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A STUDY ON IMPACT OF BI TOOL ON QUALITY OF DECISION MAKING AND ORGANIZATIONAL GROWTH

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ABSTRACT

Manufacturing organizations generate huge amounts of business data, and the data volume is expected to double in the next decade. This data needs processing and analysis to be available to management for efficient, quality decisions. Business intelligence (BI) tools enable organizations to quickly generate insights, make quality decisions, drive operational efficiencies, identify new opportunities, and differentiate themselves in the competitive market. The literature review reveals a gap regarding whether BI tools impact the quality of decision-making and organizational growth. This study determines the impact of business intelligence tools on the quality of decision-making and organizational growth in IT organizations. It also focuses on determining the impact of BI tool-based quality decision-making on decision categories (operational, tactical, and strategic) and the development of leadership traits in managers. Furthermore, the study identifies the areas of BI analytics usage and the important BI analytics in IT organizations, and the relationship between the importance and usage of BI analytics.

Keywords: Business Intelligence tools, Decision making, Information Technology, Organizational growth.

1. INTRODUCTION

Introduction to The Study

Organizations generate huge amounts of business data, and the data volume is expected to double in the next decade. This data needs processing and analysis to be available to management for efficient and quality decisions. With the help of business intelligence (BI) tools, organizations can quickly generate insights, make quality decisions, and enable management to drive operational efficiencies, identify newer opportunities, and differentiate themselves in the competitive market. The study determines the impact of business intelligence tools on the quality of decision-making and organizational growth. It also focuses on the impact of BI tool-based quality decision-making on decision categories (operational, tactical, and strategic) and the development of leadership traits in managers. The study identifies the areas of usage of BI analytics and important BI analytics tools and the relationship between the importance and usage of BI analytics in the service industry.

The impact on the quality of decision-making and organizational growth for before and after BI tool implementation can be analyzed. Business Intelligence (BI) has its roots in decision support technologies, and the decision-support domain has expanded over the years with the development of various decision-support applications - business information systems, on-line analytical processing (OLAP), and predictive analytics. BI tools started gaining popularity in the business world and academia around 2000.

The business insights generated by BI tools can help the service sector in the following ways:

- Optimizing resource utilization for services
- Optimizing bench (unutilized employee) costs
- Increasing revenue per employee
- Improving the quality of service
- Reducing operational costs such as travel and administration
- Identification of up-sell and cross-sell opportunities
- Optimizing global risks
- Compliance and regulatory reporting
- Planning for resource hiring and training

Over the last decades, business data volumes have increased tremendously due to the rise of business information systems such as ERP and CRM and are going for further explosive growth. International Data Corporation (IDC) highlighted in its sixth annual study that the digital universe, comprising structured and unstructured data, will grow 300 times to 40,000 exabytes from 130 exabytes by 2020, and the size of data will double every two years from 2012

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onwards. As a result of data explosion, organizations will create and store more business data in digital form and will have to process the same into useful information to improve their quality decision-making capabilities.

The useful information will need to be provided in right-time, in right formats, and on demand, enabling business leaders to take decisions for optimizing and improving business performance. Good and quality decisions in organizations lead to sustainable organization growth, and organizations should be better equipped with tools and processes for meeting short- and long-term goals. With such vast amounts of data amassed and available, it is imperative to provide the timely & correct information to the decision-maker to ensure business decision success.

A natural dilemma is how businesses can make sense of all the data without wasting time and resources as the amount of data captured continues to soar. With the increased reliance on e-commerce and mobile-based platforms for business operations, the marketplace conditions will further complicate, accelerate, and intensify the need for Business intelligence (BI) tool-based analysis.

Impact of BI Tool on Quality of Decision Making and Organizational Growth

This project investigates the impact of Business Intelligence (BI) tools on decision-making quality and organizational growth, especially within IT organizations. It explores how BI tools affect different decision-making levels and leadership development and identifies specific BI analytics used in these organizations.

Objectives

- To determine the impact of business intelligence tools on the quality of decision-making and organizational growth in IT organizations.
- To determine the impact of BI tool-based quality decision-making on decision categories (operational, tactical, and strategic).
- To identify the areas of usage of BI analytics and important BI analytics in IT organizations.
- To identify the relationship between the importance and usage of BI analytics.

