A STUDY ON APPLICATION OF BUSINESS ANALYTICS IN SMALL & MEDIUM ENTERPRISE

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ABSTRACT

Business Analytics is a most trendy technology for business organization. In information technological world organizations used to predict the future events or decision making based on the past records or existing information. For that, Business Analytical Tools are very essential to guide and support for the executives. Not only large scale or multi-national companies, even small and medium size enterprises also can utilize these business analytics tools for their performance improvement. In this conceptual article discusses the different types of business analytics models which can be utilized for taking decision and it brief about the difference between business intelligence and business analytics. Also, this paper discusses about the various types of business analytics in the different domains. The overall purpose of the organization is to attain the goals and objectives and to make profit. It can be achieved if the company is used to analyze their business process through business analytics.

INTRODUCTION

Business Analytics is an intersection of data science and business. It focuses on quantitative techniques and evident based data in business modelling for good decision making. In other words, it is a study of data for decision making through business operations and statistical analysis including predictive modelling and

explanatory modelling Not only large-scale industries, even small and medium enterprises can also use Business Analytics for its business process. Small and medium enterprises can uses business analytics to improve efficiency, increase sales and enrich customer services. The start-ups and SMEs also using these big data and business analytics to take advantages of technical advances like web analytics, social media analytics, etc

Business analytics (BA): Business Analytics is the process by which businesses use statistical methods and technologies for analyzing historical data in order to gain new insight and improve strategic decision-making.

Business analytics, a data management solution and business intelligence subset, refers to the use of methodologies such as data mining, predictive analytics, and statistical analysis in order to analyze and transform data into useful information. Identify and anticipate trends and outcomes, and ultimately make smarter, data-driven business decisions.

Small and medium enterprise:

A small enterprise is an enterprise where the investment in plant and machinery is more than Rs. 25 lakhs but does not exceed Rs. 5 crore a medium enterprise is an enterprise where the investment in plant and machinery is more than Rs. 5 crores but does not exceed Rs. 10 crores.

The general process of business analytics is as follows:

- Gathering data and organizing it through reporting

- Turning it into meaningful information through analysis

- Making actionable decisions aimed at fulfilling a strategic goal

Business analytics is an investigative approach that seeks to answer the what, why, when and how of business operation.

1. Descriptive Analysis: Uses historical data to recognize trends, inconsistencies, or patterns used to profit an organization.

2. Diagnostic Analysis: It is the analysis of an observed event to understand why it took place. It usually involves conducting test hypotheses to draw fact-oriented conclusions.

3. Predictive Analysis: It is the interpretation of information to forecast potential outcomes and improve risk assessment and management.

4. Prescriptive Analysis: It usually involves testing and comparing outcomes to determine which has the potential for success.
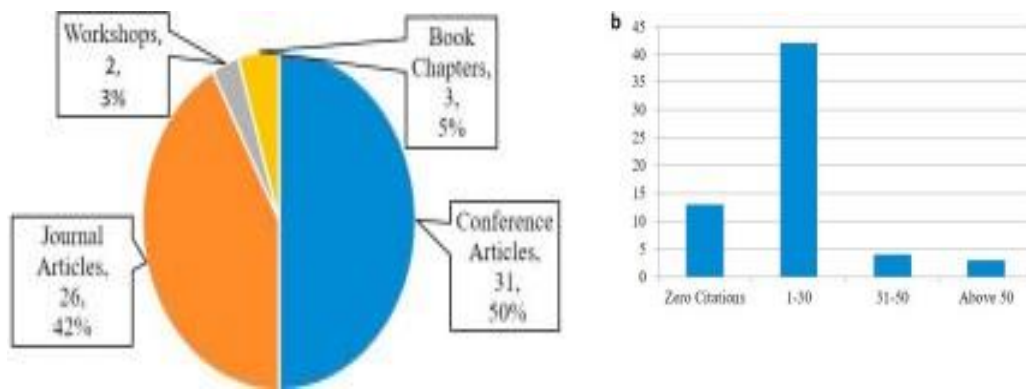
REVIEW OF LITERATURE:

This section provides the necessary statistical results based on the selected studies before the data analysis. Thus, the publication sources, citation status, temporal review, and applied research methods are presented.

1) Publication sources

Most primary studies were published in journals and conferences. There were few studies published in symposiums, workshops, and book chapters. The distribution of the primary studies derived from their publication sources is shown in Fig. 1(a).

