

CHAPTER 5

QUALITATIVE ANALYSIS THROUGH CASE STUDIES

5.1 INTRODUCTION

This chapter addresses the fourth objective of this research - to assess the effectiveness of BI&A. The study attempted to refine the understanding of the state of BI&A in organizations using the qualitative data obtained from the in-depth interviews of the case studies.

This chapter presents six organizations as case studies, one from each of the six clusters. Each case was analysed using an inductive approach with the thematic analysis method which was discussed in Chapter 3. The data was collected through in-depth interviews with a respondent from each organization. Each of the case organizations has been described and presented in three parts – description of the organization, state of BI&A and effectiveness & usage of BI&A. The key characteristics of organizations in the six clusters which were drawn out from the in-depth interviews, are presented in Table 5.3. These were further generalized for all the organizations in the respective cluster.

Case study method is used to examine an occurrence in its natural setting to collect information from individuals, groups of people, or organizations. Most of the times, the boundaries of the occurrence are not clear in the beginning of the research. Case studies offer in-depth understanding of current situation within their organizational context (Aberdeen, 2013), (Yin: Case study research: Design and methods (Vol. 5) fifth edition, SAGE publications, 2003), (Yin, 2012).

According to (Wilson, 2002), the case study approach allows us to get closer to the experience of the participants of the research object, and to understand the essence of the object - in this case the organization, and its structure through the framework of the respondent's experience with BI&A. The case study method supports and facilitates

understanding (Amrita Gangotra and Ravi Shankar, 2016) of the behaviour of the six factors in the organizations in each cluster.

The qualitative case study method was used here to get a deeper understanding about the characteristics of organizations in each of the clusters and to validate the results from the quantitative study. The questions in the interview were semi-structured and exploratory in nature about the following:

- What is the state of BI&A in your organization?
- Which functions is BI&A used in?
- Is BI&A making business more effective?
- Do you see any effectiveness of using BI&A? If yes where?
- How do you measure effectiveness of BI&A?

One organization was selected from each of the six clusters based on convenience sampling - from 'Sitter' to 'Mountaineer'. The cases have been presented in the ascending order of BI&A maturity of the clusters. The next sections describe each case study in three parts – In the first part, the description of each organization like history, domain, employee strength has been presented. The second part discussed the state of BI&A based on the data obtained from the interview. The third part covers effectiveness and usage of BI&A for the case study. The name of the organization has not been disclosed owing to requests of confidentiality from the respondents.

Table 5.1 shows the cases which have been discussed in this chapter with its description and name. The case description section contains quotes by interviewees as this was found to be a powerful way to convey richness of the data captured precisely as quoted by the interviewee

(Saunders et al., 2009). We have included quotes in italics in the presentation of the case study.

Table 5.1 Summary of case studies discussed

Case study #	Organization	Industry segment	Cluster #	Cluster Description	Cluster Name
1	Organization A	Medical Equipment Manufacturing	1	Non starters	Sitter
2	Organization B	Financial Services	6	Beginners	Walker
3	Organization C	NBFC	3	Fair performers	Hiker
4	Organization D	FMCG	4	Average performers	Trekker
5	Organization E	IT Infrastructure	2	Good Performers	Climber
6	Organization F	ITES	5	High Performers	Mountaineer
7	Organization G	Cement	5	Cement Industry	-

5.2 CASE STUDY: ORGANIZATION A

This organization was from cluster-1 - the ‘Sitter’ cluster. The chosen organization in this cluster was from the Medical Equipment manufacturing segment. It is a global medical device company based in India, founded before 15 years, in the area of design and development of state-of-the-art devices which are very relevant clinically. The organization aims to be a champion in alleviating human suffering and improving quality of life. Their core processes are R&D, scientific communication, innovation in manufacturing medical technology and contemporary distribution avenues. There are 4000 employees in the India headquarters and this organization conducts business in more than 100 countries. The interviewee is a General Manager with a rich experience of 24 years.