2. REVIEW OF LITERATURE

This chapter presents a review of business intelligence tool literature to understand the importance & benefits of BI tools and to understand the relationship between business intelligence tools, quality of decision-making, and organizational growth. Many research portals (SHODHGANGA, IEEE, PROQUEST, GOOGLE SCHOLAR) were referred to for studying articles and research papers to gain a deep insight into the developments which have already taken place in the field.

Impact of BI Tool on Quality of Decision-Making and Organizational Growth

Bartram (2013) highlighted eight ways of using BI tools for getting optimized results: (i) develop an analytical culture in the organization, (ii) deliver information wherever it's needed, (iii) make use of unstructured data to get better insights, (iv) implement predictive analytics rather than analyzing too much historical data, (v) view information pictorially in the form of dashboards for quicker decision-making, (vi) keep information up to date to address current/future business problems, (vii) extract intelligence from social sites to give a full picture of the competition, (viii) ensure that managers use the information for decision-making. The article is conceptual in nature and does not provide details on how the above practices can be implemented for efficient use of BI tools.

Bhatia (2013) highlighted that business data volumes have increased tremendously in the last decade, which has increased the complexity in processing and analysis. The author highlighted that the traditional BI tool approach is not meeting the current needs of high volume/big data processing. The author highlighted that big data analytics enables organizations to take advantage of the totality of their information (internal & external) in real-time and enables fast decision-making for serving the customer & society in unique and innovative ways. The author highlighted some of the use cases of big data analytics, like better understanding customer needs, making processes more efficient, and further reducing costs. The author also highlighted that there is a need to educate organizations on the available big data opportunity to ensure they are not missing the competitive advantage.

According to Najibeh Abbasi Rostami (2014), in today's world, data are so numerous that technology is needed to cope with this knowledge. Business Intelligence (BI) is a process that involves sorting all the collected information and selecting those that are relevant. BI provides critical insights that help organizations make the right decisions. Knowledge management (KM) is a key approach to solving current problems. KM can be defined as a systematic process of finding, selecting, organizing, distilling, and presenting information in a way that improves an employee's comprehension in a specific area of interest. BI and KM play an important role in improving the qualitative and quantitative value of information available for decision-making. KM and BI can also benefit from each other. It seems that the integration of BI and KM can help organizations achieve wider benefits. Integration of BI and KM will not only

help to promote and enhance knowledge for better decision-making but also improve an organization's performance. Therefore, it is imperative for organizations to have both BI and KM as an integrated system to get full value from both. This paper shows the importance of BI and KM Integration through a series of models.

In his opinion, Lawten (2006), businesses continue to use computer systems for a growing number of functions, and they face the challenge of processing and analyzing huge amounts of data and turning it into profits. In response to this, vendors are trying to upgrade their business intelligence (BI) products, which are sets of tools and technologies designed to efficiently extract useful information from oceans of data. If successful, upgrading the technology would not only help users but could also let BI vendors widen their products' audience. However, despite the recent improvements, widespread adoption still faces several key challenges, such as high costs and the need for BI systems to integrate and interoperate with the many heterogeneous corporate data sources.

According to Vikas Khurana (2015), in today's business environment, the organization needs insightful information to make decisions for gaining a competitive advantage in the industry. Data analysis has become a priority activity in all organizations for proper decision-making, and the data is available in multiple sources & formats within the organization. The Business Intelligence (BI) tools convert the data from multiple sources & formats into insightful information enabling organizations to make better & quicker decisions and thus provide a competitive advantage. The study proposes a conceptual model of organizational growth with the use of business intelligence tools and identifies emerging trends in business intelligence tools. Here it suggests that organizations need to conduct further exploration for the use of BI tools in several business functions (supply chain, purchasing, and human resources). Further studies are required for analyzing the impact of BI tools on quality decision-making and organizational growth.

