

**LEVERAGING ARTIFICIAL INTELLIGENCE FOR STRATEGIC DECISION-
MAKING IN HEALTH CARE**

by

Student Name

Professor's Name

Name, Designation

Academics and Doctoral Studies

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Abstract

The purpose of the abstract is to provide a concise and accurate synopsis of key elements of your capstone project. Set the abstract as a single block-style paragraph with no initial indent. Address the following topics (four hundred words maximum). **Research topic summary (1-5 sentences)**, a concise summary of your capstone research topic. Explain the rationale for your study and the need for the study the capstone addresses. Indicate your research questions, matching the wording used in your capstone sections. **Research methodology (1-2 sentences)**. Summarize the research methodology used in the study. **Population and sample (1-2 sentences)**. Describe the population and sample, including high-level demographic information regarding your participant poll. If secondary data were used, describe the data set. **Data analysis (1-2 sentences)** provides a concise summary of your data analysis. **Findings (1-3 sentences)** provide a concise summary of your research findings and conclusion(s). Describe the practical implications of your project and the deliverable you created.

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SECTION 1. PROJECT DESCRIPTION

Overview of the Project

The healthcare management artificial intelligence (AI) is capable of saving the industry numerous expenses and enhancing the performance of the operations. Using the example of a study by the Accenture (2020) company, in 2026, the main clinical health AI applications will be able to save the American health care system 150 billion a year. This can be attributed to cost savings of improved administrative workflow, reduction of dosage errors, and effective diagnostic processes.

Introducing AI in health care has a number of issues in terms of business administration. Algorithm fairness, data privacy, and the role of AI in the job market are some of the ethical dilemmas that will remain the concern of the project, but the strategic and practical issues of the AI implementation will be the primary aspect of the project. Organizational readiness, change management, return on investment (ROI), and alignment with business objectives will be part of the integration process (Dwivedi et al., 2021). The project will attempt to come up with solutions that can help in curbing these challenges from a perspective of seeing the implementation of AI aligns both with ethical considerations as well as business needs. The project will delve into some of the major concepts that are common in the health care industry as far as the business strategy is concerned. The ideas are in the way organizations comprehend their preparedness to utilize AI, the most efficient change management plans regarding AI implementation, and the ways to gauge and enhance AI return on investment (ROI) (Sun and Medaglia, 2019). Other concepts include the aspect of AI integration into the existing business processes and decision-making models (Dwivedi et al., 2021), and the legal and policy framework of the AI use in health care (O'Sullivan et al., 2019). These are important elements of the framework that should

be built into an overall AI implementation in future evaluations.

The project will offer principles on the strategic application of AI that are in line with ethical principles as well as business goals. The project will involve suggestions on how AI governance can be developed, how cross-functional teams to implement AI can be created, and how AI performance can be measured based on businesses (Almeida et al., 2021). In terms of the critical components, the project will provide an in-depth perspective on the concept of AI integration into health care in the framework of business administration that can create a new wave of efficient, responsible, and well-thought-out values in terms of effective technology implementation.

Problem Statement and Purpose

Problem Statement

The overall business issue is the slow pace of the adoption of AI in health care, which leads to high operational inefficiencies, loss of competitive advantage, and unrealized cost savings (Ahmed et al., 2023). This has resulted in a number of serious business administration problems due to a lag in the adoption and implementation of AI. Companies in the health care sector, which do not use AI to their advantage, miss a chance to simplify the administration and manage resources more efficiently, as well as enhance overall operational performance, which makes their operations more expensive and less productive (Sun and Medaglia, 2019). Within a steadily competitive health care industry, companies that are under-adopting AI risk losing out to more technologically advanced companies, which may lead to the loss of market share and loss of top talent (Dwivedi et al., 2021). The survey on a Bain & Company survey reported on by Berger and Hammond (2023) found that 75% of the executives of health systems believe that generative AI will revolutionize the business, but only 6% of them have a formal AI strategy in

place. The dominant opposition between the acknowledgments of potential AI application and its real strategic deployment highlights the acuity of the issue. The slow uptake is an obstacle to the industry utilizing AI to its benefit, aiming to increase operational efficiency, effective strategic decision-making, and market positioning.