5.2.1 State of BI&A in the organization

It was found that this organization did not have a culture of using data for decision making. The employees were accustomed to more of experience based and intuitive decision making.

“There is no formal BI&A practice. There is only an MIS team which collates and disseminates information based on accounting data (e.g. Sales, Costs, Working Capital,

etc.). People are not skilled for use of analytics. Data analysis is done using excel sheets only”.

“An MIS team may manage data and treat it like their property for wielding power with the Top Management”.

There was found to be lack of awareness and no strategic sponsorship and drive in this organization. Availability of consistent high quality data was a challenge. Business units operated in silos where individuals considered data as power and were reluctant to share it.

5.2.2 Effectiveness & Usage of BI&A

In this organization, there was a tactical rather than a strategic approach to using data for decision making. There was found to be reluctance to invest in data management as it was considered expensive and an overhead. Clearly since there was no culture, mind set and resources for BI&A, the question of effectiveness of BI&A and how it was measured was irrelevant for organizations in this cluster.

5.3 `CASE STUDY: ORGANIZATION B

This organization was from cluster-6 - the ‘Walkers’ cluster. This organization was from the Financial Services segment. It was set up three decades ago by financial services companies, banks and investment institutions as an independent investment credit rating company. Today, this is a public listed company along with its subsidiaries. The interviewee for this organization was a Vice President with nine years of experience. The services of this organization include providing guidance and information to individual investors and institutional investors, improve the ability of borrowers and issuers to access the money market, provide intermediaries with a tool to upgrade efficiency in the funds raising process and help regulators in providing transparency in the financial markets.

5.3.1 State of BI&A in the organization

As per the interviewee, *“making decisions is more people centric rather than data centric. The software used is dated and there is a lack of experienced and skilled people”*.

They believed that there was a need to have adequate budget allocation for enhancing people skills for analytics. Overall they understood the importance of BI&A and their data requirements, but only excel sheets were used for analysis rather than more advanced tools for BI&A. Each business unit had its own way of analysing data. The data quality across these was not consistent and a lot of time went into data collation across business units. Although the organization culture was changing fast with respect to usage of BI&A, the mind set for adoption of BI&A across the enterprise was yet required.

5.3.2 Effectiveness & Usage of BI&A

There was found to be huge scope of work in implementation and usage of BI&A. The organization did not have the required resources. Also, data analysis was done in silos and not yet across the enterprise. For the organizations in this cluster, BI&A was yet not fully adopted and there was inadequate good quality data and related processes. Hence, assessment of effectiveness of BI&A was irrelevant here.

5.4 CASE STUDY: ORGANIZATION C

This organization was from cluster-3 - the ‘Hiker’ cluster. The organization in this case study was a non-banking financial company (NBFC). Launched 20+ years ago, this organization is a leading emerging market consumer finance specialist and has built a highly scalable, portable and resilient global platform which centrally manages core technology, risk, product and funding functions while adapting to local market needs. They primarily offer convenient and affordable point-of-sales loan, cash loan, and other loan products to underserved borrowers in nine countries, India being one of their subsidiaries. Over their 20+ year track

record, they have accumulated a wealth of experience expanding their operations and navigating through credit cycles, while accumulating a large volume of borrower behaviour data which they use to refine risks and cross-selling. Hence there seems to be a huge scope for using BI&A in this organization. The interviewee is an assistant manager with three years of experience.

5.4.1 State of BI&A in the organization

While employees recognize the need for BI&A systems, and there is a mind-set for analytics, there is lack of management will for complete enterprise level adoption of BI&A.

“Operational level employees have the desire to use data for decision making but top management does not have the willingness to take the plunge, although their requirements for BI&A are very ripe”.

This organization was using data in silos. Data was segregated department-wise. Each department had good quality data but data was not shared across business units. Since different departments had their own data, one of the challenges faced was getting real time access to single source of reliable data.

“Not having enough good quality data and an associated data dictionary is a huge challenge especially owing to the nature of the work”.

