh and Maharashtra.	--
Communication with shopfloor employees	CEOs of SSI at all phases of life cycle never	Due to low frequency of data χ^2 - test can not be applied.	Non - communication of with	--

	communicate with shopfloor employees.	The value of z for Growth, Maturity and Decline are - 6.12, - 1.32 and - 4.24, respectively.	shopfloor employees is not significant at any phase of life cycle.	
	CEOs of SSI of Madhya Pradesh and Maharashtra never communicate with shopfloor employees.	$z = 1.06$	Non - communication with shopfloor employees does not vary significantly in Madhya Pradesh and Maharashtra.	-
	CEOs of SSI at all phases of life cycle communicate with shopfloor employees often every time on every visit to shopfloor.	Due to low frequency of data χ^2 - test can not be applied. Communication with shopfloor employees takes place in 75 and 47.06 % SSI in Maturity and Decline phases, respectively. The value of z for Growth, Maturity and Decline are - 0.30, 1.14 and - 0.25, respectively.	Communication of CEOs of SSI with shopfloor employees on every time during the shopfloor visit is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with shopfloor employees often every time on every visit to shopfloor.	$z = 1.07$ Communication with shopfloor employees takes place in 52.94 % SSI in Maharashtra.	Communication of CEOs of SSI with shopfloor employees on every time during the shopfloor visit does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle communicate with shopfloor employees once in a day.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 4.24, respectively.	Communication of CEOs of SSI with shopfloor employees once in a day is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with shopfloor employees once in a day.	$z = 1.76$	Communication of CEOs of SSI with shopfloor employees once in a day does not vary significantly in Madhya Pradesh and Maharashtra.	--

	CEOs of SSI at all phases of life cycle communicate with shopfloor employees once in a week.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are – 3.97 and – 1.84, respectively.	Communication of CEOs of SSI with shopfloor employees once in a week is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with shopfloor employees once in a week.	$z = 0.59$	Communication of CEOs of SSI with shopfloor employees once in a week does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle communicate with shopfloor employees once in a month.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are – 2.59 and – 4.24, respectively.	Communication of CEOs of SSI with shopfloor employees once in a month is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate with shopfloor employees once in a month.	$z = 0.65$	Communication of CEOs of SSI with shopfloor employees once in a month does not vary significantly in Madhya Pradesh and Maharashtra.	--
Communication of business performance with people within the organisation	CEOs of SSI at all phases of life cycle communicate sales turnover with people.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are –1.78 and – 3.59, respectively.	Communication of sales turnover to the people by SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate sales turnover with people.	$z = 2.10$	Communication of sales turnover to the people by SSI varies significantly in Madhya Pradesh and Maharashtra. The number of SSI of Maharashtra is larger than Madhya	--

			Pradesh.	
CEOs of SSI at all phases of life cycle communicate cost related data with people.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth, Maturity and Decline are –1.78, - 1.32 and – 2.64, respectively.		Communication of cost related data to the people by SSI is not significant at any phase of life cycle.	--
CEOs of SSI of Madhya Pradesh and Maharashtra communicate cost related data with people.		$z = 0$	Communication of cost related data to the people by SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
CEOs of SSI at all phases of life cycle communicate profit related data with people.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are –1.78 and – 4.24, respectively.		This phenomenon is in practice at Introduction phase. Communication of profit related data to the people by SSI is not significant at any phase of life cycle, except at Introduction phase.	--
CEOs of SSI of Madhya Pradesh and Maharashtra communicate profit related data with people.		$z = 0.90$	Communication of profit related data to the people by SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
CEOs of SSI at all phases of life cycle communicate productivity related data with people.	Due to low frequency of data χ^2 – test can not be applied. Communication with people about productivity related data takes place in 50 and 47.06 % SSI in Growth and Decline phases, respectively. The value of z for Growth and Decline are 0 and – 0.25, respectively.		This phenomenon is in practice at Introduction phase. Communication of productivity related data to the people by SSI is not significant at any phase of life cycle, except at	--

			Introduction phase.	
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate productivity related data with people.	$z = 1.38$ Communication about productivity related data takes place in 52.91 % SSI in Maharashtra.	Communication of profit related data to the people by SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle communicate other data with people.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 7.35, respectively.	Communication of other performance data to the people by SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate other data with people.	$z = 1.47$	Communication of other performance data to the people by SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle communicate business performance data verbally – informally with people.	Due to low frequency of data χ^2 – test can not be applied. Communication about business performance data to the people takes place verbally informally in 64.29 and 52.91 % SSI at Growth and Decline phases, respectively. The value of z for Growth and Decline are 1.10, - 1.32 and 0.25, respectively.	This phenomenon is in practice at Introduction phase. Communication of business performance data verbally – informally to people by SSI is not significant at any phase of life cycle, except in Introduction phase.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate business performance data verbally – informally with people.	$z = 2.08$	Communication of business performance data verbally – informally to the people by SSI vary significantly. More number of SSI of Maharashtra	--

			practice this type of communication than Madhya Pradesh.	
	CEOs of SSI at all phases of life cycle communicate business performance data verbally – formally with people.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are – 3.97 and - 4.24, respectively.	Communication of business performance data verbally – formally to the people by SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate business performance data verbally – formally with people.	$z = 0$	Communication of business performance data verbally – formally to the people by SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle communicate business performance data through Notice Board.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are – 6.12 and - 4.24, respectively.	Communication of business performance data through Notice Board to the people by SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra communicate business performance data through Notice Board.	$z = 0.59$	Communication of business performance data through Notice Board to the people by SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
CEOs' socialization with people	CEOs of SSI at all phases of life cycle socialize with people by informal meetings.	Due to low frequency of data χ^2 – test can not be applied. Socialization through informal meetings takes place in 64.29, 50 and 58.82 % of SSI in Growth, Maturity and Decline phases, respectively. The value of z for	Socialization of CEO of SSI with people by informal meeting is not significant at any phase of life cycle.	--