The particular business issue is that U.S. health care leaders lack a systematic approach to applying AI in their business management, leading to business efficiency and opportunities cost-reduction (Dwivedi et al., 2021). According to Sun and Medaglia (2019), hospitals have been hindered by major challenges in AI integration, including a skills gap, inadequate data structure, and compliance issues. Moreover, Pifer (2023) argues that the potential cost to the United States is up to 360 billion annually, which could be saved by using artificial intelligence in health care extensively. The absence of a framework for integrating AI in healthcare organizations is fraught with numerous problems. First, it leads to the unequal and sporadic implementation of AI solutions in various departments, which does not allow creating a unified system for enhancing the effectiveness of the overall organization (Dwivedi et al., 2021). Secondly, it brings up the challenges associated with the ethical issues and adherence to the laws and regulations, where health care leaders cannot use AI without some difficulties (Gerke et al., 2020). There is also no framework that regulates the way of integrating AI in health care organizations, making it hard to handle and analyze large volumes of data gathered in clinical practices in organizations (Ahmed et al., 2023). Kong (2019) says that 80 percent of health data is unstructured and underutilized. The issue is significant unexploited opportunities to extract valuable information and optimize patient care provision and organizational processes.

Alignment with the Program

The project is in the process of being done as part of the Capella University Doctorate in

Business Administration (DBA) program specialization in strategy and innovation. The research is aimed at creating strategic frameworks of AI implementation in health care organizations, which is consistent with the focus on the specialization of the use of innovative technologies to improve the efficiency of operations and competitive advantage (Zewail & Saber, 2023). The project covers the major points of the specialization, such as strategic planning, management of innovation, organizational change, and business transformation based on technologies (Zewail and Saber, 2023). It demonstrates the objective of the DBA Capstone program to integrate theoretical knowledge to address real-life business issues in health care. The project is adding to the overall literature on strategic management and technological innovation in the health care industry by addressing the complicated issue of AI implementation in health care organizations. The project delves into the idea of using AI as a strategic lynchpin to generate sustainable competitive advantages, achieve organizational innovation, and reinvent business models in health care (Zewail and Saber, 2023). It aids in cultivating higher levels of leadership needed in coping with the changing environment of health care management.

The study fits the strategy and innovation specialisation by exploring how healthcare organizations can create and execute AI strategies that are sensitive to market forces, regulatory adjustments, and emerging technologies. The holistic nature of AI implementation in the project evidences the use of strategic management theory, innovation model, and change management theory. Moreover, the project delves into the application of AI as a driver towards disruptive innovation in health care, which could transform the industry structures and competitive forces. The project falls within the area of specialization that entails learning and exploiting the emerging technologies in order to transform organisations and generate new sources of value.

Purpose Statement

The qualitative investigation aims to understand the opinions of the U.S. health care leaders regarding the elements of an AI implementation strategy to achieve operational efficiency and profitability increase and stay competitive in the health care sector. The proposed study will concentrate on individuals in the U.S. with the expertise necessary in AI, who could be leaders in health care organizations to conduct the study using detailed interviews that will help pinpoint essential factors that contribute to successful AI implementation, barriers to implementation, and successful AI implementation practices (Alhashmi et al., 2019). To overcome the gap in the literature in terms of the absence of a systematic method of AI implementation in health care organizations, the project will focus on how AI can be implemented strategically to minimize operational costs due to better resource distribution and process optimization, improve profitability due to the identification of new revenues and cost reduction opportunities, and be used as a competitive advantage due to the use of data-driven insights to make a strategic decision (Gerke et al., 2020). The study aims to enrich the body of knowledge related to health care management and strategy through insights provided by more experienced professionals, and, in the future, it could influence AI implementation and support organizational processes in a health care facility through the lens of a business administration approach (Gerke et al., 2020). The study will create a model on which AI can be implemented in an organization, to solve the challenges in the industry and to exploit the opportunities that arise in the health care field. The holistic approach will equip health care leaders with practical information to negotiate the intricate environment of AI adoption, manage technological innovation and business needs to foster sustainable development and a competitive edge.

Gap in Practice

The lapse in practice is the knowledge and competence gap among U.S. health care leaders in the design and execution of comprehensive AI plans to enhance operational efficiency and profitability (Sharma et al., 2021). The discrepancy between the acknowledgment of the potential of AI and the actual adoption of AI strategies in health care organizations testifies to the gap (Bain & Company, 2024). The failure can be observed particularly in the lack of a roadmap to adopt AI, poor data structure frameworks, and a lack of AI-savvy individuals in the health care area (Sharma et al., 2021). The lack of integration of AI in health care can be seen in the following ways. To begin with, the majority of health care organizations lack a clear picture of AI implementation and, therefore, introduce the technologies in bits, thereby using them to a smaller extent (Chen & Decary, 2020). Second, the issue of data silos and various systems that cannot be integrated into one is another significant problem. Third, the health care workers are not aware of the available applications of AI and its effects, which leads to the unwillingness to use these kinds of tools or to apply them in an inappropriate way (Esmaeilzadeh, 2020). Thus, when formulating a strategy, the challenges of fragmented AI strategies, lack of compatibility between data systems, and low levels of AI literacy among health care specialists should be addressed.