Each Business Unit or department had its own data analysis which was not shared with other functions to have a seamless data flow.

“Sometimes the MIS or the chairman office team gets totally inconsistent data from two different functions. Also, data are prepared in silos and shared with other functions only on request basis”.

This completely defeated the purpose of the enterprise level data analysis. Another challenge was the time needed by employees to update, get trained and actually perform data analysis

apart from their routine tasks. BI&A systems were used by only few employees based on their prior knowledge level. There was no dedicated resource for BI&A.

“Rather than as an additional task, BI&A needs to be embedded into daily work. Very few employees go that extra mile to use data and extract some meaningful insights out of it”.

There was found to be a general lack of awareness. Upgradation and training amongst employees regarding BI&A was a requirement.

5.4.2 Effectiveness & Usage of BI&A

Although largely MS-Excel was the tool used for data analysis, other tools like Tableau, Google Analytics and tools for behavioural analytics are also used by organizations in this cluster. BI&A was found to improve operational efficiency, risk analysis and facilitate better informed strategic decision making for several processes like new product development.

5.5 CASE STUDY: ORGANIZATION D

This organization was from cluster-4 - the ‘Trekker’ cluster. It was one of the leading FMCG organizations worldwide and is in the business of manufacturing chocolates, candy and gum products and a large number of popular beverages. It is ranked high in the list of India’s Most Admired Companies by Fortune India. The organization has been in India for over six decades. They work with farmers to improve incomes through best practices in all areas of crop cultivation management – from planting to harvesting. The organization has sales offices and manufacturing facilities at multiple locations in India with around 25,000 employees in India. The interviewees were a Process Optimization Lead with seven years of experience and a Data & Analytics Lead with nineteen years of experience.

5.5.1 State of BI&A in the organization

This organization was found to have standardized platforms and processes for BI&A and shared services across business units. While the maturity of BI&A capability was slowly and

steadily growing here, the interviewee believed that the BI&A capability maturity in their organization was average. This validates the results obtained from the quantitative data analysis for this cluster of organizations.

“There is good quality data generating a large number of system driven reports measuring the various KPIs for business – in fact there are too many KPIs being measured – due to easy data availability”.

The interviewee highlighted several challenges as well. The people with BI&A skills were not equipped to understand business requirements. They found it difficult to align the analytical capability with business knowledge. Sometimes there was found to be resistance to change and adoption of the evolving systems for BI&A. And on the other hand, the people on the field did not use BI&A systems properly and there was no uniformity in the tools being used.

One more challenge was the lack of updated processes and tools aligned with changing business needs and efficiency based on volumes. The use of BI&A tools was fragmented across different business units and functions.

“Although BI&A is being used to some extent in the organizations, actionable insights feeding the business process system are still missing. Many business units use their own tools for BI&A. Data management, hardware and platforms exist but need to be utilized to full potential”.

The number of touchpoints or data sources in a large organization was found to be a challenge in acquiring good quality and accurate data. Expanding BI&A to more than one function and finding good talent remained a big challenge as mentioned by interviewee from this organization.

5.5.2 Effectiveness & Usage of BI&A

The return on investment of BI&A systems and platforms were not directly measured, but growth in sales was seen as a consequence of using BI&A.

“As part of strategic roadmap, the organization has five pillars for growth – BI&A is one of them. There is a belief that if the organization focusses on these five pillars, it will translate into financial growth for the organization”.

There was heavy usage of BI&A in customer facing domains like sales & marketing. Advanced algorithms for predictive modelling were used. BI&A was also used in supply chain although a lot of investments were required here, for example, to use Internet of Things or tracking products coming from suppliers.

“While the alignment of BI&A systems is high with business strategy and goals, the people do not have understanding of how to align BI&A and business. The people who have BI&A skills don't understand business and vice-versa”.

It was observed that there was a lack of the right kind of people skills required in the organization. This observation validated the result obtained through cluster analysis that for organizations in this cluster, “People skills” was the lowest value amongst all six factors.

