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ABSTRACT

The importance of Business Intelligence & Analytics (BI&A) as a capability in an organization, has grown over the years. Most organizations today invest in resources required for BI&A. What is the impact of this investment? How can an organization adopt, build and grow the BI&A capability maturity? To adopt and build an implementable strategy for BI&A and to move to higher levels of analytical capability, organizations need to first assess their maturity level or capabilities of business analytics as mentioned by (Davenport and Harris, 2007). A wide range of maturity models (MMs), with multiple dimensions, have been developed over the years by academicians as well as practitioners, to assess BI&A capability maturity. Managers need to identify the critical factors which influence the maturity of BI&A capability and pick a maturity model to assess the maturity. It becomes difficult for managers to select the appropriate MM to use especially with the changing characteristics of data over time and the advent of big data.

There have been numerous studies done internationally to identify the critical factors and assess the maturity of BI&A in organizations but none done with organizations in India. This research was guided by the intention to identify the critical success factors influencing BI&A capability maturity, understand the state of BI&A, determine the maturity of BI&A capability and analyse the usage and effectiveness of BI&A capability of organizations in India.

A comprehensive literature survey was done to understand the large number of MMs, their dimensions and maturity levels. There were 29 MMs found in extant literature from 2001–2018. All the models found had multiple dimensions which were not exhaustive and distinct. With the help of an expert panel, these dimensions were consolidated into a set of six distinct and critical factors needed for assessing BI&A capability in organizations. These six factors were Data Management, Enterprise Processes, People Skills, Organization Culture, Strategic alignment with BI&A, Infrastructure & Technology.

While there were studies for development and evaluation of maturity models for measuring Business Intelligence & Analytics (BI&A) capability maturity of organizations, there was no empirical study found solely for assessing the BI&A capability maturity of organizations in India. In this study, the level of BI&A capability maturity in organizations was determined through an empirical study with a sample of 145 organizations from different industry sectors in India. A questionnaire based on the six factors was prepared, pre-tested and a pilot was conducted for the e-questionnaire. The respondents from the 145 organizations were business users or business analysts who were using data for decision making and had an understanding of the importance of BI&A.

The collected data was analysed in two phases - In the first phase organizations were grouped based on industry sectors and segments. Findings have revealed that different industry segments had different levels of BI&A capability maturity. Results from the analysis also show that BI&A has highest usage for marketing, sales and customer analytics. BI&A is found to be most effective for making better informed decisions and for improving efficiency of internal processes.

In the second phase, organizations were grouped based on the similarity in maturity of the six factors using k-means clustering technique. They were grouped into six clusters based on the six factors influencing BI&A maturity capability. Each cluster indicated a different level of maturity. Each cluster was further analysed to understand the key characteristics of the organizations in that cluster.

One case organization was taken from each cluster to gain deeper insights through in-depth interviews. Analysis of the qualitative data which was collected was done using thematic analysis method. The findings gave further insights about the state of BI&A, the functions where BI&A is used and where is the effectiveness of BI&A seen.

Based on the findings from the quantitative and qualitative analysis, a roadmap has been proposed for organizations to move to next level of BI&A maturity.

Table of Contents

ACKNOWLEDGEMENTS	ii
ABSTRACT	iv
List of Tables.....	ix
List of Figures	xi
List of Abbreviations.....	xii
Chapter 1- Introudction.....	1
1.1 Introduction.....	1
1.2 Need and Motivation for this study	4
1.3 Objectives of Research	5
1.4 Scope of Research.....	6
1.5 Plan of Chapters.....	7
Chapter 2 - Literature Review	9
2.1 Introduction	9
2.2 Business Intelligence & Analytics - Definition, Evolution and Implementation	11
2.2.1 Evolution of Business Intelligence and Analytics (BI&A)	12
2.2.2 Scope of BI&A in India.....	16
2.2.3 BI&A Implementation.....	17
2.2.4 Effectiveness of BI&A for Organizations	19
2.2.5 Building BI&A as a capability in organizations.....	20
2.3 Maturity Models for Business Intelligence and Analytics capability.....	21
2.3.1 Overview of Maturity Models	22
2.3.2 BI&A Maturity Models	24
2.3.3 Maturity levels in BI&A Maturity models	33
2.3.4 Mapping BI&A Maturity Models to the evolution period of BI&A	34
2.4 Study of the dimensions in the BI&A Maturity Models	35
2.5 Observations and research gaps from literature review.....	43
2.6 Operational Definitions from Literature review	45
2.7 Concluding Remarks	45
Chapter 3 - Research Methodology	46
3.1 Introduction	46
3.2 Research methodology adopted.....	47
3.3 Identification of critical success factors	49