The future picture is where health care organizations will effectively integrate AI into their strategic decision-making procedures to achieve operational effectiveness, resource optimization, and profitability. Ideally, AI would be used to complement human expertise, allowing health care leaders to make evidence-based decisions, discover new sources of revenue, and simplify the administrative process (Schonberger, 2019). Application of AI would lead to huge cost reduction, competitive advantage, and the capacity to respond swiftly to market

conditions. The analytics provided by AIs would be used to predict trends, control risks, and allocate resources better by the health care executives, resulting in a more sustainable and profitable operation (Schönberger, 2019). Integrating AI would enable organizations to direct human resources towards high-value work that necessitates creativity, emotional intelligence, and strategic thinking, and augment the overall organizational performance and competitiveness in the market. Certain benefits of the appropriate use of AI in health care have been mentioned. The process includes ensuring the right data infrastructure is put in place, developing relations with the right AI technology providers, and ensuring the health care workers are well trained (Singh et al., 2020). Moreover, the next ethical issues must be considered as well, and the necessity to communicate the AI process to the healthcare employees.

The research study aims to contribute to narrowing the research gap by offering the viewpoints of healthcare leaders who have AI knowledge. The objective of the study is several-fold. To begin with, it will focus on the factors that have already been established to contribute to the success of AI in health care organizations (Lysaght et al., 2019). Secondly, the study will examine the barriers that hinder the integration of AI in these settings. Thirdly, it will discuss the best practices in incorporating AI in healthcare activities. It aims to establish an all-encompassing model of AI solutions in strategic decision-making. The framework will also be used to provide other health care institutions with the way forward in their AI implementation of activities with the aim of enhancing efficiency and profitability in their operations (Lysaght et al., 2019). Cultural changes, resource allocation, and policy landscapes are some of the issues that will determine the extent to which AI can be integrated into health care management.

Theoretical Framework

The qualitative inquiry is based on the theoretical framework by Fred Davis (Davis and

Granić, 2024) and the technology acceptance model (TAM) and the theory of planned behavior (TPB) by Icek Ajzen (1991). Icek Ajzen's (1991) theory of planned behavior (TPB) is an adequate addition to TAM concerning the process of adopting AI in healthcare organizations. TPB argues that behavioral intentions that result in actual behavior are determined by three determinants: attitudes towards behavior, subjective norms, and perceived behavioral control. Attitudes, in this case, the implementation of AI in healthcare, mean the assessment by healthcare leaders of the possible advantages and disadvantages of the implementation of AI technologies. The subjective norms are the perceived social pressure by others in the industry, peers, and regulatory bodies to either embrace or oppose the use of AI. Perceived behavioral control indicates leaders' perceptions of their capacity to successfully employ and guide AI systems in their organizations.

The qualitative inquiry is based on the theory known as the technology acceptance model (TAM), by Fred Davis (Davis and Granić, 2024). TAM has a good theoretical basis for the elements in the process of adoption of AI in health care organizations and the business management and strategic decisions from a point of view. There are five components of the TAM: perceived usefulness (PU), perceived ease of use (PEOU), attitude toward using, behavioral intention to use, and actual system use (Davis & Granić, 2024). Perceived usefulness (PU) is the degree to which a user thinks that adopting a technology will increase his/her job performance or productivity. In the context of AI adoption in healthcare, PU can be associated with potential increases in efficiency and competitiveness that AI can bring to healthcare organizations. It can result in increased efficiency of resource management, efficiency of organizational decision-making, and improved cost management (Khashan et al., 2024).

Perceived ease of use (PEOU) is how much a user thinks that they will not have to strain

when using technology. PEOU can be applied to health care, where the level of ease with which healthcare leaders and personnel can use and run AI systems can be assessed. This increased perceived ease of use will result in an increased possibility of AI acceptance and adoption. Attitude towards using is a general assessment of the user regarding the use of the technology. Behavior intention to use is the intention of the user to use the technology in the future. The real usage of the technology is the actual use and implementation of the technology.