2) Citation status

Fig. 1(b) shows the overview of the citation counts of the selected studies. The citation statistics were obtained through Google Scholar and Scopus. By looking at the data presented in Fig. 1(b), 49 of the studies were cited by other sources. Among these studies, only a few had more than 30 citations while the rest of the studies had fewer than 30 citations or no citations at all. The increase in the citation rates can be expected, as the majority of the selected studies were published in recent years.
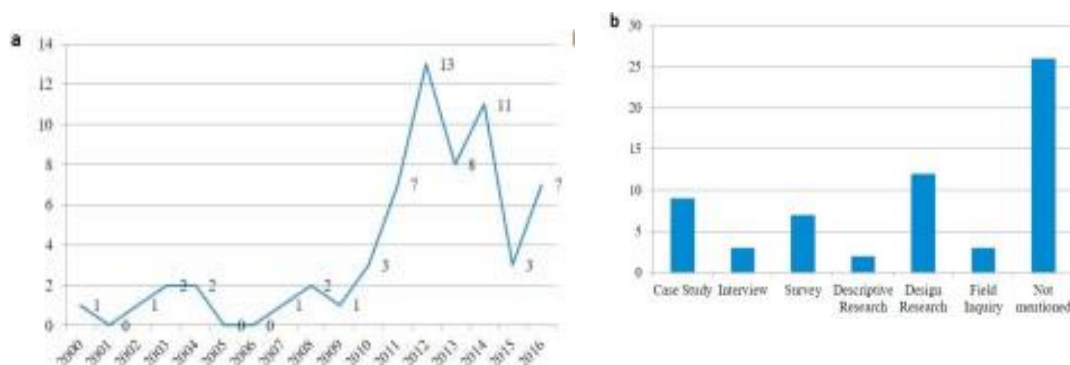
(b)

Fig. 1. (a) Distribution per publication source; (b) citation count

3) Temporal review

The distribution of the final set of selected studies over the years is shown in Fig. 2(a). It is apparent that there was a significant increases in BI&A interest from 2010-2012. However, studies in 2014 slipped back to 3 in 2015. Overall, the number of studies included is low.

4) Research method

The classification of the included studies with reference to their research methods is shown in Fig. 2(b). By looking at the data presented in Fig. 2(b), it is clear to see that the research methods in the primary studies were dominated by design research, followed by case studies, surveys, interviews, field inquiries, and descriptive research. However, 42% of literature studies did not implicitly or explicitly mention which methods were applied. This suggests that the research field is still immature.

(b)

Fig. 2. (a) Distribution of the primary studies throughout the years;

(b) Distribution per research methods.

STATEMENT OF THE PROBLEM

It can be inferred from the review of the literature survey conducted that the usage of Business Analytics in small and medium enterprise found to be scanty. Hence the present research concentrates on the quantum of awareness of the usage of Business Analytics in small and medium enterprise.

SCOPE OF THE STUDY

The scope of the research on the application of business analytics in small and medium scale industry management from this research there is scope on studying, understanding the about business analytics and small scale industry and studying , understanding the present and future trends in the region of business analytics and also the trends of application of business analytics in small and medium industry and also the understanding how the business technology applications especially analytics that impact on the small industry which has serviced based industry and also understanding the awareness and challenges of the users of business analytics

RESEARCH METHODOLOGY

The present study is organised through a structured questionnaire and the responses were collected and recoded by the researcher though online.

Research Objectives

 The objective of this research on the to study on application of business analytics in small and medium industry which helps to focus on the studying on
- To study the potential applications of business analytics in small and medium industry.
- To identify the problems challenges barriers and issues in small and medium industry.

Sampling Design: The responses were collected from 70 respondents inclusive of Operators of small industrial areas and small businesses.

Tools for Data Collection: The present study is based on the primary data collected through a structured Questionnaire.
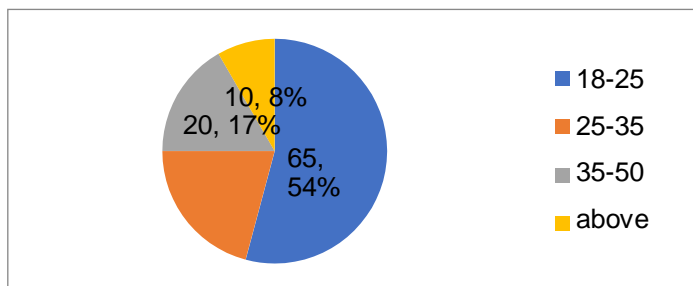
Tools for Data Analysis: The researcher has applied statistical tools viz., Percentages, Averages etc., for analyzing the data effectively and to find out the potential applications of business analytics in tourism industry and To identify the problems challenges barriers and issues in tourism industry.