		Growth, Maturity and Decline are 1.10, 0 and 0.74, respectively.		
	CEOs of SSI of Madhya Pradesh and Maharashtra socialize with people by informal meetings.	$z = 0.35$ Socialization with people through informal meetings takes place in 64.71 and 58.82 % of SSI in Madhya Pradesh and Maharashtra, respectively.	Socialization of CEO of SSI with people by informal meeting does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle socialize with people at official lunch / dinner.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Decline is - 1.84.	Socialization of CEO of SSI with people by official lunch / dinner is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra socialize with people at official lunch / dinner.	$z = 0.98$	Socialization of CEO of SSI with people by official lunch / dinner does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle socialize with people in family gatherings.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 6.12 and - 3.59, respectively.	Socialization of CEO of SSI with people by family gathering is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra socialize with people in family gatherings.	$z = 1.07$	Socialization of CEO of SSI with people by family gathering does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle socialize with people once in a month.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 0.30 and - 3.59, respectively.	The socialization of CEO of SSI with people once in month is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh	$z = 0.78$	The socialization of	--

	and Maharashtra socialize with people once in a month.		CEO of SSI with people once in month does not vary significantly in Madhya Pradesh and Maharashtra.	
	CEOs of SSI at all phases of life cycle socialize with people once in a quarter.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Decline is - 2.64.	The socialization of CEO of SSI with people once in a quarter is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra socialize with people once in a quarter.	$z = 0$	The socialization of CEO of SSI with people once in a quarter does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle socialize with people once in a six month.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth is – 0.30.	The socialization of CEO of SSI with people once in six month is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra socialize with people once in a six month.	$z = 0.59$	The socialization of CEO of SSI with people once in six month does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI at all phases of life cycle socialize with people once in a year.	Due to low frequency of data χ^2 – test can not be applied. The value of z for Growth and Decline are – 3.97 and - 4.24, respectively.	The socialization of CEO of SSI with people once in a year is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh	$z = 0$	The socialization of	--

	and Maharashtra socialize with people once in a year.		CEO of SSI with people once in a year does not vary significantly in Madhya Pradesh and Maharashtra.	
Review of suggestions of quality circles	CEOs of SSI at all phases of life cycle review suggestions of quality circles.	Due to low frequency of data χ^2 – test can not be applied. Review of suggestions of quality circle takes place in 50, 50 and 52.94 % of SSI in Growth, Maturity and Decline phases, respectively. The value of z for Growth, Maturity and Decline are 0, 0 and 0.25, respectively.	Review of suggestions of quality circle by CEO of SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra review suggestions of quality circles.	$z = 1.04$ Review of suggestions takes place in 58.82 and 50 % SSI in Madhya Pradesh and Maharashtra, respectively.	Review of suggestions of quality circle by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
Resource Identification	CEOs of SSI at all phases of life cycle identifies the resource.	Due to low frequency of data χ^2 – test can not be applied. Formal system of resource identification takes place in 57.14 % SSI at Growth phase. The value of z for Growth, Maturity and Decline are 0.55, - 1.32 and - 3.59, respectively.	Resource identification by CEO of SSI is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra identifies the resource.	$z = 0.37$	Resource identification by CEO of SSI does not vary significantly in Madhya Pradesh and Maharashtra.	--
Computer literacy	CEOs of SSI of all phases of life cycle are computer literate.	Due to low frequency of data χ^2 – test can not be applied. 71.43, 50 and 58.82 % of CEO of SSI are computer literate at Growth, Maturity and Decline phases, respectively.	This phenomenon is in practice at Introduction phase. CEO of SSI's computer	--

		The value of z for Growth, Maturity and Decline are 1.79, 0 and 0.74, respectively.	literacy is not significant at any phase of life cycle.	
	CEOs of SSI of Madhya Pradesh and Maharashtra are computer literate.	z = 0.52 52.94 and 70.59 % of CEO of SSI are computer literate in Madhya Pradesh and Maharashtra, respectively.	CEO of SSI's computer literacy is does not vary significantly in Madhya Pradesh and Maharashtra.	--
Self Planning	CEOs of SSI of all phases of life cycle follow self planning.	Due to low frequency of data χ^2 - test can not be applied. 71.43, 50 and 64.71 % CEO of SSI carry out self planning in Growth, Maturity and Decline phases, respectively. The value of z for Growth, Maturity and Decline are 1.79, 0 and 1.23, respectively.	This phenomenon is in practice at Introduction phase. CEO of SSI's self planning is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra follow self planning.	z = 1.47 76.47 and 52.94 % of CEO of SSI carry out self planning in Madhya Pradesh and Maharashtra, respectively.	CEO of SSI's self planning does not vary significantly in Madhya Pradesh and Maharashtra.	--
	CEOs of SSI of all phases of life cycle carry out self planning once in a day.	Due to low frequency of data χ^2 - test can not be applied. 57.14 % of CEO of SSI carry out self planning every day in Growth phase. The value of z for Growth, Maturity and Decline are - 0.30, - 1.32 and - 1.87, respectively.	CEO of SSI's self planning on every day is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra carry out self planning once in a day.	z = 2.20	CEO of SSI self planning on every day vary significantly, more number of CEO of Madhya Pradesh carry out self planning every day than that of Maharashtra.	--
	CEOs of SSI of all phases of life	Due to low frequency of data χ^2 - test can not be		--