The TAM model can be applied to explain the aspects influencing the adoption of AI technologies into health care organizations, depending on their operations and strategy. The model closely corresponds to the objective of the project, which is to determine the components of a strategy to integrate AI, by giving a structure through which one can find out the most critical factors that impact technology acceptance. The TAM has experienced a few changes and adjustments with a view to achieving its applicability in any situation. An example is that Zhu and Zhang (2021) gave an understanding of the technology acceptance model 2 (TAM2) that incorporated other variables like subjective norm and perceived usefulness. The TAM2 builds on the initial framework by including social influence processes and cognitive instrumental processes, giving a deeper insight into user acceptance. Marikyan (2021) has suggested a unified theory of acceptance and use of technology (UTAUT), which is further elaborated with other factors in the TAM and any other acceptability models of technology. UTAUT has other constructs, including performance expectancy, effort expectancy, social influence, and facilitating conditions. The model provides a more detailed view of the adoption of technology, both at the individual and organizational levels.

TAM2 and UTAUT provide great insights, but the original TAM will be the predominant theoretical framework used in this study. The fundamental items of PU and PEOU of TAM are

quite similar to the purpose of the proposed project of investigating how healthcare leaders perceive the strategies of implementing AI. Nevertheless, the understanding of adoption factors of AI will be informed by insights of TAM2 and UTAUT to select interview questions and analyze the data in a comprehensive manner.

The relevance of the constructs of TAM to addressing the issue of slow AI adoption in health care is that the constructs have the ability to explain what drives organizational readiness to adopt AI. Through the perception of usefulness and perceived ease of use, it becomes possible to understand why certain organizations are better equipped to implement AI technologies than others, therefore informing the creation of effective AI implementation plans (Khashan et al., 2024). The TAM and its variants have been utilized in the health sector to comprehend the adoption of several items like electronic health records, telehealth, and the most recent in terms of artificial intelligence (Shaikh et al., 2023). The model is consistent with the purpose of the project to investigate the views of the decision-makers in healthcare organizations about the utility and the convenience of AI in solving operational and strategic problems.

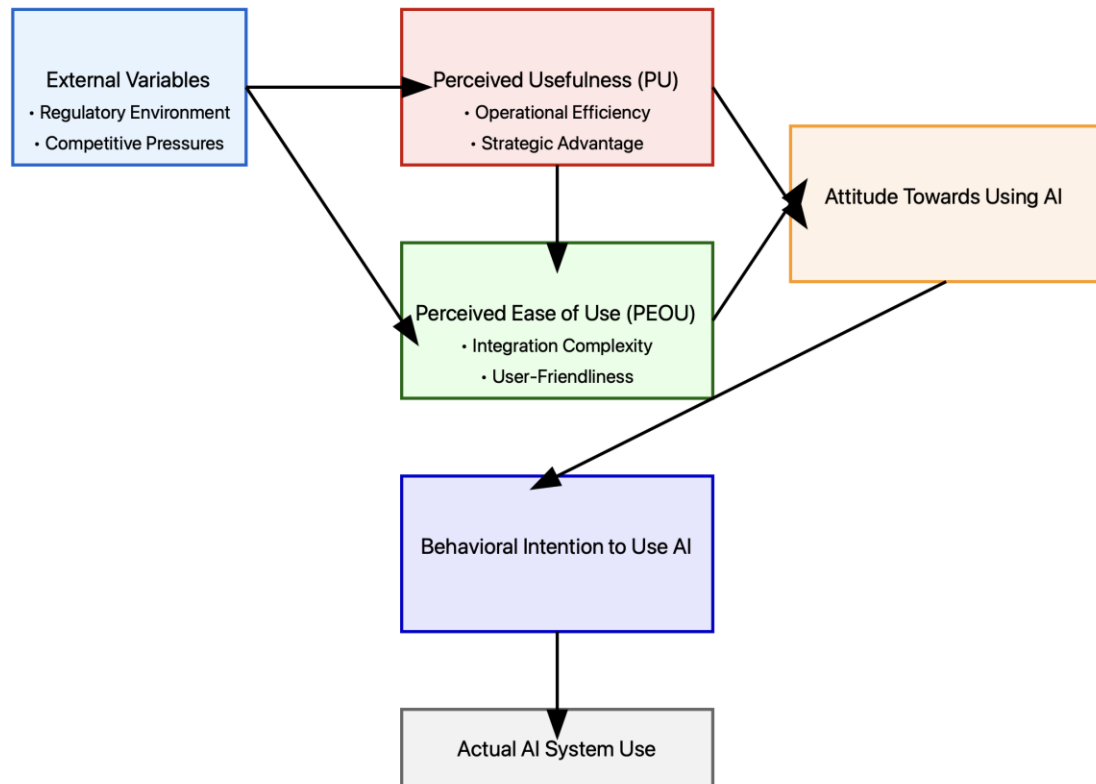
The literature review will be based on the TAM framework and will direct the design of data collection tools during the time frame of this project. The purpose of the project is to determine the components of an AI implementation strategy, which might result in an operations efficiency rate and profit increase in the health care industry, and is directly connected with the notions of TAM. The constructs of PU and PEOU can offer an opportunity to analyze the opportunities and challenges of AI implementation in healthcare. Alternatively, within the framework of the literature review, TAM provides a framework for organizing and analyzing the literature on technology adoption in healthcare (AI and other technologies). Although some of the studies might not directly apply TAM, constructs of the model can be used to classify and

generalize the principles obtained in diverse studies (Horani et al., 2023). The method will help in establishing the knowledge gaps that exist and help to formulate questions that will be asked of the health care leaders.