Limitations of the Study

The researcher has collected the data from various respondents of the small Industry. The group of respondents / sample are heterogeneous in terms of composition. Moreover, the questionnaires circulated are self explanatory, hence there are chances of being misunderstanding or misinterpreting of the questions given. The validity of the responses were purely depends upon the attitude, knowledge, patience and ethical sense of the respondent. Majority of the questions are qualitative in nature, therefore there may be change in responses according time.
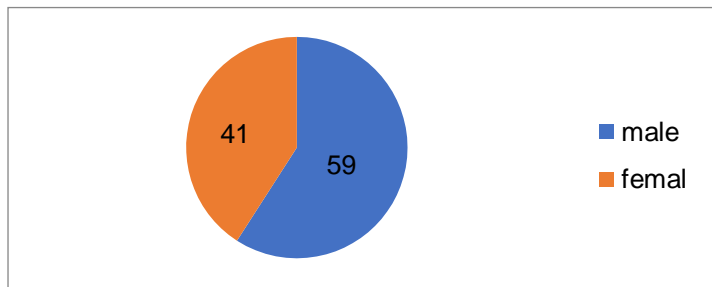
DATA ANALYSIS AND OBSERVATION
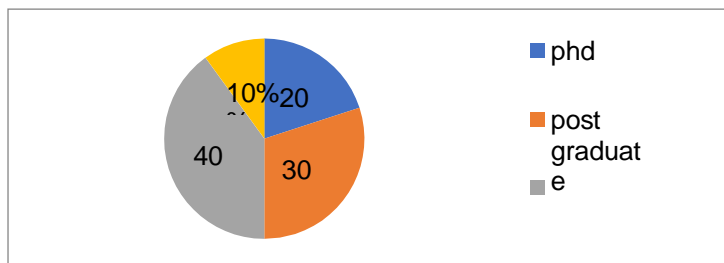
1. What is your age?

From this pie chart the age is 18to25 are responded high with 65.54% and large age 25to 35 will 25.21% and age of 35to 50 is least with 20%.
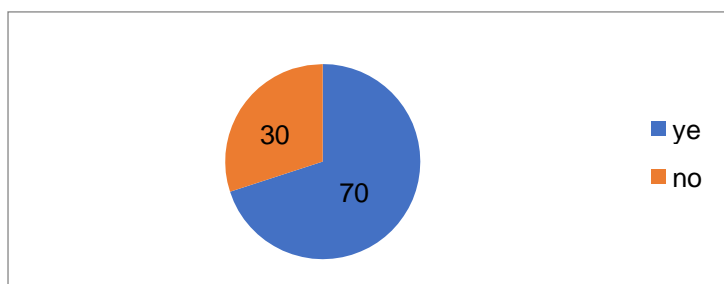
2. What is your gender?

From this pie chart student reacted from the female that is 59 and male are 41%.
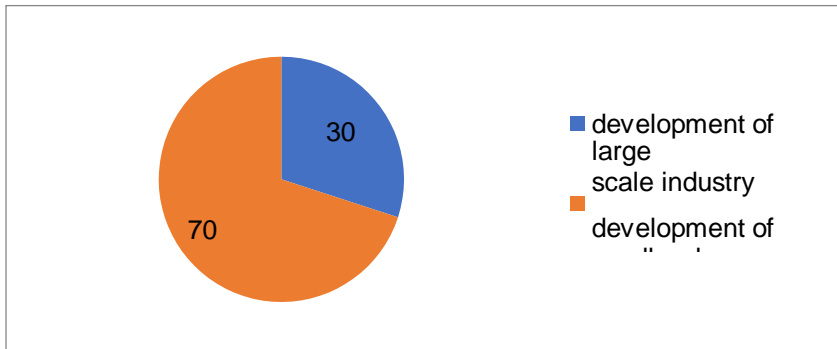
3. Education qualification

From this pie diagram the regard the education of responses is graduate is high with 40% and next graduation with 30% and phd 20% and last illiterate 10%.

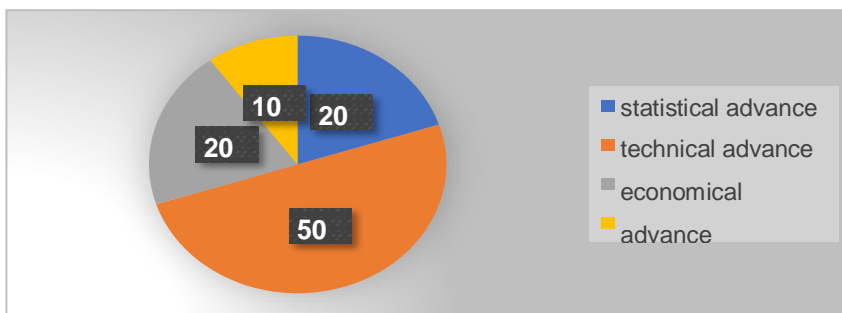4. SMEs enterprise use business analytics for successful to business.