5.6 CASE STUDY: ORGANIZATION E

This organization was from cluster-2 - the ‘Climber’ cluster. It was one of the leading IT infrastructure organizations worldwide with a large presence in India. The organization delivers high value and quality products, consulting and support services as a package. This is one of their major differentiator. They are in a leading position in the industry in providing servers, storage, converged systems, wired and wireless networking systems, software, services and cloud. And with customised financing solutions and strategy, they can provide the right technology solutions for their clients with unique business goals. The organization

has around 10000 employees working in various locations in India. The interviewee is a Technical Consultant in the organization with twenty-three years of experience.

5.6.1 State of BI&A in the organization

The organization had a culture of data driven decision making.

“Advanced tools from Salesforce are used for data capture and analysis, which automatically ensures good quality data. The strategy and planning group gather and analyse data from the market and internal sources. This analysis is used to allocate sales targets”.

The challenges faced by this organization were in the area of skill building, retention and moving to modern BI&A. There were young teams with BI&A skills which were required to mature. Although the skills and mind-set of employees were improving and there was a culture of analytics driven from top management, the challenge was that this did not reflect down to the last level of business users. The purpose of using BI&A did not seem to be aligned to the larger business objectives.

5.6.2 Effectiveness & Usage of BI&A

The impact of BI&A was found in sales forecasting, workforce planning, customer experience and marketing strategy. There was found to be enhanced operational efficiency in most of the processes which used data for decision making, for example to correct the sales pipeline to improve sales conversions. BI&A was found to impact growth and operational efficiency, for example, planning for the next year heavily depended on the data and reports obtained from BI&A.

“Every quarter, effectiveness of BI&A for processes such as customer satisfaction, is measured using various tools. The fact that the organization is spending for BI&A year after

year indicates that there must be returns on this investment, though these are not directly measured”.

The interviewee response validated the result obtained from cluster analysis, which was that, “Strategic Alignment with BI&A” had the lowest value amongst all six factors in this cluster.

5.7 CASE STUDY: ORGANIZATION F

This organization was from cluster-5 - the ‘Mountaineer’ cluster. This organization is an Information Technology enabled Services (ITES) company incorporated three decades ago. They help in digital transformations and build software that drives their customer businesses, where software is at the core of their digital transformation.

They have almost 9000 employees and partner with large multinational companies to deliver their solutions. Their customer companies are in the Banking, Financial and Insurance segment. They also have customers in Healthcare, Life Science and Industrial & Manufacturing segments. The interviewee is a Vice President in the organization with twenty-six years of experience.

5.7.1 State of BI&A in the organization

This organization demonstrated a culture of data driven decision making. The analytical culture was prevalent across the organization, coming down from top management. There was a significant amount of investment year on year for BI&A as well as enhancements in the data team. They had a very well developed people skills pool. The BI&A team completely aligned with each business group for strategic projects. The management provided a big budget for upskilling in the area of BI&A, data science & machine learning.

“There is tremendous top management support to drive success through analytics even though the appetite varies across functions. Advanced tools are used to perform text

analytics and sentiment analysis for understanding customer sentiment. We are doing a lot of predictive analytics but have yet to move to prescriptive analytics⁷⁷.

The employees here were ready and willing to identify new use cases and expand the usage of BI&A. This organization had an advanced state of BI&A and data was integral to all the decision making processes.

5.7.2 Effectiveness & Usage of BI&A

It was observed that for this organization, BI&A was effective for performance improvement in processes and capability, for example, in improved customer experience and delight, improved delivery capability. The top areas of BI&A effectiveness seen in this organization were in making better informed decisions, improved customer service and reduce operational costs.

5.8 CASE STUDY: ORGANIZATION G: CEMENT INDUSTRY

This case study was particularly studied to validate the findings from the quantitative analysis. As discussed in Chapter 4, the findings indicated that Cement & Construction segment in the Manufacturing sector had the highest average BIAM score of 23.33. This was a surprising finding considering that Cement industry was perceived largely as an unorganized industry. Hence this section has been dedicated to understanding why organizations in the Cement Segment have been found to have a high BI&A maturity.

