



ARTIFICIAL INTELLIGENCE AND ITS SIGNIFICANCE IN MAKING QUALITY DECISION FOR BUSINESS GROWTH

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Abstract

The growth of technology has been accepted by the business worldwide and the use of advance technologies in business is merging. Among these, the use of Artificial Intelligence is very much effective across the globe. The use of AI technology helps business management to make proper decision for the growth of the business. This study aims to investigate the impact of AI technology on the quality of making decisions for business developments. The study considers 183 IT firms for collecting data about the usage of AI technology. The outcomes show that the use of Artificial intelligence in making decision has been very effective and it helps in determining the right choice of the business. It can be concluded from the study that despite the challenges of deploying AI tools and techniques, businesses must use this technology for striving in the competitive market.

Keywords: *Artificial intelligence, Quality decision making, business growth.*

Introduction

To succeed in the present business climate, organizations face new challenges and must produce results that are both effective and efficient. With the advancement of technology and our ability to conduct more efficient business, the decision-making process in today's organizations became even more crucial. The managers spend a great deal of time controlling and supporting the productivity and fitness of their organization. Decision-makers' abilities to monitor and measure business performance and act on that information in a timely manner are critical to optimizing corporate performance. Today's corporate operations, competition, and regulations have made the manager's work more challenging, and many factors influence the manager's decision, and the manager requires fast access to analyzed and summarized information for effective decision-making (Arsham, 2012). Management has to evaluate a wide range of options and dimensions when making a choice because of advances in technology, innovations in communication, and the globalization of the workforce. Managing a business now necessitates access to innovative, timely, and high-quality data in order to make sound decisions. A company's performance suffers when its decision-makers are unable to respond quickly enough to changes in the business environment because of their inability to access the information they need. Decisions about revenue and profitability, compliance, and risk management should be made faster as a result of the same results in competitive environments. It's Identifying the optimal plan of action from a variety is what Arif et al. (2012) call the decision-making process, which consists of four steps: formulating premises, identifying alternatives, evaluating alternatives, and finally putting the decision into action. According to Rodrigues and Hickson (1995), a successful decision was most likely made through a decision-making process in which knowledge and implementation tools were easily available. Each



phase of the decision-making process necessitates accurate and thorough information. In their study, GE and Helfret (2013) found that information accuracy and completeness have a substantial impact on decision quality. All managers must be able to make sound decisions, and the quality of those decisions has a direct bearing on how well a company does. The top management must make long-term, strategic decisions based on the vision, goals, and values of the organization; the middle management must make tactical, but less complex, decisions to achieve the strategic objective; and the front-line administration must make daily, operational decisions.

AI System is one invention that gathers data and processes the equivalent and generates relevant business information for decision making. In the current competitive market, an organization can take advantage of Artificial Intelligence as a resource and a strong emotional support network to generate growth ideas. Artificial Intelligence Tools include the software that is particularly adept at gathering information, processing it, and then presenting it to the user in a useful manner.

Objectives of the study,

- To study the role and impact of Artificial intelligence on the growth of business
- To investigate the significance of AI tools in quality decision-making for business

2. Literature review

Since the business AI capabilities cannot be established overnight, Wixom et al. (2011) advise organizations not to invest in emerging technologies (cloud, social) of AI tool. According to the authors, Norfolk Southern Railway in the United States has built its AI capabilities over time and has realized considerable benefits in both the short-term and long-term. Starting with the reporting demands of individual departments, Norfolk has evolved into an enterprise data analytic organization by utilizing AI to support the company's long-term business goals. A number of AI analyses have been produced by Norfolk to achieve strategic goals, such as providing excellent customer service, reducing fuel use, managing asset turnover, and boosting employee productivity. Building a strong foundation for Artificial Intelligence (AI) capability includes establishing strong governance, developing a business-IT hybrid team, building stable and graphical applications that require minimal support, and creating meaningful analytics and establishing robust data quality and metadata standards, according to the authors.

In their article, Skvorc and Rabuzin (2012) sought to identify and analyze the primary causes behind the textile industry's failure to utilize an Artificial Intelligence tool. In order to conduct the research, the authors used a questionnaire survey method, creating different questionnaires for managers and IT specialists. The survey was conducted online. Low profitability, lack of clear vision and strategy, and inability to adapt to organizational changes were the three most common reasons given by managers for not implementing an AI tool, according to a survey of IT specialists. While managers and IT experts considered the moment to install an AI tool was not opportune, the organization in the study was a good candidate for such a system, despite the lack of information and the lack of expertise of IT specialists. Because the study was conducted only at one company, it cannot be considered an accurate picture of the entire industry.