In collecting the data to be used, the literature review (in terms of TAM constructs) will be used to design semi-structured interview questions to be used on the healthcare leaders. As an example, questions can be added about the leaders and their attitudes to the efficacy of AI in improving the operational performance (PU) and the challenges that come with the use of AI in operations PEOU. The interview guide will also incorporate questions about aspects of the organizational culture, legal aspects, and competitive pressures, which could be considered in the decision to adopt AI. Worth pointing out, although the contributions of other models such as UTAUT can also influence our knowledge of technology adoption, TAM will mainly be employed in this study to ensure a consistent pattern and adhere to the research methodology (Jianxun et al., 2021).

Figure 1

Technology Acceptance Model for AI Adoption in Health care (Davis & Granić, 2024)



Interpretation of the results of interviews and questionnaires of the health care leaders will be done using qualitative techniques of coding during the data analysis stage of the current research. The constructs of the technology acceptance model (TAM) will not necessarily inform the coding process; however, it could be used to have a conceptual lens to analyze the emergent themes. The data will be analyzed by determining patterns and themes in the responses of the participants on AI adoption in healthcare organizations (Marikyan, 2021). The choice of TAM in this project was related to the fact that the constructs of this theory can provide an insightful approach to the issue of technology use in an organizational environment. The healthcare sector is one of the industries that has been challenging to use technology because of its complicated regulatory framework, patient focus, and long-standing clinical practices. The perceived usefulness and ease of use as the focus of TAM give a model of how the industry-specific

characteristics could affect the decision to adopt AI on the organizational level.

The research paper will be used to add to the current literature in healthcare management and technology acceptance in a number of ways. First, it will give information on the perception of healthcare leaders towards the implementation strategies of AI. Second, it is going to delve into the effect of organization-specific factors in the healthcare industry on the adoption of AI (Kumar et al., 2021). Third, it will discuss the possible correspondence of TAM constructs to the challenges of a real-world implementation of AI in the healthcare facility (Jianxun et al., 2021). The results of this research might guide better strategies in the implementation of AI into healthcare providers. Furthermore, they can provide useful suggestions to policymakers who may want to implement policies regarding the application of AI in healthcare. This study can help address the gap in existing theoretical models of technology acceptance and implementation strategies in the healthcare sector by offering a subtle insight into the aspects that drive the adoption of AI as a leader.

Project Context

The project can be applied to the business world and in the specialization of the DBA strategy and innovation program. The healthcare administration requires an innovative change in order to take advantage of AI technology to enhance the strategic decision-making process. The operation of the healthcare industry depends greatly on strategic decision-making to streamline the operation in the sector. The issue is the delay in the introduction of AI in the healthcare segment that inhibits the decision-making process, which impacts the overall performance of the whole organization (Ahmed et al., 2023). Similarly, another practice gap also found that the health care leaders in the U.S. did not have the knowledge to utilize AI strategies to enhance the performance and productivity of the organization (Sharma et al., 2021). The project was aimed at

addressing the issue of inefficient decision-making and ineffective decision-making in healthcare. The application of innovation (AI technology) can not only enhance the efficiency of the clinic and operations but also the decision-making process.

Need analysis aided in determining the viability of the project in controlling the ineffective decision-making process in healthcare. The need for the project can be supported by the literature. According to Schoenberger (2019), AI technology can help healthcare leaders to make data-driven decisions that can lead to higher productivity and profitability of the organization in general. Using technology in making strategic decisions aided the organization in getting into the complexities and reduced costs, which enhanced efficiency. Nevertheless, Davis & Granić (2024) shed light on the TAM in order to advance the use of AI within healthcare organizations. The proposed project is needed because, as Dwivedi et al. (2021) have pointed out, healthcare managers require additional information on the approaches to use AI technology in the sphere of healthcare to address the challenges of inefficiencies in the operations and weakened competitive edge in the healthcare industry.

