

THE IMPACT OF ARTIFICIAL INTELLIGENCE AND THE INTERNET OF THINGS ON SERVICE QUALITY

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Problem statement

The world is witnessing a large-scale scientific and technological revolution characterized by a rapid pace; Supply chain management processes represent an important element in the efficiency and effectiveness of organizations of all sizes, activities, objectives, and nature of work, which require these services to be highly efficient in performing work (Johnson, & Scholes, 2016, P:198).

The acceleration of technical and technological development and change has led to the emergence of the need to develop production mechanisms in various existing organizations by focusing on a comprehensive analysis of the internal and external environment of organizations and with the aim of developing appropriate visions for the future, and then setting applicable goals and strategies that are consistent with the capabilities of the organization and stakeholders (Allen, 2019, p. 114). Artificial intelligence is a product of theories of perception and learning and is linked to theories of logic, probability and computing, and has a close relationship with the way the human brain works, which made artificial intelligence an important and necessary strategy in many modern organizations (Yassin, 2018, p. 19).

The study (Kitsios, Kamariotou, 2021) indicated that artificial intelligence and IOT tools played a major role in many strategic developments within various organizations, and that it is necessary to align artificial intelligence tools within organizations, which leads to achieving many fruitful results on the practical and administrative side, and improving employee performance.

Activating artificial intelligence and IOT applications in organizations contributes to improving strategic thinking processes and improving the performance of employees in the organization, which would improve the quality of products and services, as in the digital age, organizations need more smart applications in the market environment such as artificial intelligence applications, which develop the performance of their employees, which helps these organizations achieve their goals and increase the quality of their services (Stone & Aravopoulou, 2020).

All organizations in the current era face many challenges as a result of rapid scientific and technical changes and developments. In the face of these inevitable challenges, traditional management with its various means has become unable to make the organization competitive. Therefore, this matter requires these organizations to use all available contemporary technical and administrative methods that enable them to compete with other organizations (Al-Douri and Saleh, 2019, p. 29). Using IOT and AI become necessary to enhance the different services in most organizations. The problem of the current research can be stated as follows: What is the impact of artificial intelligence and Internet of things with its various applications on the quality of services?

Research Objectives:

1. To comprehensively analyze the existing uses of AI and IOT.
 - To identify the key uses of current AI and IOT systems, as outlined in the literature.
 - To understand the impact of artificial intelligence and Internet of things with its various applications on the quality of services.
2. To evaluate existing solutions, including explainable AI and IOT frameworks:

- To explore alternative validation approaches proposed by scholars regarding the impact of artificial intelligence and Internet of things with its various applications on the quality of services.
3. To propose a comprehensive framework for enhancing the use of artificial intelligence and Internet of things with its various applications on the quality of services.
 - To develop a framework that addresses the impact of artificial intelligence and Internet of things with its various applications on the quality of services.
 4. To validate the proposed framework in diverse AI and IOT application.
 - To assess the generalizability and effectiveness of the proposed framework in various AI and IOT contexts.
 5. To provide practical recommendations for the implementation of the proposed framework:
 - To contribute to the ongoing discourse on responsible and trustworthy AI and IOT development and Deployment.

Literature Review:

There were many studies which threw light on the ARTIFICIAL INTELLIGENCE AND THE INTERNET OF THINGS and their effect on improving the products and services done in the different organizations. The most important studies related to this part can be stated as follows:

In the Study (Huang & Rust, 2021) which entitled "Strategic Framework for Artificial Intelligence in Marketing", where the study attempted to clarify the extent to which strategic thinking is related to artificial intelligence applications. The study demonstrated the importance of applying artificial intelligence models in marketing research and strategy related to the retail sector, targeting, positioning, and procedures. The study highlighted that mechanical artificial intelligence can be used to collect data and analyze operations in markets, that artificial intelligence

applications are used to understand customer needs and desires, and that artificial intelligence is currently gaining importance in marketing, due to the increase in computing power and the availability of big data.

Another study conducted by (Kitsios, Kamariotou, 2021) which entitled "Artificial Intelligence and Business Strategy towards Digital Transformation - A Research Agenda", where the study aimed to clarify the impact of artificial intelligence on the development of business strategy in organizations. The study showed that artificial intelligence tools played a major role in many strategic developments within various organizations, and that it is necessary to align artificial intelligence and information technology tools with the organizational strategy within organizations, knowledge management, decision-making process, service innovation and value within various organizations. This leads to achieving many fruitful results on the practical and administrative side, developing supply services and increasing the level of job satisfaction, with the availability of wide opportunities and capabilities to generate new methods of administrative practices.

Another study conducted by (Stone, Aravopoulou, 2020) which entitled "Artificial Intelligence and its Effects on Strategic Marketing Decision-Making", where the study aimed to review the literature on artificial intelligence applications and their effect on strategic management and strategic decisions. The results of the study showed that there is little research that addressed the effects of artificial intelligence applications on strategic decision-making. The results of the study also showed that artificial intelligence applications affect the effectiveness of decision-making in many areas of management, which affects the nature of strategic operations and strategic marketing decisions. The results showed that the level of success in applying artificial intelligence tools has strong implications for the development of services within various organizations, especially large organizations in competitive industries, as failure to apply artificial intelligence tools in the face of competition from other organizations may have a very serious impact on the revenues of those organizations, and artificial intelligence tools have a significant impact on strategic marketing decision-making.