3.4 Development of the tool	60
3.4.1 Questionnaire development	60
3.4.2 Interviews for Case Study method.....	63
3.5 Sampling procedure.....	64
3.6 Data collection and analysis	65
3.6.1 Exploratory Factor analysis.....	66
3.6.2 K-means clustering analysis	69
3.6.3 Case Method Analysis.....	82
3.7 Concluding Remarks	84
Chapter 4 – Analysis, Results and Discussion.....	85
4.1 Introduction	85
4.3 Descriptive Analytics	85
4.3.1 Profile of respondents.....	86
4.3.2 Respondent organization profile.....	87
4.3.3 Results for assessment of usage and effectiveness of BI&A.....	89
4.4 Findings from Analysis of Average Perceived Maturity	91
4.4.1 Organizations grouped into Industry-sector & segments	92
4.4.2 BI&A practice in organizations.....	95
4.4.3 Statistical significance of Perceived Maturity	97
4.5 Results from Factor Analysis	99
4.6 Results from k-means clustering	101
4.6.1 Understanding Individual Cluster characteristics.....	103
4.6.2 Reorganizing clusters in ascending order of critical factor maturity.....	106
4.8 Concluding Remarks	109
Chapter 5 – Qualitative Analysis through Case Studies	112
5.1 Introduction	112
5.2 Case Study: Organization A	114
5.2.1 State of BI&A in the organization	114
5.2.2 Effectiveness & Usage of BI&A	115
5.3 Case Study: Organization B	115
5.3.1 State of BI&A in the organization	116
5.3.2 Effectiveness & Usage of BI&A	116
5.4 Case Study: Organization C	116
5.4.1 State of BI&A in the organization.....	117

5.4.2 Effectiveness & Usage of BI&A	118
5.5 Case Study: Organization D	118
5.5.1 State of BI&A in the organization	118
5.5.2 Effectiveness & Usage of BI&A	120
5.6 Case Study: Organization E.....	120
5.6.1 State of BI&A in the organization	121
5.6.2 Effectiveness & Usage of BI&A	121
5.7 Case Study: Organization F.....	122
5.7.1 State of BI&A in the organization	122
5.7.2 Effectiveness & Usage of BI&A	123
5.8 Case Study: Organization G: Cement Industry	123
5.8.1 Description of the organization	124
5.8.2 State of BI&A in the organization	124
5.8.3 Effectiveness & Usage of BI&A	126
5.9 Analysis of the case studies.....	127
5.9.1 Thematic analysis	127
5.9.2 Generalization from case study	130
5.10 Concluding Remarks	132
Chapter 6 - Conclusions, Limitations and Future scope of work.....	133
6.1 Consolidation of this study	133
6.2 Major findings from the research	136
6.3 Implications for Academics.....	140
6.4 Implications for Practitioners	141
6.5 Limitations and Future research directions	142
6.6 Concluding Remarks	144
References	145
Appendix A	163
List of Publications.....	175
A - Journal Publications	175
B- Paper presented/Published at International Conference	175
Brief Biography of Candidate	176
Brief Biography of Supervisor	177
Brief Biography of Co-Supervisor	178