Nature of the Project

The project is aimed at making new changes in the healthcare sector to enhance the effectiveness of the functioning of healthcare organizations. Obstacles to the plans and healthcare decision-making are problems that indicate that there is a demand to change practically. The difficulty experienced in the healthcare industry was the inability to adopt technology, which resulted in a strain on the financial and operational sectors. According to B. Khan et al. (2023), COVID-19 has posed significant issues to healthcare leaders, including a shortage of staff and incorrect diagnostics in the absence of information sharing. The problem of staff shortages in the healthcare industry has an impact on the quality of care provided, which

influences patient safety and health outcomes. Another problem that emphasizes the need to implement practical changes and improvements in the healthcare sector is diagnostic errors (Giardina et al., 2022). The complex sociotechnical system makes it difficult to communicate the findings about the patient in a timely manner to healthcare professionals, and this increases the chances of diagnostic errors, which can be life-threatening to the patients (Barwise et al., 2021). Secondly, the critical delay in the use of AI makes it difficult to make a data-driven choice by healthcare leaders. The incompatibility of the different systems manipulates the medical data and hinders healthcare leaders from making informed decisions, affecting the organization's performance.

The non-introduction of technology because of the lack of finances is another definite occasion. Technology shortage leads to impediments in strategic decision-making because the information in health care is not well organized (Esmaeilzadeh, 2020). The inability to disseminate the information slows down the process of making strategic choices by healthcare leaders and impacts the quality standards of healthcare (Mukai & Ogasawara, 2022). The character of the project is practical in the context of the healthcare sector since the main target is to use AI in enhancing the strategic decision-making process in the healthcare industry. The project follows the strategy and innovation specialization course within the DBA, which gives an insight into the relevance of AI strategies to address the operational and financial issues in the healthcare sector.

Scope

The project scope, scale, and range are based on the healthcare industry to focus on identifying the views of healthcare leaders on adopting AI technology. The offered solution of applying AI to the healthcare industry fits the problem and gap in practice to deal with the

inefficiency in operations and financial issues (Zewail & Saber, 2023). The gap analysis revealed that the healthcare leaders were ill-informed, as it impeded the process of implementing the AI that influenced the administrative and clinical workflow (Sharma et al., 2021). The lack of application of AI in the medical industry, for various reasons, influences the entire functioning of the medical industry. Thus, the project will concentrate on dealing with the intricacies in the implementation of AI strategy in the healthcare sector. Understanding the leaders in the U.S. healthcare system might also be useful in resolving the obstacles and limitations in the utilization of AI technology towards enhancing efficiency in operations. In addition, it aids in enhancing competence in the markets and enhances profitability through bettering workflow (Alhashmi et al., 2019). The project will be designed to address a particular issue of the knowledge and experience gap among healthcare leaders to incorporate the use of AI in healthcare organizations. The findings of the project are useful in utilizing AI to improve the nature of operations in terms of costs and effectiveness to increase profitability.

Significance of the Project

The proposed project is important to healthcare leaders in the U.S. because it offers an invaluable understanding of the innovative approaches to AI utilization to enhance the work efficiency of the organization. The identified issue of lag in AI implementation in healthcare needs to be mitigated in order to enhance the efficiency of the healthcare organization (Alhashmi et al., 2019). Absence of AI technology makes the healthcare leaders handle large amounts of data, slow down the process of decision-making, and impact the performance of the organization. Moreover, poor decision-making also prevents leaders from allocating the resources in the most appropriate way, which impacts the revenue and profitability. First and foremost, this problem influences the healthcare leaders because the obstacles to the adoption of AI influence the

administrative process within a healthcare organization, resulting in the inefficiency of operations within an organization and financial constraints. The project is devoted to the application of the TAM framework, which helps healthcare leaders to adopt AI technology (Davis & Granić, 2024). Using AI systems in the healthcare sector will allow human resources to realize organizational objectives. In addition, strategic decisions also aid the leaders to take advantage of new opportunities in the healthcare industry and build a competitive advantage. The outcomes of the project can serve to guide the health leaders in making informed decisions that can be used when allocating resources in the healthcare sector through AI technology (Bajwa et al., 2021). By tapping into AI strategies, the leaders can leverage the data to define the possible risk by establishing the best strategies, maximizing profitability, and general performance within the healthcare organization.

Historical Background and Current Trends

The past years were characterized by changes in the healthcare industry with technological advancements. Historical background gives insights into what health leaders and administrators have to overcome in order to deal with immense medical information to ensure operations are efficiently run. The healthcare sector has traditionally been based on manual means of storing medical information, which poses some difficulty to the business administrators (Newgard et al., 2012). The healthcare sector has developed high technology, including AI, that has revolutionized the clinical and administrative process. The latest trends revealed that the use of AI in various fields of healthcare assisted in enhancing the efficiency and profitability of operations. The lean workflow within the health care sector helps leaders to make effective decisions on time, which enhances the level of care quality and patient safety (Umapathy et al., 2023). Enhancement of patient trust in the healthcare services will increase the overall influx that

will assist in generating more revenues. The project aims at investigating the opinions of the U.S. healthcare leaders regarding the strategies of AI implementation to control the lack of efficiency in the operations and financial troubles.