	cycle carry out self planning once in a week.	applied. The value of z for Growth, Maturity and Decline are - 1.78, - 1.32 and - 7.35, respectively.	CEO of SSI's self planning on every week is not significant at any phase of life cycle.	
	CEOs of SSI of Madhya Pradesh and Maharashtra carry out self planning once in a week.	$z = 0$	CEO of SSI's self planning on every week does not vary significantly in Maharashtra and Madhya Pradesh.	--
	CEOs of SSI of all phases of life cycle carry out self planning once in a month.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth and Decline are - 2.59 and - 3.59, respectively.	CEO of SSI's self planning on every month is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra carry out self planning once in a month.	$z = 0$	CEO of SSI's self planning on every month does not vary significantly in Maharashtra and Madhya Pradesh.	--
Self Learning Planning	CEOs of SSI of all phases of life cycle have self learning plan.	Due to low frequency of data χ^2 - test can not be applied. The value of z for Growth, Maturity and Decline are 1.10, - 1.32 and 1.87, respectively.	CEO of SSI's self learning planning on every week is not significant at any phase of life cycle.	--
	CEOs of SSI of Madhya Pradesh and Maharashtra have self learning plan.	$z = 0.35$	CEO of SSI's self learning planning on every week does not vary significantly in Maharashtra and Madhya Pradesh.	--

QUESTIONNAIRE

A. GENERAL INFORMATION

THE COMPANY –

Name of the Company : -

Address : -

Office :

Works :

Telephone No(s) : -

Office :

Works :

Fax No(s) : -

Email ID : -

Website (if any) : -

Company : -

Sole proprietorship

Private Limited

Tiny (investment upto see Rs. 25 Lakh)

Ancillary

Cooperative

Subsidiary of a large Group of company

Whether located in industrially backward area : Yes / No

Whether availing benefits of tax holiday : Sales Tax / Excise Duty / Income Tax / None

THE PROMOTERS / DIRECTORS –

Name(s) of the principal promoter / promoters : -

Whether he / she (they) is (are) first generation entrepreneur? Yes / No

Whether the business is family owned : Yes / No

If yes, who has established the business :

Year of establishment of the business :

Functions being looked after by the CEO / MD : General Administration / Finance / Accounts / Marketing / Production Planning / Production / Tool Room / Quality / Purchase / Personnel / Training or HRM / Stores / Dispatch / Others (specify) :

Other Directors :

Name of the Director(s)	Relationship with the / principle promoter or CEO	Percentage of shareholding	Whether associate with some other business & in which capacity

BUSINESS PROFILE & PERFORMANCE -

Products manufactured :

Name of the Product(s)	Annual Production (2000 - 01)	% of the Sales Turnover (2000-01)

Whether dereservation during the recent past has affected the performance of the Organisation ? Yes / No
If yes, please fill up the table below to indicate the reason -

	High	Moderate	Low	No impact
On production				
On market demand				
On exports				

Whether the Company is engaged in marketing other products (other than being manufactured) : Yes / No
If yes, then please fill up the table below :

Name of the Product(s)	Quantity Marketed Annually (2000 - 01)	% of the Total Sales Turnover

Source of Raw Material : Indigenous / Imported / Both indigenous and imported with ratio __ : __

Business Performance :

Year	Total Sales Turnover	Operational Profit (Rs. In Lakh)	Net Profit (Rs. in Lakh)	Assets (Rs. in Lakh)	Liabilities (Rs. in Lakh)	Debt / Equity Ratio
2000 -01						
1999						

-00						
1998-99						
1997-98						
1996-97						

Growth in market size in % and turnover since last 5 years (in the same product areas. other areas – specify)

Year	Growth in the Market size (Domestic)	Growth in the Market size (Global)	Growth in Sales (%)	Growth in Operational Profits (%)	Growth in Net profit (%)
2000-01 (old products)					
2000-01 (new products)					
1999-00 (old products)					
1999-00 (new products)					
1998-99 (old products)					
1998-99 (new products)					

Is the Organisation a market leader ? Yes / No
 If yes, please indicate one or both of the following -
 Domestic market
 Global market
 Other countries (please specify)

Future growth projection :

Year	Growth in the Market size (Domestic)	Growth in the Market size (Global)	Growth in Sales (%)	Growth in Operational Profits (%)	Growth in Net profit (%)
2001-02 (old products)					
2001-02 (new products)					
2002-03 (old products)					
2002-03 (new products)					
2003-04 (old products)					
2003-04 (new products)					

Manpower strength :
 Owners / Directors

Other Top Level Management
Middle Management -
First Line Supervisor (who supervises the daily day today work)
Workmen

Recognition & Awards :

Whether your organisation won any award or certificate of merit : Yes / No
If yes, please give details with awarding authority, year of award, etc.