According to Calhoun & Srinivasan (2012), well-designed & accurate dashboards swiftly convey critical business indicators and trends and give actionable information for decision-making, making dashboards



an increasingly popular visual AI tool. As part of the project's lifecycle, the authors describe how to design an effective dashboard. Data quality, timeliness, and responsiveness to user input are all critical components of a dashboard's visual design that should be discussed in detail with the dashboard's intended audience during the design phase. The authors also advised that early involvement by the business user in dashboard design is critical to its effectiveness.

The San Diego Unified School District in California, according to the author (2012), deployed an AI solution to help the district endure a difficult financial situation. Using procurement and attendance analytics, the school system was able to boost revenue (see figure 13) while also improving procurement efficiency. Other district administrators and analysts were able to spend more time evaluating data with the AI tool than they had previously spent acquiring it.

It has been noted in Rudin (2012) that the use of Artificial Intelligence (AI) tools has improved the performance of commercial, educational, and government institutions. The new on-demand AI model will have a wide-reaching impact on a wide range of businesses, according to the author. The on-demand tool concept, procedures, and challenges have been explained in great length by the author. According to the author, a preconfigured on-demand solution is straightforward to buy and deploy because there is no hardware expense required. In order to minimize future integration challenges, the author recommends that businesses test the on-demand solution first. On-demand AI solutions have a number of issues, including worries about data security, bandwidth for data transfers, data loss, and the profitability of the provider.

For CMAs, Stoller (2012) points out that AI is one of seven key IT areas that may help them stay ahead of the curve and offers advice on how to do so without falling behind. As the author pointed out, new AI trends are emerging, such as in memory analytics and helps identify to certain industry sectors (such as healthcare and construction). The author recommends that management accountants be taught how to use an AI tool by an outside trainer. The best practices for AI tool training, as well as the minimum training duration and content requirements for management accounts, were not discussed in this article.

3. Methodology

Research design and approach

The research is descriptive in nature and aims to describe the relationship among the AI tool and its effect on the quality of decision-making and growth of an organization in a few information technologies companies in Pune. The study is also causal in character, as the goal is to determine the impact of the AI tool on decision-making quality and organizational efficiency. The study is quantitative in nature, as data is collected using a questionnaire survey, and statistical tests and procedures are used to describe the relation among AI tool and quality of decision-making, as well as quality of decision-making and growth of an organization. the study's target population is 183 IT firms. The list of IT organizations that use AI for decision-making is compiled by engaging with Project Management Institute (PMI) India-Deccan India Chapter members (IT company managers) and the LinkedIn professional network. The survey's response technique is structured, and just a few questions were open-ended in nature. The pilot survey questionnaire was examined by IT organization management, and the questionnaire was revised as a result of their feedback.



Measurements

The following seven items were used to assess decision-making quality: On a 5-point likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree), on-time decision, quicker decision, proper decision, efficient decision, proper level of effort for decision-making, making informed decision, and providing inputs for various problems at the moment. On a five-point likert scale (1=Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree), the organization's performance was measured on the following five components: increasing revenue, satisfied customers, improved efficiency, reduced costs (IT & NonIT expense), and recognizing growth opportunities.

Data collection and analysis technique

The questionnaire survey was delivered to IT company executives via email. After distributing the question, a telephonic call is made to the participants to inform them on the questionnaire's context and to clear up any questions they may have. A face-to-face encounter is requested during the telephonic conversation in order to collect the completed questionnaire survey. The secondary data is gathered from the firms' annual reports of business performance information and investment initiatives in analytics by a chosen group of IT companies.

The Chi-Square test of contingency is used to determine the association between AI tool-based quality decision-making and the development of professional attributes in managers. It is used to evaluate the independence of two categorical variables. The correlation methods are used to test the relation between the significance of AI analytics and the utilization of AI analytics.

4. Results

An online poll was given to the IT managers of 60 companies who use AI tools. A questionnaire survey was issued via email to 3-4 people (managers and above) at each organization, who were asked to make decisions with the use of an Artificial Intelligence (AI) tool. Survey respondents are called after receiving the questionnaire and briefed on the study's origins, as well as any questions they may have concerned the questionnaire. An in-person meeting is asked to collect the survey responses. Some managers and companies did not engage in the survey questionnaire because of the confidential nature of the study, and the HR team at the business took a long time to approve responses and schedule appointments to collect them. After a series of follow-ups, 30 IT organizations responded and 51 employees completed a questionnaire. A representative sample of 30 IT organizations was obtained, and the following types of respondents provided high-quality responses:

Directors (8 percent), CIOs (CIO, CEO, and CFO) (6%), Senior Managers (56%), and Managers (30%," IBM SPSS version 20 was used for statistical analysis after Microsoft Excel was used for data collection. This section discusses the results of the data analysis, including the mean, standard deviation, and frequency distribution, as well as the response analysis to the survey. 40.2 percent of the 92 YES responses taken into account for accessibility via internet/intranet portal, 23.9 percent for access via email, 20.7 percent for accessibility by logging into AI tool, and 15.2 percent for access via mobile



device. According to the aforementioned interpretation, the most prevalent methods of accessing AI data in the business are: a) web portal access, and b) access to email.