Business analytics is successful to business for 70% responded as yes and 30% responded no to small scale industry.
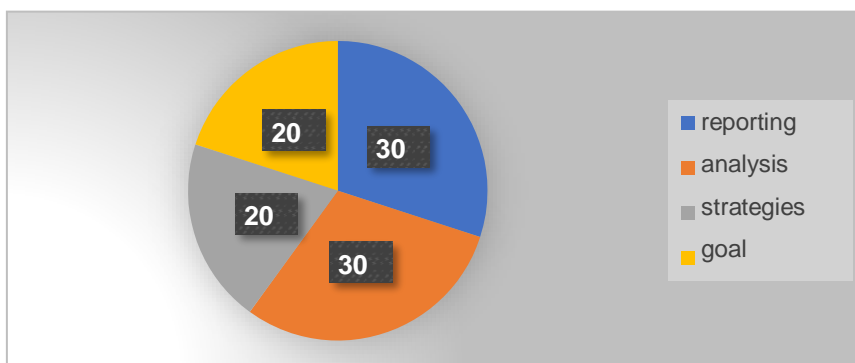
5. Using the business analytics in SMEs…….

70% responded as development of small scale industry and 30% are development of large scale industry.

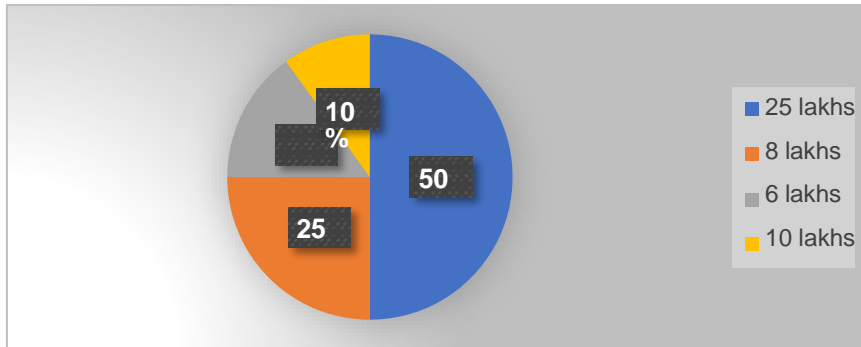6. SMEs suing the business analytics to take advantage of ….

50% responded is technical advance and 20% are statistical advance and 20% are economic advance and 10% geographical advance

7. Process of business analytics is the gathering data and organizing it through….
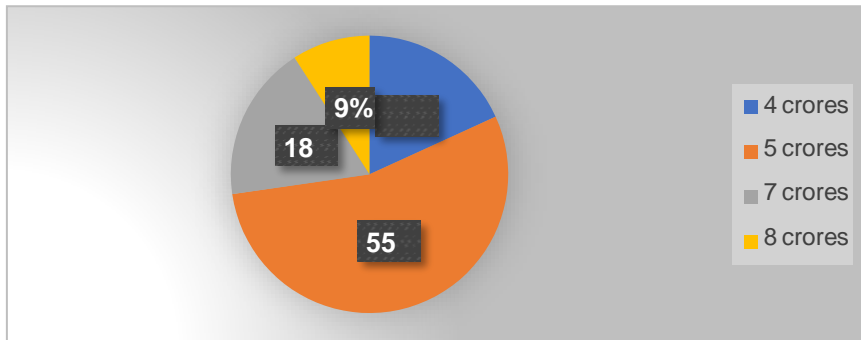

30% responded is both reporting and analysis and statistical and all the above is 20%.

8. Small enterprise where the investment in plant machinery is more than Rs.

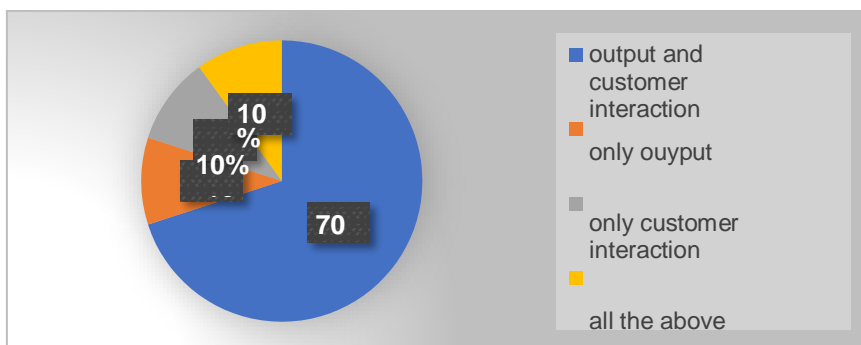25 lakhs are more than 50 responded 8 lakhs is 25% and 6 lakhs is 15% and 10 lakhs is 10% responded.