Is the organisation certified for ISO 9000 / QS 9000 / Others (please specify) ?

INVESTMENT –

Source of funding (please mention in %) :

Seed capital brought by the Owners / Directors (including CEO) -

Bank loan -

Loan from SIDBI -

Loan from other financial institutions -

Private borrowings -

Any expansion has taken place during last 5 years : Yes / No

If yes, please specify the source of any additional funding for the expansion with % share of source of funding -

Internal saving -

Bank Loan -

Loan from SIDBI -

Other Financial Institutions -

Private borrowing –

General problem in funding (Give rating on a 0 to 5 scale, 0 to indicate no problem 5 to indicate extremely critical):

Attitude of banks -

Attitude of Financial Institutions -

Government policies towards SSIs -

Interest Rate -

Repayment Terms -

Collateral Security -

Others (please specify and give rating) –

Whether the organisation is availing bill discounting ? Yes / No

TECHNOLOGY -

Whether any Technology transfer took place : Yes / No

If yes, name of the organisation and the technology –

Cost of the technology -

Year of transfer -

Whether any new Technology has been developed in house : Yes / No

If yes, name of the technology –

Cost of development -

Year of development -

B. BUSINESS DRIVERS

THE MARKET AND CUSTOMER

Is there exist a system for sales forecast : Yes / No

If yes, please tick specific the forecasting techniques –

Forecast based on the present market trends without any scientific technique

Targets given by the customer(s)

Econometric Techniques

Time Series

Moving Average

Exponential Methods

If yes, how the organisation gets benefited by the forecast -

Budgeting or Fund Planning

Material Planning

Manpower Planning

Production Planning

If yes, how often the sales is forecasted wrongly –

Never

Very rare

Sometimes

Very often

Almost every time

Does your Organisation participate in Trade Missions : Yes / No

If yes, how much it has contributed to the business growth (please specify the average business growth) ?

If yes, how it contributed to business growth –

Technology Transfer

Joint Venture

Collaboration for marketing in India

Collaboration for marketing in other countries

Material sourcing

Manpower sourcing

Do you have a system of assessment of market growth of your product area(s) : Yes / No

If yes, please mention the source data –

Standard Published Sources (e.g. CMIE, CII Surveys, FICCI Survey, etc.)

Others (please specify)

Is the existing system adequate to increase export of the products manufactured by the Organisation ? Yes / No

If no, please indicate the three most important reasons thereof in order of importance –

Whether there is a problem of delayed payment (beyond the agreed date) from the large scale industries (who are the customers) ?

Always

Sometimes

Rarely

Never

If yes, please quantify the extent of delay –

Up to 15 days

15 to 30 days

30 to 45 days

45 to 90 days
Beyond 90 days

Whether the delayed payments to SSI and Ancillary Undertaking Act, 1993 had brought any change in realizing the receivables of SSIs quickly ?

Improved
Not improved as it may affect the future business
Not aware about such provisions

EXTERNAL FACTORS

Please mark one or more external factors which contributes to your organisation (please rank them from 1 to 6, where 1 and 6 indicate most and least important factors) -

Competition in the domestic market
International Competition
WTO threat
Threat from China
Government policies towards SSIs
Bank and other Financial Institution's policies towards SSIs

Should the Government initiate some other measures for protection to the SSI in order to meet the competitive challenges ? Yes / No / Can not comment

Should the Government initiate some measures for promotion of the SSI in order to meet the competitive challenges ? Yes / No / Can not comment

If yes, please rank the areas in which support could be extended –

Foreign Technical Collaboration
Research and Development facilities
Expansion of marketing facilities
More financial assistance
Others (please specify)

Does the product manufactured by the Organisation faces anti – dumping duty in any country ?

If yes, please specify the country and the product.

Does the product manufactured by the Organisation faces countervailing duty in India of imported ? Yes / No / Do not know

What is the impact on the performance of the Organisation due to lowering of investment limit in plant and machinery for SSI from Rs. 3 Crore to 1 Crore ? Favourable / Unfavourable specify) / No impact

Is the limit on investment discourages technological upgradation ? Yes / No / Do not know

Please specify, what should be the investment limit for the sector in which your Organisation is operating ? (The present investment limit for five sectors i.e. toys, hosiery, packaging material, auto components and hard tools has been raised to Rs. 5 Crore, the garment sector has been dereserved).

Do you expect concession in custom duty on the raw material imported by you, please indicate the name of the raw material and the acceptable custom duty rate.

Is there a large scale group or company in India, which competes, with the Organisation in the Indian market ?

Is there a large scale group or company in India, which competes, with the Organisation in the International market ?