The Cement sector plays a vital role in the economic growth of India. Cement is important to the construction sector and all infrastructure projects. The construction sector constitutes 8-10% of the India's Gross Domestic Product (GDP). The Cement industry occupies a vital place in the Indian economy because of its strong association with other sectors like construction, transportation, (ideasmakemarket, 2013).

5.8.1 Description of the organization

This organization falls under cluster-5 – the ‘Mountaineer’ cluster. It is the largest manufacturer of grey cement, Ready Mix Concrete (RMC) and white cement in India, all of these manufactured under a regular brand name. The organization provides a range of products that cater to the various aspects of construction, from foundation to finish. It is also one of the leading cement producers globally. The organization is a large exporter of cement reaching out to meet the demand in countries around the Indian Ocean and the Middle East. It has 19,000 employees and its operations span across India, UAE, Bahrain, Bangladesh and Sri Lanka. The interviewee is a Chief Information Officer at a large Cement Organization.

The interviewee said that *“Ours is a very different industry unlike other manufacturing industries. It should not be compared to other manufacturing industries. It has 2-3 dimensions which make it different – one is a large supply chain network, second is the large upstream businesses integrated within the same organization. Thirdly with respect to the upstream and downstream processes, Cement is very different from other segments – hence we should view Cement segment as a supply chain and manufacturing organization more like the FMCGs which I would believe are ahead of Cement segment in terms of the maturity of BI&A”*.

Contrary to the interviewee’s belief, in our findings, we found Cement segment BIAM score to be higher than the FMCG.

5.8.2 State of BI&A in the organization

The organization leadership were believed to be having a pulse on business information and had a clarity on what Information Technology can do for business. They made good use of the available data. Primary data from the sale of products to dealers was readily available in good quality but the organization had limited visibility to the secondary data which was

exchanged between dealer and retailer. There was found to be resistance from the dealer community to share this data with the organization.

Data was extensively used for drawing insights to identify newer markets for expansion, to manage dealers and identify where to have more of them. Data was also used in conjunction with market intelligence to plan the skills they should focus on such as when to give discount, what should be the construct of the discount so their customers are enticed to buy from them rather than their competitors.

Functions which consumed data such as Market Development, Business Development, Advertising, Technical services, Logistics and many others had their independent MIS setup and had skilled persons who understood BI&A as well as their domain.

The organization had several core systems – Enterprise Resource Planning (ERP) and Supply Chain. They used SAP as its ERP and tools like JDA-i2 for their supply chain. On top of these they had an ETL (Extract-transform-load) tool, a data warehouse and for reporting tools they use Cognos, Power BI and Excel. This organization had a large number of Logistics systems, some of them were home-grown and some were custom developed to support a large Logistics function up to 10,000 crores. Consumption of cement in India is in bags which are transported using trucks. The organization has 12,000 plus trucks coming daily to their manufacturing plants and then going to pre-determined destinations in a given time period.

The respondent indicated that there were large scale operations in this industry. These could not be managed without the information technology backbone. *“IT is the lifeline in our organization for all the business operations”*. There has always been support from top management for funding to make business operations more competitive by adopting

technology. This was observed to be the most important reason why the Cement Industry was found to be at a high level of BI&A capability maturity.

This interview indicates that Cement industry should be viewed as large scale supply chain and manufacturing industry. They have standardized enterprise processes and advanced data sharing and analysis tools for using data to make business decisions, to improve their business process and customer outreach. Their operations cannot be managed without information technology as the backbone and hence there is sufficient funding from top management to make business operations more efficient and competitive. All this clearly validates the result found in quantitative analysis about Cement industry having a high maturity of BI&A capability.