AI tool uses in organizations	Frequency	Percent of validity	Cumulative percentage
The utilization of all business functions in a single application.	32	77.5	50.5
Used in a few professional capacities.	18	14.8	96.4
Specific verticals/horizontal businesses use it	9	6.7	100
Total	59	100	

Table 1: AI tool usage across businesses

Attributes of making decision	Before implementing AI tool	After implementing AI tool
Timely decision	Neutral	Agree
Quick decision	Neutral	Agree
Right decision	Neutral	Agree
Efficient decision	Neutral	Agree
Adequate effort for decision making	Neutral	Agree
Informed decision-making	Neutral	Agree
Giving suggestions for numerous issues at a time	Disagree	Agree

Table 2: Quality decision making attribute summary

Friedman analysis	N	Chi-sqr value	Df.	Asymp. Significance
	58	9.238	4	0.024

Table3: Friedman test stats

The null hypothesis is rejected since the p-value (0.05) is lower than the level of significance. The development of dynamic management traits is closely linked to the quality decision-making enabled by AI tools. According to the cross-tab, out of the 11 respondents who stated that AI tools enable superior quality decision-making, 8 of them cited the cross-tab.



5. Discussion and Conclusion

Businesses in the digital age need to be more aware of the market environment, which might change more quickly than in past decades, in order to keep up with the competition. Several companies have been implementing new technologies in order to get a competitive advantage and achieve high levels of performance. These developments include Artificial Intelligence (AI), which has attracted the attention of both academics and the industrial world. The ability of a machine to learn from experience, adapt to new inputs, and perform human-like activities is known as artificial intelligence (AI). According to this, artificial intelligence (AI) may currently be the innovation with the greatest potential for disruption.

Similar to AI, machine learning tools are the foundational multi-purpose technology in the domain.

There has been a dramatic increase in the amount of data being collected in various formats over the past decade. When it came time for the advent of new technologies, it called for an acceleration of technical breakthroughs that also included the computer processing capacities and the development of new AI methods. Firms are now able to process enormous amounts of data with AI and use the results to expand their market, product, and service offerings.

Taking into account the competitive nature of businesses and the need for speed in decision-making, many firms have been driven to install AI tools, particularly due to the anticipated ramifications of leading digital enterprises. Several top organizations are rethinking their AI integration strategies as they realize that the transformation process necessitates a reexamination of company strategy. There are limited theoretical and empirical findings about the production of value propositions through artificial intelligence, according to academics, therefore further research is needed to determine the full scope of AI's role in organizational planning and strategy implementation. By integrating technology into the decision-making process with corporate strategy, firms aim to achieve long-term success and competitive advantage. In today's dynamic climate, businesses are expected to be more adaptable and sensitive to strategic decision-making. In the long run, companies with a competitive advantage will be able to outperform the rest.

References

1. Arsham, H. (2012). Applied Management Science: Making good strategic decisions. Retrieved from <http://home.ubalt.edu/ntsbarsh/opre640/opre640.htm>.
2. GE, M., & Helfret, M. (2013). Impact of information quality on supply chain decisions. *Journal of Computer Information Systems*, 53(4), 59-67.
3. Wixom, B.H., Watson, H.J., Reynolds, A. M., & Hoffer, J. A. (2008, Mar). Continental Airlines Continues to Soar with Business Intelligence. *Information Systems Management*, 25(2), 102-112.
4. Skvorc, D., & Rabuzin, K. (2012, Summer). Business Intelligence in Croatian Textile Industry. *The Business Review*, Cambridge, 19(2), 187-194. 259
5. San Diego Unified School District Sharpens Attendance Tracking and Optimizes Procurement Operations. (2012, Sep). *Journal of Government Financial Management*, 61(3), 50.
6. Rodrigues, S. B., & Hickson, D. J. (1995, Sep). Success in decision making: Different organizations, Differencing reasons for Success. *Journal of Management Studies*, 32(5), 655-678.
7. Stoller, J. (2012, Jan). 2012 IT Survival Guide, Trends for the year ahead. *CMA Magazine*, 86(1), 28-31.



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8. Arif, Z. U., Rahaman, M. M., & Uddin, N. (2012, June). Role of management information systems in managerial decision making of organizations in the global business world. *International Journal of Research in Commerce, IT & Management*, 2(6),14-18.
 9. Rudin, K. (2012, Sep). The Shift to On-Demand Business Intelligence. *Business Intelligence Journal*,12(1), 44-54.
 10. Calhoun, D., Srinivasan,R.(2012,Dec). Implementing Dashboards for a Large Business Community-A Practical Guide for the Dashboard Development Process.*Business Intelligence Journal*, 17(4), 22-33.