Please comment of adequacy on the following policy issues –

Policy Issues	Adequate	Should be raised	Should be lowered	Can not comment
Excise exemption upto Rs. 1 Crore				
Allowing a large unit to produce the items reserved for SSI sector if exports 50 % of production in 3 years				
Allowing an unit located in the special economic zone to make items reserved for SSI without a license				
Allowing an unit located in the special economic zone to make items reserved for SSI without a license even if it has a foreign equity component upto 24 %				
Composite loan limit of Rs. 25 Lakh				
Collateral security on loans above Rs. 10 Lakh				
Credit linked capital subsidy for technology upgradation scheme				
Credit Guarantee Fund Scheme to provide 75 % of borrowings from banks, subjected to maximum Rs. 7.5 Lakh				
National Small Scale Industries Corporation to a composite loan of Rs. 25 Lakh to meet the cost of fixed assets and working capital				
Establishment of National Innovation Fund to make plans for 'grassroot innovation' to give shape to the ideas of farmers and artisans				
Provision of anti – dumping duty and countervailing duty on the products in India				
Pledging of USD 1 billion by the US Exim Bank the Exim Bank of India, SIDBI and IDBI for the I sector				
Back – ended capital subsidy of 12 % for SSI of selected sectors on loans advanced by the banks designed by the SFCs				

Please comment on the infrastructure facilities in the following table –

	Excellent	Very Good	Good	Average	Poor
Power Supply					
Road Transport					
Link Roads for the Industrial Units / Clusters					
Telephone Facilities					
Warehousing					
Space Availability for Expansion					
Water Supply					
Effluent Discharge					
Railway Wagon Supply					

Please indicate the five most inadequate infrastructures in order (i.e. the worst appears the first) among the above mentioned list -

- 1.
- 2.
- 3.
- 4.
- 5.

Considering above mentioned list please suggest the five most important measures for improvement and urgency -

- 1.
- 2.
- 3.
- 4.
- 5.

In your opinion which states in the country are already better than your state in the above mentioned areas

- 1.
- 2.
- 3.
- 4.
- 5.

Please comment on the credit dispensation – elements –

BANKS –

Adequacy of credit :

Term Loan – Adequate / Inadequate

Cost of Capital – Adequate / Inadequate

Average time taken for sanction of loan assistance – Less than 1 month / 1 to 2 months / 2 to 3 months / 3 to 4 months / 4 to 6 months / more than 6 months

SFC / SIDC –

Adequacy of credit : Adequate / Inadequate

Cost of Capital – Very High / High / Reasonable

Average time taken for sanction of loan assistance – Less than 1 month / 1 to 2 months / 2 to 3 months / 3 to 4 months / 4 to 6 months / more than 6 months

Average time taken for disbursement of loan after sanction – Less than 1 month / 1 to 2 months / 2 to 3 months / 3 to 4 months / 4 to 6 months / more than 6 months

EXPORT FINANCE –

Adequacy of credit : Adequate / Inadequate

Cost of Capital – Very High / High / Reasonable

Average time taken for sanction of loan assistance – Less than 1 month / 1 to 2 months / 2 to 3 months / 3 to 4 months / 4 to 6 months / more than 6 months

Average time taken for disbursement of loan after sanction – Less than 1 month / 1 to 2 months / 2 to 3 months / 3 to 4 months / 4 to 6 months / more than 6 months

Suggestion for improvement –

Please comment on the level of performance of SIDBI on the following parameters –

	Yes	No	Can not comment
Under Single Window Scheme do the banks / state financial institutions provide term loan and working capital outlay upto Rs. 2 Crore ?			
Is the requirement of collateral a constraint in the flow of credit ?			
Do you know that there is a scheme operational by SIDBI for a collateral free lending by the banks upto Rs. 25 Lakh ?			

Please suggest three most important measures for creating awareness of the above –

- 1.
- 2.
- 3.

Please indicate the main reasons of inadequate or delayed assistance from PLIs –

Requirement of collateral / Reluctance to provide loans to SSI / Red Tapism / Incomplete papers by the borrowers / Others (please specify)

Should there be a scheme for credit rating of SSI ? Yes / No / Can not comment

Please give three suggestions to improve the flow of credit from banks or FIs --

- 1.
- 2.
- 3.

CHANGE INITIATIVE

Please give rating on following issues of change initiatives taken during last 5 years (please give rating on a 0 – 5 scale, 0 relates to very low level and 5 relates to high level of achievement)

Need for value improvement or value addition

Need for cost reduction

Need for manufacturing cycle time reduction

Need for preparing to face the global competition

Need for matching the requirements of existing customers

New business opportunity in the Country

New business opportunity in abroad

New customer demand

Anticipated changes in the global market

To match with the technological changes

Due to benchmarking of product

Due to benchmarking of process

Due to benchmarking of system

Due to problem in retaining skilled manpower

To implement ERP or to integrate other information systems

To implement Business Excellence Model (MBNQA, EFQM or DEMING Award Model or others, please specify)

Who managed the change -

Through a consultant

Through an external agent other than a consultant

Through self initiated organisational efforts led by the CEO

Through one of the family members from the Top management who has joined the business recently

Through one who is not a family member but who has joined the business recently (may be as CEO)

Give a rating to the success of attempt to change on a 0 to 5 scale, 0 and 5 relate to total failure and total success, respectively.

THE BUSINESS PROCESS

Please give rating on a 0 to 5 scale where yes or no option does not on exists. 0 should indicate very low level of performance or achievement and 5 to indicate very high level of performance or achievement.

HUMAN RESOURCE (HR) & STRATEGIC MANAGEMENT

Does the Organisation have an independent person to look after the employee welfare and training functions ? Yes / No

What was the training budget for the year 2000-01 ?

Whether a strategic training plan based on skill required for a specific operation or process) is made every year ? Yes / No

Whether a HR forecasting or manpower plan is made ? Yes / No

If yes, please indicate whether is based on one or more of the following factors -

- Business plans
- Skill forecasting
- Skill inventory

Please indicate the percentage of employment --

- Time rated
- Piece rated
- Contractual
- Casual / Badli

Does the Organisation employ any contractual workforce ? Yes / No

If yes, please indicate the level at which they are employed -

- Unskilled labour
- Skilled labour
- Office Staff
- Security
- Canteen
- Functional Specialists Executive / Manager

If yes, the reason(s) --

- To meet the peak demand for production every year
- To meet the seasonal demand
- To meet the export orders
- To meet the sporadic market demand.