9. Medium enterprise where the investment in plant machinery is more than Rs.

55% is 5 Crores more than responded are other Croces.

10. SME can well control over their….

70% are more than responded to output and customer interaction and 10% both the only output and only

customer interaction and all the above.

CONCLUTION

This study provides a comprehensive literature review of BI&A in SMEs. Most studies focused on frameworks, architectures, models, critical success factors, determinants, and barriers that affect the implementation and adoption of BI&A. This provides promising evidence for the contribution to practitioners that can guide them in their future projects. For BI&A vendors, this can help to improve their BI&A solutions, for example, offering improved usability, integration into other systems, and ease of deployment.

For researchers, this study identified research topics, research gaps, and several important directions for future research in this field. More specifically, there is an opportunity for studies that explicitly focus on (a) the development of reference models, (b) benefit evaluation, assessment, and realization (c) the factors that influence adoption and implementation (e.g., TCO, ROI, and security issues), and (d) different uses of BI&A in various business fields and industries. Furthermore, cloud-based and mobile-based BI&A solutions are promising application areas for SMEs. This study suffers from some limitations. Even though the paper has conducted a very thorough review of the literature, I note however, that I cannot guarantee to have captured all the materials in this area.

SCOPE FOR FUTHER RESEARCH

The further scope of this research on the application on business analytics in small and medium scale industry management has this research focused on the certain research gaps such as. The Indian small scale system has long suffered from constrained resources increase in demand small medium enterprise. The use of data & analytics found scanty in small industry.

So this research can help to the understanding the business analytics application on small scale by focusing this research gaps and this research studied on the potential applications of business analytics in small industry and this helps to how to identify the problems challenges barriers and issues in small industry and how to solve it by using business analytics application.

This research helps to understand the how business analytics applications on performance of the business related to small industry in all directions and this research has scope on understanding the presents and future trends in application of business analytics and trends of technology on small industry and also it has scope on the understanding the trends on the

small industry and this research helps the understanding the process and phases and categories of business analytics and studying the components of business analytics which helps in further future research which studies on this topic that is application of business analytics in small and medium industry.

BIBLIOGRAPHY

1. IFC. IFC and Small and Medium Enterprises 2012 [cited 2016 November]; Available from: http://www.ifc.org/wps/wcm/connect/277d1680486a831abec2fff995bd23db/AM11IFC+Issue Brief_SME.pdf?MOD=AJPERES.

2. Olszak, C.M. and E. Ziemba, The conceptual model of a web learning portal for small and medium sized enterprises. Issues in Informing Science and Information Technology, 2008. 5: p. 335-351.

3. Ngah, R., I. Abd Wahab, and Z. Salleh, The Sustainable Competitive Advantage of Small and Medium Enterprises (SMEs) with Intellectual Capital, Knowledge Management and Innovative Intelligence: Building a Conceptual Framework. Advanced Science Letters, 2015. 21(5): p. 1325-1328.

4. Raj, R., S.H.S. Wong, and A.J. Beaumont. Business intelligence solution for an SME: a case study. in Proceedings of the 8th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K 2016). 2016.

5. Forrester. Boris Evelson Topic Overview: Business Intelligence. 2008 [cited 2017 April 18]; Available from: https://www.forrester.com/report/Topic+Overview+Business+Intelligence/-/E-RES39218.

6. Yeoh, W., Critical Success Factors for Implementation of Business Intelligence Systems in Engineering Asset Management Organizations. 2008.

7. Luhn, H.P., A business intelligence system. IBM Journal of Research and Development, 1958. 2(4): p. 314-319.

8. Burstein, F. and C. Holsapple, Handbook on decision support systems 2: variations. 2008: Springer Science & Business Media.

9. Gibson, M., et al. Evaluating the intangible benefits of business intelligence: Review & research agenda. in Proceedings of the 2004 IFIP International Conference on Decision Support Systems (DSS2004): Decision Support in an Uncertain and Complex World. 2004. Cite seer.

10. Chen, H., R.H.L. Chiang, and V.C. Storey, Business Intelligence and Analytics: From Big Data to Big Impact. Mis Quarterly, 2012. 36(4): p. 1165-1188.