Also, in the Study of (Allen, 2019) which entitled "Understanding China's Artificial Intelligence Strategy: Evidence of Chinese Strategic Thinking in Artificial Intelligence and National Security", where the study attempted to reveal the extent of the relationship between the development of artificial intelligence applications and the improvement of strategic thinking processes within organizations and the extent of this impact on cybersecurity policy in China, especially with regard to artificial intelligence. The study results showed the importance of institutional support for artificial intelligence, and that the success of artificial intelligence applications is linked to many social and political factors, and that China has done a great job in supporting artificial intelligence institutionally from the top down, rather than the bottom up, as is the case in its Western counterparts, with a variety of funding to ensure that private companies reach their strategic goals through the presence of a group of talented and distinguished leaders needed, as China realized that maintaining superiority in artificial intelligence is vital in the twenty-first century, and that by using artificial intelligence applications, China has been able to develop its products, as China excels in developing its own products compared to its counterparts from countries.

Another study conducted by (El Namaki, 2019) which Entitled "Will Artificial Intelligence Change the Strategic Competencies of Senior Management and the Level of Performance in Them?", the study attempted to clarify the extent of the impact of applying artificial intelligence mechanisms on developing the capabilities of strategic competencies in a number of organizations. The study showed that the use of artificial intelligence applications helps develop the strategic thinking of leaders and heads of organizations, as well as helps improve the level of product quality and market innovations. The study also showed that the use of artificial intelligence tools helps bring about a fundamental change in services and provide a wide range of services for a quasi-revolutionary change driven by the innovations provided by artificial intelligence. The development of artificial intelligence applications and their use in organizations helps increase the effectiveness of strategic behaviors of institutions.

Also, the study of (Kno, Mana, 2019) which Entitled "How will artificial intelligence change

the principles of strategic thinking", the study aimed to identify the extent of the impact of artificial intelligence on strategic thinking processes within organizations. The study indicated that there is a high probability that artificial intelligence applications will provide the answer to how to develop future services and service innovations in various markets, and that the use of artificial intelligence applications in various organizations has a major role in bringing about a major change in the nature and quality of services and business models provided to consumers. The results of the study indicated that artificial intelligence applications bring about a semi-revolutionary change based on the innovations provided by artificial intelligence, which include providing computing equipment that acts as catalysts to enhance organizations' ability to raise the quality of services, and also works to develop their employees. The study also highlighted that artificial intelligence applications positively affect the strategic thinking processes of institutions, as innovative patterns of artificial intelligence are integrated with the strategic behavior of organizations, which produces high-quality services.

Also, the study of (Abdul Latif, Al-Yousef, 2008), which entitled "The Impact of Using the Internet on the Structure of Demand for Hotel Services and Their Distribution" aimed to identify the impact of using Internet applications on improving hotel services. The study sample relied on the descriptive analytical approach. The study was conducted on a sample of 329 employees working in a number of hotels in Amman, Jordan. The study indicated that the Internet is a marketing tool with a high degree of interactivity and rapid access to local and global markets. The results of the study affirmed that there are many technological means that help hotel organizations use it as a distribution channel that ensures that their products reach these markets in a manner that suits the organization and customers, as well as the Internet, as a tool for marketing communications in its various forms, allows the organization the ability to develop its services. The technological media used in the hotel sector are one of the most important distribution channels, thanks to their interactive characteristics, speed, and superior ability to organize the activities of the large events services sector. The study recommended the necessity

of using the latest technological means in the field of hotel services, because Improves service performance and achieves customer satisfaction.

In a study conducted by (Magdalena, 2016), which entitled "The Internet of Things and Institutional Capabilities", the study aimed to determine the extent to which some institutions have the ability to market some events using the Internet of Things technology. The study used the descriptive comparative approach and the study sample included approximately 450 employees from various institutions. The study compared the effectiveness of activities in commercial and non-commercial institutions to identify the effectiveness of activities that use or plan to use the Internet of Things and that can be applied in information institutions. The results showed that it is advisable to use the Internet of Things in information institution services similar to what is implemented in various commercial institutions. The study recommended the necessity of using social media in marketing large and small events.

In another study conducted by (Hawkins, 2016), which entitled "Internet of Things Applications and Their Impact on Marketing Events in Some Entities", the study aimed to identify Internet of Things applications and their impact on entities or individuals; The study community included a number of different institutions that use modern and old technologies in marketing events. The study relied on the descriptive approach. The study confirmed that it is necessary to use the Internet of Things in managing various activities, and that the Internet of Things is an important means to successfully perform marketing tasks, and that the Internet of Things can enhance the relationship between the employee and the beneficiary. The study recommended the use of RFID tracking technology and communication technologies in marketing events in various fields.

In a study conducted by (Al-Fuqaha, et al, 2015), which entitled "Internet of Things: A Survey of Technologies, Protocols and Applications", the study aimed to identify the importance and advantages of the Internet of Things. The study relied on the survey method, as the study

was in the form of an exploratory research on enabling Internet of Things technologies in performing recreational and cultural activities for some institutions and trying to explore the relationship between the Internet of Things and other emerging technologies, including big data analytics and cloud computing, and providing information that helps improve integration between Internet of Things services. The study showed that the Internet of Things is capable of employing the latest developments, including RFID object tracking technology and communication technologies, Internet protocols. The study recommended enhancing technological awareness services and developing information support to serve institutions in organizing their work.

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