If yes, then how do you meet the skill training requirements --

- Through on the job training
- Formal induction and skill training

Does the Organisation share financial data with the employees ? Yes / No

If yes, please indicate the nature of data -

- Product cost data
- Process cost data
- Profit & Loss data

Whether a data based approach is in practice for employees' performance analysis ? Yes / No

If yes, how the individual's performance is evaluated --

Through annual performance appraisal
Through group performance appraisal
Through general organisational performance

Please indicate how pay rise is decided –

By owner's discretion
By data based performance on production
By data based performance on quality & production
By annual sales growth
Others (please specify)

Whether help is taken from Engineering Institutions, B-Schools or other Consultant ? Yes / No
If yes, please specify the name of the institution(s) and areas of help taken such as strategy planning, marketing, ISO 9000, QS 9000 etc.

Does the organisation associate students of engineering institutions or management institutions in for imparting them vocational or summer training ? Yes / No

If no, the reasons –

The students are not knowledgeable enough to do some value added work
The students create problems in day-today work
The students are not interested in learning
The students are not entertained as a matter of organisational policy

Whether any initiative is made on TQM (Total Quality Management) implementation ? Yes / No

If yes, please indicate the of implementation level

Only training
Training and implementation in some departments or functions
Implementation is at advanced level

If yes, how are the results of implementation is measured ?

Data on customer satisfaction survey
Customer satisfaction survey without a data base
Quality performance parameters (e.g. wastage, rejection, etc.)
Value addition
Six Sigma compliance
Productivity
Training effectiveness
Others (please specify)

Whether any suggestion scheme or Quality Circle is implemented ? Yes / No

If yes, what is the % of acceptance or implementation ?

OPERATIONAL PLANNING PROCESS

Is there a system in practice to assessing manufacturing capacity ? Yes / No

If yes, how -

Through machine suppliers manual
Through independent I.E. study carried out by a consultant or internally

Is there a system in practice for to identify critical factors, which affects the manufacturing processes ?

Yes / No

Is there a system in practice for material or purchase planning ? Yes / No

If yes, how often –

Monthly

- Quarterly
- Annually
- By owner's judgement on raw material behaviour

Is there a system in practice for production planning ? Yes / No

If yes, the frequency -

- Day-today planning
- Weekly planning
- Monthly planning
- Quarterly planning

If yes, generally how frequently the plan changes -

- Almost daily
- Once or twice in a week
- Sometimes
- Rarely

If yes, the reason of change (please mark please tick one or more reasons)

- Due to frequent change in customer schedule
- Due to frequent problem in raw material procurement – indigenous
- Due to frequent problem in raw material procurement – imported
- Due to frequent machine breakdowns

Is there a system of JIT (Just In Time) in practice ? Yes / No

If yes, the reasons -

- It is a customer's requirement
- For inventory control
- For cost control
- It is an outcome of TQM implementation

MANUFACTURING AND QUALITY MANAGEMENT

If ISO 9000 , QS 9000, USFDA or similar certification obtained, the reason for obtaining the certificate -

- It was requirement of existing customers
- To obtain government orders or tenders
- To improve the image of the organisation in the market
- To establish an documented internal system
- As a first step to TQM implementation

What are the quality related activities in practice (please mark one or more activities, as appropriate) -

- Through inspection at incoming stage
- Through Vendor performance analysis
- Through Second party audit
- Through machine set up or first piece approval
- Through patrol inspection during manufacturing
- Through sampling inspection after manufacturing
- Through inspection by the customer within your organisation
- Through inspection by the customer in his organisation

Generally, which type of maintenance practice is being followed (please mark one or more of the practices with approximate % in the table below) -

Type of maintenance	% of time in a year *
Breakdown Maintenance	
Preventive Maintenance	
Databased Predictive Maintenance	

Condition based Maintenance	
TPM (Total Predictive Maintenance)	

Please indicate % of value addition being carried out through automation in manufacturing processes.
 _____ %

Please give an estimate of investment in last five years - (Rupees in Lakh)

1996-97	1997-98	1998-99	1999-00	2000-01	Total

Please indicate the existing level of automation of the manufacturing processes -

Semi automated

Fully automated

Please indicate % of quality check being carried out through automation. _____ %

Does the Organisation have a system of internal quality audit ? Yes / No

If yes, the scope of audit (please mark one or more of the following) -

Product

Manufacturing and quality related processes

Manufacturing system

Quality system audit (as per ISO 9000 or QS 9000)

If yes, generally what is the frequency of audit -

Once in a month

Once in two months

Once in a quarterly

Once in six months

Once in a year

As & when required - depending on the criticality of the processes

Is the Organisation subjected to regular customers audit ? Yes / No

If yes, the scope of audit (please mark one or more of the following) -

Product

Manufacturing and quality related processes

Manufacturing system

Quality system audit (as prescribed by the customer)

If yes, generally what is the frequency of audit -

Once in a month

Once in two months

Once in a quarterly

Once in six months

Once in a year

As & when required (being decide by the customer)