List of Tables

Table 2.1 Conceptual foundation of BI&A	13
Table 2.2 Overview of maturity models (2001-2018).....	26
Table 2.3 Maturity Model Origin & Method of Development.....	32
Table 2.4 List of 108 dimensions found from literature review	36
Table 3.1 Gaps, Objectives and Research methods used	47
Table 3.2 Identification of critical factors by Expert Panel members	53
Table 3.3 Typology & Measurement items for the six critical success factors.....	54
Table 3. 4 Sources for Responses to BI&A usage questions.....	61
Table 3. 5 Sources of Responses to the effectiveness of BI&A	61
Table 3.6 KMO measure of sampling adequacy	66
Table 3.7 Exploratory Factor Analysis Results.....	67
Table 3.8 Loading variance (%) in Factor Analysis.....	69
Table 3.9 Final Cluster centres for k=2.....	71
Table 3.10 Final cluster centres k=3.....	72
Table 3.11 Final cluster centres k=4.....	73
Table 3.12 Final cluster centres k=5.....	74
Table 3.13 Final cluster centres k=6.....	75
Table 3.14 Final cluster centres k=7.....	76
Table 3.15 Final cluster centres k=8.....	77
Table 3.16 Final Cluster Centres k=9.....	78
Table 3.17 Final Clusters Centres k=10	79
Table 3.18 Ratio used for Elbow method.....	81
Table 4.1 Average experience, designation and role of respondents	87
Table 4.2 Sector and segment wise organizations.....	88
Table 4.4 Respondent organizations with sector, segment & BIAM scores	93
Table 4.3 Measurement items for each factor	99

Table 4.6 Cluster Centres for k=6	101
Table 4.7 Cluster-wise BIAM score	103
Table 4.8 Cluster wise Analysis	107
Table 4.9 Usage of BI&A across various functions in an organization	108
Table 4.10 Effectiveness of BI&A seen in organizations across six clusters.....	109
Table 5.1 Summary of case studies discussed.....	114
Table 5.2 Themes emerging after third iteration of coding.....	127
Table 5.3 Key characteristics of organizations in six clusters.....	130
Table 6.1: Cluster-wise factors with lowest maturity value	137

List of Figures

Figure 2.1 Evolution of the Analytics Continuum (Source: Gartner)	15
Figure 3.1 Overview of the Research Process.....	49
Figure 3.2 Final Cluster centres k=2	71
Figure 3.3 Final Cluster centres k=3	72
Figure 3.4 Final Cluster Centres k=4	73
Figure 3.5 Final Cluster centres k=5	74
Figure 3.6 Final Cluster Centres k=6	75
Figure 3.7 Final Cluster centres k=7	76
Figure 3.8 Results of k=8	77
Figure 3.9 Results of k=9	78
Figure 3.10 Results of k=10	79
Figure 3.11 Elbow method for identifying optimum cluster number	81
Figure 4.1 Organizations in each sector (%)	89
Figure 4.2 Functions and areas where BI&A is used	89
Figure 4.3 Effectiveness of BI&A.....	90
Figure 4.4 Segment wise BIAM score	92
Figure 4.5 BIAM scores for Manufacturing Sector organizations	94
Figure 4.6 BIAM scores for Financial Services organizations.....	94
Figure 4.7 BIAM scores for Non- financial services organizations.....	95
Figure 4.8 Sector-wise number of years of BI&A practice	96
Figure 4.9 Segment-wise organizations with average # of years of BI&A practice	97
Figure 4.10 Perceived maturity of each factor	98
Figure 4.11 Final Cluster Centres (snapshot from SPSS)	102
Figure 6. 1 Roadmap for organizations to move to higher level of BI&A maturity	138

List of Abbreviations

AVP	Assistant Vice President
BI&A	Business Intelligence & Analytics
BI	Business Intelligence
BIAM	Business Intelligence & Analytics Maturity
CEO	Chief Executive Officer
CMM	Capability Maturity Model
CMIE	Centre for Monitoring Indian Economy
DaaS	Data as a Service
DM	Data Management
EP	Enterprise Process
EFA	Exploratory Factor Analysis
ETL	Extract, Transform & Load
IT	Information Technology, Infrastructure & Technology
MM	Maturity Model
OC	Organization culture
PM	Performance Management
PS	People Skills
SA	Strategic Alignment with BI&A
SPSS	Statistical Package for the Social Sciences



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