5.8.3 Effectiveness & Usage of BI&A

BI&A was used extensively in Marketing as described above. It was also used in manufacturing of cement to determine optimum ratios of raw material blending to obtain acceptable quality of finished goods. It was used to maximise throughput and optimize power consumption which is a large cost component for the organization. It was used in predictive maintenance for machine and equipment health.

The interviewee concluded by saying that *“To sum up, because of the variability and largeness in all the business operations for this segment, there are enough opportunities to use technology and data analytics to help business do better a point which may not be evident to an outsider”*.

The Cement & Construction segment was found to be highest in the BIAM score. This finding in the quantitative analysis has been validated with the in-depth interview where the interviewee mentions that this segment has very complex business operations for which IT and data prove to be a lifeline without which they would be unable to function.

5.9 ANALYSIS OF THE CASE STUDIES

This section discusses the conclusions arrived at from the six case studies. The themes and characteristics which emerged in each case study are discussed below. The characteristics of each case study were used to make a generalization for all the organizations in that cluster.

5.9.1 Thematic analysis

Line by line coding was done on the data collected from the interviews for all the case organizations. The themes that emerged after the third iteration of coding are seen in Table 5.2. There were twelve broad themes, under which related characteristics were bundled together. For example, challenges spoken about in each interview were coded and grouped under the larger theme “Challenges”. It was observed that some of the themes had different levels - for example, for the theme ‘Overall alignment with business strategy and goals’, some respondents had mentioned ‘high’ alignment while some had mentioned ‘low’ or ‘yet developing’ alignment.

Table 5.2 Themes emerging after third iteration of coding

S. No	Themes emerging after third iteration of coding
1	Challenges
	Challenge - Data quality and accuracy
	Challenge - enterprise wide penetration
	Challenge to have updated tools and processes
	Challenges - skill building
2	Data quality, consistency & availability
	- Data quality & consistency is an issue
	- Good quality data available
3	Dedicated resource availability
	- Dedicated resources for BI&A not adequate
	- Good resources available for BI&A
	- Infrastructure potential yet not optimum
4	Effectiveness and use of BI&A

S. No	Themes emerging after third iteration of coding
	- BI&A Impact in functions
	- Enhanced operational efficiency & risk analysis
	- Performance improvement in processes
5	Level of BI&A skills
	- Lack of skilled people
	- Well-developed skilled people
6	Level of Data analysis
	- Data analysis in Excel sheets
7	Overall alignment with business strategy and goals
	- Actionable insights for business process can be better
	- Strategic Alignment is high between business and BI&A
	- Strategic alignment with BI&A developing
	- Strategic alignment with BI&A not seen
8	Resistance to change due to BI&A systems
9	Standardization of processes across the enterprise
	- Business units operate in silos
	- Data not shared across enterprise
	- Enterprise wide processes are yet developing
	- Tools usage fragmented in business units and functions
10	Top management support, mindset and culture
	- Change in mindset required for adoption of BI&A
	- Lack of top management support
	- No culture of using data driven decision making
	- Organizational culture for BI&A favourable
	- Top management support is high
11	Training and Upskilling
	- Big budget given for training and upskilling
	- Training for latest techniques needed for BI&A
12	Use of advanced tools
	- Advanced tools are used for BI&A
	- Tools are used for measuring effectiveness for BI&A

Next, it was observed that there were some themes which were occurring only in one interview whereas there were others which had the highest number of references and were coded in maximum number of interviews. These themes were repeated again and again in most interviews. These repeated themes were identified as the key characteristics across all the clusters as shown in Table 5.3. These key characteristics were ‘Data analysis with reliable data’, ‘Top management support & mind-set’, ‘Advanced tools for BI&A’, ‘Standard processes across enterprise’, ‘Skilled employees’ and ‘Alignment with business objectives’. The researcher observed that these key characteristics were similar to the six factors influencing BI&A, which were derived from literature review.