Does the Organisation conduct vendor audit ? Yes / No

If yes, the scope of audit (please mark one or more of the following) -

All products

Some important products

Manufacturing and quality related processes for all products

Manufacturing and quality related processes for some important products

Manufacturing system for all products

Manufacturing system for some important products

Quality system audit

If yes, generally what is the frequency of audit –

- Once in a month
- Once in two months
- Once in a quarterly
- Once in six months
- Once in a year
- As & when required (being decide by the customer)

Is there a system in practice to support the Vendors in quality system improvement ? Yes / No

TECHNOLOGY MANAGEMENT & INNOVATION

Whether R&D function exists in the Organisation ? Yes / No

If yes, what is the scope (please mark one or more of the following) –

- For innovative product development
- For improvement in the existing product
- For innovative manufacturing process development
- For improvement in the existing manufacturing processes

If yes, the reason for innovation or improvement ((please mark one or more of the following) –

- Self initiated quality improvement
- Self initiated cost reduction
- Self initiated product simplification or value engineering
- Facilitation in product repair or servicing
- Reduction in manufacturing cycle time
- Quality improvement due to the additional needs of the existing customer
- Cost reduction demanded by the existing customer
- Product simplification demanded by the customer
- Need to cater new market segment
- Product benchmarking
- Process benchmarking

Does the Organisation take support from outside agencies in R&D ? Yes / No

If yes, please indicate the type of agencies (one or more, as applicable) -

- Engineering or Technical Colleges
- CSIR (Council of Scientific and Industrial Research)
- Independent Consultants
- Others (please specify) sources

Is the Organisation in practice of technology search ? Yes / No

If yes, the mode of search (please mark one or more, as applicable) –

- Through consultant
- Through membership of industries or trade association
- Through participation in trade missions going abroad
- Through seminar or conferences organised in abroad

Does the Organisation expect any assistance from the Government in R & D or Technology development ?

Yes / No

If yes, please indicate your choice –

- Through subsidy for inhouse R&D
- Through enhancing tax relief
- Through creation of common facility
- Through creation of incubation labs

In general, what is level of preparedness to face the challenges of WTO Agreement –

Fully prepared

Partially prepared
Not prepared
Can not comment

Does the Organisation use CAD in product design ? Yes / No

Is the result of R&D efforts documented and preserved ? Yes / No

If yes, generally how –

Manual documents preserved in the files

Digitised and preserved in computer hard disc / floppy diskette / CD / microfilm

Is there an indexed archive system in practice for knowledge preservation ? Yes / No

Generally, what is the cycle time –

For an innovative product : ___ days

For an improved product : ___ days

For a new process : ___ days

For an improved process : ___ days

Is the Organisation in possession of patents ? Yes / No

If yes, please indicate the numbers –

Product patents

Process patents

Does the Organisation in Technical collaboration ? Yes / No

If yes, please indicate one or more of the following -

In India

In abroad

In the business area (s) of the Organisation whether the cost of technology upgradation is –

Very High

High

Reasonable

Low

Is there any scheme designed by organisations like SIDBI to promote technology upgradation ?

Yes

No

Can not comment

SALES MANAGEMENT

How many persons are engaged in sales related activities, please fill numbers against each class -

Employees with full time responsibility for sales

Employees with partial responsibility for sales

Persons on contract with full time responsibility for sales

Persons on contract with partial responsibility for sales

Which method(s) are in practice for selection of sales personnel -

Experienced persons directly selected through interview

Fresh graduates selected directly and trained

Fresh MBAs selected from the B-Schools and trained

Persons engaged in competitors' companies

Others (please specify)

Is there a structured system for training of sales personnel in practice ? Yes / No

If yes, please indicate the frequency of such trainings -

It is known that only on the job training is required

As and when required

On the job training is given during initial years

Once in a year

Once in six months

Once in a quarter

Twice in a quarter

Which method selling is in practice –

Direct to the Customer

Through dealer network

Through dealer and retailer network

Do the sales team get some incentive ? Yes / No

If yes, please indicate one or more methods being followed -

Commission based on sales

Commission after achieving sales target

Commission after inclusion of a new customer

Others (please specify)

If yes, do they loose incentive in case they do not perform as per sales target ? Yes / No

How does the Organisation monitors sales related activities -

Through regular sales data received from the sales staff but not related with the travel bills

Through regular sales reports received from the sales staff which are related with the travel bills

Is the Organisation planning to adopt some on-line selling strategy through the internet ? Yes / No

Is there any scheme designed by organisations like SIDBI for marketing or sales promotion ?

Yes

No

Can not comment

FINANCE MANAGEMENT & CONTROL

Whether a system is in practice for budgeting annually ? Yes / No

If yes, how controls are exercised ?

Generally what is the % of expenditure falling under the budget, please give a ratio of planned vs. non-planned expenditure.

Does the Organisation practices a system of product costing ? Yes / No

If yes, how frequently –

Monthly

Quarterly

Six monthly

Yearly

Does the Organisation practices a system of process costing ? Yes / No

If yes, how frequently –

Monthly

Quarterly
Six monthly
Yearly

Does the Organisation carry out HR (Human Resource) costing ? Yes / No

Does the Organisation calculate Quality Cost ? Yes / No

IT SUPPORT & INFORMATION SYSTEMS

Whether computers are in use in the Organisation ? Yes / No

If yes, please mention the number of computers available in the Organisation.