Historical Background

There have been tremendous changes in the healthcare industry in the last 20-30 years, with numerous factors influencing them. Specific business problems revolve around the healthcare leaders' lack of knowledge of how to integrate the use of AI technology in the healthcare sector. The inability to implement the AI technology introduces obstacles to strategic decision-making that have an impact on the efficiency of the healthcare organization in terms of both operations and finances (Mennella et al., 2024). Gaps in practice develop the topic of how the gap in AI knowledge and application makes the leaders fail to streamline the clinical and administrative workflow in the healthcare organization, impacting overall efficiency.

Manual Data Processing (1960s- 1980s)

Computers were involved in storing medical information in the early 19th century. The use of a computer to handle the medical data was, however, limited to the biggest organization owing to the monetary resources (Evans, 2019). High costs of storing data hinder the ability of small-sized organizations to use a computer in healthcare. The standardization of the usage of computers to manage medical data was not possible due to the economic challenges (Ventola, 2008). Manual data processing is a strategic decision-making approach by the healthcare administrator that predisposes a higher likelihood of medical errors.

Technological Transformation (1990s)

The health sector had to adapt to the changes in the administrative process through technological advancement. The master patient index (MPI) concept was a new concept that

transformed the entire information storage process. The MPI is a database that helps healthcare leaders to share patient information throughout the healthcare organization (Junghaenel & Broderick, 2009). The medical information shared by the MPI database assisted healthcare administrators in evaluating the costs of patients separately, which assisted in determining the overall costs of healthcare. The healthcare leaders also have the opportunity to make use of computers to share data amongst the hospitals that enhances the standards of care quality through technological advancement.

Interoperable Medical System (2000s)

The integration of the health systems signaled the necessity to have interoperability with the hospital system to facilitate the flow of data that is streamlined. The integration of electronic health records (EHRs) helped healthcare leaders to make informed decisions (Aguirre et al., 2020). The system was interoperable and enhanced clinical efficiency as well as minimized medical errors. The EHR system laws in 2009, like the American Recovery and Reinvestment Act (ARRA), promoted the interoperability of the system to enhance the standards of care (Burke, 2010). The data transfer in real time by using an integrated EHR can boost the rate of decision-making and make the hospital more efficient.

Healthcare Technology Evolution (2010 -2019)

Healthcare cloud computing concepts broadened networks, allowing the leaders to communicate the data of health information (HIE) outside of particular locations. The Health Information Technology Economic and Clinical Health (HITECH) Act was aimed at taking advantage of the implemented EHR systems to enhance the financial sustainability of the organization (Gold & McLaughlin, 2016). American Medical Informatics Association (AMIA) is an association at a national level, which emphasizes the management of HIE with the help of

progressive technology to enhance the level of efficiency in working within the organization (Payne et al., 2015). Vast medical data management is crucial to enhance the overall productivity of the organization.

The historical background revealed the evolution of the HIE system in the healthcare industry and how the use of a greater amount of medical data evolved. The topic path was affected by the historical, cultural, social, and economic factors. An example is the fact that the leaders were unable to use computers to store data due to the economic challenges, which impacted the efficiency of the healthcare organisations (Ventola, 2008). Moreover, social factors such as a lack of collaboration in the healthcare system affected the healthcare quality standards. The use of the HIE system is full of problems due to cultural factors, such as different views of healthcare providers (Kaushal et al., 2014). The healthcare sector has been technologically innovative and has a track record of being the pioneer in bringing about drastic changes. The background information showed that the project will be viable in terms of addressing the general and specific business issues of lag in the use of technology in the healthcare industry.

Current Trends

The tendencies observed in the healthcare segment helped to understand the fast progress of the use of technologies over the past five years. Automation revolutionized the healthcare industry by bringing about changes in the clinical workflow. The recent tendencies pointed to the requirements of the AI algorithms that could help healthcare professionals handle medical information to help them provide even more care (AlKuwaiti et al., 2023). In addition, the ideas of accountable care organizations (ACOs) that were aimed at cost-saving in order to enhance the profitability of the organization. The HIE and ACOs enable the leaders of healthcare to readily share information about health, enhancing the decision-making process (Salomi & Claro, 2020).