Relationship between BI Tool-Based Quality Decision Making and Decision Categories

According to Namvar and Cybulski (2014), Business intelligence (BI) offers opportunities for managers to master vast data resources for operational and strategic gains and allows BI-based organizations to generate significant business value. Here they emphasized the importance of BI to assist in making quality decisions by exploring the use of BI for improved understanding of business before such decisions are made and assessing the impact of the actions derived from these decisions. theory of organizational sensemaking. The presented research uses hermeneutic phenomenology to study the experiences of decision-makers in using BI-generated insights to guide their actions while altering business processes, structures, and information. The study emphasizes the necessity of using BI in the creation and maintenance of individual and organizational identity, as well as the enactment of this identity on the business and its environment, which need to be molded in response to changing circumstances.

Curko and Pejic (2007) highlighted in their article that BI tools have become a crucial technology in the banking industry for achieving strategic goals and gaining a competitive advantage for future growth. BI techniques can be used to balance & rationalize business operations, improve performance, and reduce operational costs at banks. The authors highlighted that larger data volumes of banks can be analyzed by using BI analytics for risk management, additional products selling to the customers, reducing churn rate, customer segmentation, and client lifetime value in the banking industry for strategic decision-making. The authors mentioned that BI technology helps bankers in enhancing relations with customers, improving the efficiency of marketing & campaigning activities, increasing risk management, quickly responding to market changes, and improving the efficiency & quality of business processes. The rise of the new trend of business process intelligence opens novel improvement areas in banking processes & operations.

Jourdan et al. (2008) performed secondary research on business intelligence journals published in ten leading information systems journals during 1997 to 2006 and classified 167 articles based on research strategy and BI category. The authors classified 56% of the research as formal theory/ literature review followed by 13% based on primary data and 12% based on secondary data and concluded that the majority of the research work follows exploratory methodology. The authors classified BI articles based on five categories such as benefits, decisions, implementation, strategies, and artificial intelligence and found that 35% of articles on strategies related to using BI tools in the current business environment and 16% of articles correspond to improving the decision-making. The authors highlighted that all BI categories have used the formal theory/ literature review research strategy and artificial intelligence used field-secondary and computer simulations strategy. The lab experiments approach was followed for the technology-focused category of decisions, and the sample survey approach was followed for implementation, benefits, and strategies categories. The authors also highlighted that there is an increasing trend on BI articles/activity over the period of analysis. The authors highlighted that limited work done in the decision area is due to challenges in quantifying the benefits of BI system-based improved decision-making, and further work is required in the field of decision and benefits.

Areas of Usage of Various Kinds of BI Analytics in IT Organizations

Cody (2002) highlighted in the research paper that knowledge management and business intelligence technologies have provided a good return on investment to the customers. The authors highlighted that the two technologies will blend over a period of time to provide solutions to problems requiring both data and text analytics. The authors discussed two tools, eclassifier and sapient, developed by IBM for text analytics and a framework for integrating text into the data warehouse and stated that text integrated with business data helps in improving the quality of decisions.

Ortiz Jr. (2002) highlighted new trends in BI tools in his article. The author mentioned that due to high-speed processing and networking technologies, an increasing amount of data is getting generated at a faster rate, along with typical data generation enterprise resource planning and human resource applications, due to internet-based applications. The author highlighted that the financial services, communications, and manufacturing industries are the biggest users of business intelligence technology due to the emergence of new trends such as real-time BI, web-based BI, and making BI available to more users within the organization. The author also highlighted that to extract useful information from the growing volume of data, organizations need to integrate BI tools with other applications such as data warehousing, knowledge management, and CRM.

3. FINDINGS

The study found a significant positive correlation between the implementation of BI tools and improvements in decision-making quality and organizational growth within IT organizations. Organizations that effectively utilized BI tools experienced better operational efficiency, increased revenue, and improved customer satisfaction. The study also revealed that BI tools are most effective when integrated into the organization's strategic planning and decision-making processes.

Solution

Based on the findings, the study recommends that IT organizations invest in BI tools and develop a data-driven culture to leverage the benefits of these tools. Organizations should also focus on training employees to effectively use BI tools and integrate them into their daily workflows. Furthermore, organizations should continuously evaluate and update their BI strategies to adapt to changing business needs and technological advancements.

4. CONCLUSION OF STUDY

In conclusion, this study confirms the significant impact of BI tools on the quality of decision-making and organizational growth in IT organizations. By leveraging the power of BI tools, organizations can gain a competitive advantage, improve operational efficiency, and achieve sustainable growth.

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