If yes, please mark the usage –

For routine office work

For inventory control

For day-today reporting

Whether Internet connection is available in the Organisation ? Yes / No

If yes, please mark one or more of the usage –

For email

For global database access

Others (please specify)

If email facility is in use, please mark one or more of the usage –

To communicate with customer

To communicate with the suppliers

Others (please specify)

Is there a website available for the Organisation ? Yes / No

If yes, is it updated regularly ? Yes / No

If no why -

It is expensive as done through an outside agency

No one is responsible for this activity

Very few individuals visits the site

Whether ERP or similar system is in practice in the Organisation ? Yes / No

BUSINESS RESULTS

Please furnish data in the following table –

Business Result - element	2000 – 01	1999 – 00	1998 – 99	1997 – 98	1996 - 97
Gross Profit					
Net Profit					
Return on Investment (ROI)					
Return on Capital Employed (ROCE)					
EPS (earning per share)					
P/E Ratio					
Average cost per unit					
Dividend paid to the shareholders					
Sales Turnover					

No. of orders received from new customers					
Data based analysis of customer complaints					
Number of delayed deliveries to the customers					
No. of repeat orders received from old customers					
Data on customer satisfaction survey					
No. customer complaints received – major					
No. customer complaints received – minor					
Productivity - output per machine-hour					
Productivity - output per man-hour capacity utilisation					
Quality Cost					
External Quality Audit performance					
Internal Quality Audit performance					
Results of benchmarking – product					
Results of benchmarking – process					
Results of benchmarking – systems					

LEADERSHIP

CORPORATE VISION

Does the owners have a formal Vision statement ? Yes / No
 If yes, please write the statement in the space given below –

Does the owners have a formal Corporate Policy statement ? Yes / No
 If yes, please write the statement in the space given below –

Does the Organisation have a system of Long Term Planning (more than 10 years) ? Yes / No
 If yes, please specify how often this is updated –
 Every year
 Sometimes as per need
 Generally never

Does the Organisation have a system of Mid Term Planning (2 to 5 years) ? Yes / No

If yes, please specify how often this is updated –

- Every six months
- Every year
- Sometimes as per need
- Generally never

Does the Organisation have a system of Tactical Planning (upto 2 years) ? Yes / No

If yes, please specify how often this is updated –

- Every month
- Every quarter
- Every six months
- Every year
- Sometimes as per need

Which are the functions directly being looked after by the MD / CEO without any senior manager –

- Finance
- Accounts
- Marketing
- Sales
- Purchase
- Stores
- Production Planning
- Manufacturing
- Inspection
- Quality Control
- Dispatch
- Installation
- Maintenance
- Service Support
- Recruitment
- Human Resource Management
- Computers
- Data management and IT

Which are the functions directly being looked after by the Directors without any senior manager –

- Finance
- Accounts
- Marketing
- Sales
- Purchase
- Stores
- Production Planning
- Manufacturing
- Inspection
- Quality Control
- Dispatch
- Installation
- Maintenance
- Service Support
- Recruitment
- Human Resource Management
- Computers
- Data management and IT

Does the CEO interacts with the customers directly ? Yes / No

If yes, please indicate the frequency -

- Almost evryday
- Almost once in a week
- Almost once in a month
- Rarely

If yes, please mark one or more of the following reasons for interaction -

- For marketing of products
- For exploring new market
- For exploring new opportunity for new products
- For addressing the customer complaint

STRATEGY & RESOURCE PLANNING PROCESS

How the CEO plans the strategies –

- By discussing with the other Directors
- By discussing with the Managers
- By discussing with the other employees

How often the strategies and plans are reviewed –

- Quarterly
- Six Monthly
- Annually
- As and when felt necessary

Who is going to be future CEO of the Organisation –

- Son or Daughter
- Brother or Sister
- Other relative
- Other (specify)

Is the CEO ready to transfer the leadership of the organisation to a professional, in case no member of the family or a close friend is found capable ? Yes / No

Does the CEO have formal target defined for own performance ? Yes / No

COMMUNICATION

How often does the CEO meet the departmental / functional heads for formal communication –

- Any time required
- Daily
- Weekly
- Monthly
- Some times as per need

How often does the CEO meet the shopfloor employees –

- Never
- Often - during every visit to the shop floor
- Once in a day
- Once in a week
- Once in a month

How often does the CEO meet the customer –

- Never
- Often - during every visit to the shop floor

Once in a day
Once in a week
Once in a month

How often the business performance is communicated to the people in the Organisation –

Generally never
Rarely
Once in a month
Once in a quarter
Once in six month
Once in a year

If yes, which type of result -

Sales turnover
Cost
Profits
Productivity
Others (please specify)

If yes, how –

Verbally - informally
Verbally - formally
Through Notice Board
Through newsletter
Others (specify)

How socialisation takes place between the CEO and all others--

In Informal Meetings
In official dinners / lunch
In family gathering

If yes, how often –

Once in month
Once in quarter
Once in six months
Annually
Never

Do the CEO review the suggestions or Quality Circle activities ? Yes / No

Does the Organisation has a formal system of resource identification ? Yes / No

LEARNING BY THE CEO & DIRECTORS

Is the CEO a computer literate ? Yes / No

Does the CEO carry out formal planning for self ? Yes / No

If yes, how frequently (please mark one or more of the following) -

Everyday
Everyweek
Every month

Does the CEO have his own learning plan ? Yes / No

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