An ascending pattern was observed as seen in Table 5.3, in the development of characteristics of each cluster. From “Sitter” to “Mountaineer”, the characteristics were either minimal, developing or established. This indicated a pattern in the maturity of the clusters. The “Sitter” had minimal data analysis. “Walker” had minimal data analysis but top management support & mind-set was found to be slowly developing. “Hiker” was found to be developing data analysis and top management support. “Trekker” was found to be developing usage of advanced tools for BI&A, whereas “Climber” had established standard processes across the enterprise. The “Mountaineer” had all key characteristics well established as indicated in the Table 5.3. With the increasing maturity of the cluster organization, the state of the key characteristics was found to be better developed. This validated the findings from the k-means clustering analysis regarding the ascending pattern of the BI&A capability maturity of the clusters.

Table 5.3 Key characteristics of organizations in six clusters

Cluster Names & Description	Data analysis with reliable data	Top management support & mind-set	Advanced Tools for BI&A	Standard processes across enterprise	Skilled employees	Alignment with business objectives
Sitter (The non-starters)	Minimal	-	-	-	-	-
Walker (Beginners)	Minimal	Developing	-	-	-	-
Hiker (Fair performers)	Developing	Developing	-	-	-	-
Trekker (Average Performers)	Established	Developing	Developing	Established	-	-
Climber (Good performers)	Established	Established	Established	Established	-	-
Mountaineer (High Performers)	Established	Established	Established	Established	Established	Established

5.9.2 Generalization from case study

From each case study described above, we then generalized inferences for all organizations in each cluster. In research, generalization is a practice where one may extend one’s claims beyond the available data (Steinberg, 2015). As studied and explained by (Tsang, 2014) in his article, generalization does not refer to “external validity” or “induction”. He explains that in empirical research, generalization is a practice where one may infer from specific instances from the sample, for example from a case study to general statements. He argues that findings of case studies can be generalised better than those of quantitative studies in many different ways. Taking this argument forward, characteristics of each case study were used to make a generalization for all the organizations in that cluster. Generalization about the characteristics of the organizations in each cluster as follows:

- ‘Sitter’ organizations were yet to start thinking about BI&A. They did not have any culture for BI&A. Their data analysis was at a nascent level.

- The ‘Walker’ organizations were required to have top management support for adoption of BI&A and focus on resources for BI&A across the enterprise which enable seamless data flow between business units. In these organizations, management was aware of the need for BI&A and was willing to invest in tools and resources to develop the capability, but the overall state of BI&A was found to be primitive.
- In the ‘Hiker’ organizations, BI&A knowledge and skills for tools was varied across the enterprise. The data quality, consistency and accuracy for seamless flow of data across the enterprise remained a challenge in these organizations. They were required to enhance their procedures, methods and tools for proper data management and sharing data across the enterprise.
- The ‘Trekker’ organizations had made a good beginning and were committed to making necessary investments in BI&A as they strongly believed BI&A to be source of competitive advantage. There was greater involvement of various functions resulting in good alignment with BI&A practices. The use of advanced tools like Tableau, Power BI, Teradata, SAP Hana and Oracle was developing. The biggest challenge found in these organizations was finding the right talent, upgrading people skills and training for analytical skills.
- Organizations in the ‘Climber’ cluster had systems in place. There was a central BI&A team working with different functions and business units. Every business unit had an inclination to BI&A, however further work was needed for setting up of enterprise wide processes, standardization and alignment with centralized processes and business objectives.
- The ‘Mountaineer’ organizations had high levels of maturity for all six factors. The now had to upgrade from predictive analytics to prescriptive analytics as per Gartner’s value

chain model of Analytics as mentioned by (Koch, 2015). These organizations were required to start analysing real time data to make BI&A more effective – hence exploring newer sources and types of data.

5.10 CONCLUDING REMARKS

The qualitative research for one case organization from each cluster has been presented in this chapter. The key characteristics of each case organization emerged using thematic analysis method. This was further generalized for all the organizations in the respective cluster.

The findings from qualitative analysis validate the findings from the quantitative analysis of this study. The next chapter discusses the conclusion of this study, implications to research and practice and future scope of research.



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