Healthcare data analytics and medical diagnostics, hospital data management, and digital health are the current trends within the healthcare system.

Healthcare Data Analytics

The AI technology provides medical leaders with a chance to apply the machine learning (ML) algorithm to extract useful information from a collection of medical data. Getting the correct information from healthcare databases like EHR was beneficial in the detection and management of diseases early (Hazabi and Wilson, 2021). Additionally, the risk of disease in the community is also measured by the AI predictive model, which helps healthcare leaders to evaluate the risk of disease in the community. Forecasting the risks of disease helped in implementing effective strategies to improve the care quality standards (Olawade et al., 2023). Thus, AI-powered healthcare data analytics enhanced the quality and accuracy of overall care in the organization.

AI-based Medical Diagnostics

The diagnostic technologies developed based on AI have assisted healthcare executives in raising the standards of care quality. The healthcare industry is revolutionised by the use of AI in medical diagnostics. Various technologies like X-rays, magnetic resonance imaging (MRI), and computed tomography (CT) supported the leaders of the healthcare sector to conduct accurate diagnoses (Umapathy et al., 2023). The algorithm, which was based on AI, assisted in averting the development of the disease, and it saved the hospital resources, resulting in cost savings. Additionally, medical diagnostics aid the clinical decision-making process within the healthcare field and reduce the chances of human error (Alowais et al., 2023). Creating AI-based medical diagnostics capabilities enhanced the working process across the healthcare industry and enhanced quality of care parameters. In addition, the AI technology was also utilized to detect

the abnormalities and minimize the use of unnecessary tests that decrease the healthcare expenses.

Data Management

In the modern healthcare environment, it is essential to deal with massive amounts of healthcare data. The AI technology-based automated system allowed the healthcare leaders easier administration. The A.I. technology, as an example, assisted in setting the appointments and managing medical supplies, which decreased the amount of work of the healthcare leaders (Varnosfaderani and Forouzanfar, 2024). The workforce shortage problems that currently arise during COVID-19 were addressed through AI automation, which processed the huge amounts of data in the healthcare sector (Ashique et al., 2024). Nevertheless, the predictive model of AI will also assist the leaders to optimize the resources to streamline the hospital operations and enhance the overall functioning of the organization.

Digital Health

Discussing the potential of AI technology when applied to digital health offered a great opportunity to learn. Various ways can be used to deliver digital health, including mobile health (mHealth) and telehealth. The healthcare industry had automated processes that assisted it in dealing with patient data remotely, and the use of digital health rose. By 2025 year the digital health market will be 38 billion (Paul et al., 2023). It can be projected in the digital health market because of the leveraging of AI implementation strategy in the healthcare industry. As an example, the AI algorithm enables healthcare providers to process health data faster, making decisions (Möllmann et al., 2021). The AI technology enables the process of providing care digitally, which enhances the administrative process, making the performance of the organization

better.

The latest trends in the healthcare sector highlight the importance of AI technology in enhancing the administrative and clinical processes. The practice gap is the absence of understanding among healthcare leaders about how to use AI to simplify the healthcare process (Sharma et al., 2021). The latest tendencies assert that AI use has assisted with data management and analysis within the healthcare system and enhanced the efficiency and productivity of the structure. The use of automated tools to support the views of healthcare leaders could be useful in creating a competitive position in the healthcare industry (Javaid et al., 2024). Current trends that emphasize the need to incorporate an AI implementation strategy in healthcare support the feasibility of the project, which can enhance the standards of care quality in healthcare. The trends uncovered the potential of healthcare practitioners to use AI to enhance the strategic decision-making process (Möllmann et al., 2021). The human resources are complemented by automation in healthcare to help make data-driven decisions, optimize resources, and streamline the administrative workflow (Schönberger, 2019). The strategic choice based on the application of the AI technology will help the head of the healthcare to decrease the chances of errors in diagnostics and raise the quality standards of the care. Thus, AI strategy application in the healthcare industry assisted in enhancing administrative and clinical workflow and improving the overall efficiency of the organization.

Synthesis of the Scholarly Literature

The current body of literature is well-established to explore the role of AI in care, as it has the potential to transform and simplify care delivery in various aspects: care delivery, operational processes, and cost-efficiency (Barwise et al., 2021; Esmailzadeh, 2020; Mukai and Ogasawara, 2022). The ability of the AI to improve decisions, the quality of diagnostics, and

automate routine work is well-reported in the academic literature. Indicatively, Krishnan et al. (2023) highlighted that AI would facilitate the healthcare process, as it would lessen the cognitive load on clinicians and enhance speed and accuracy in diagnosing and treating diseases. AlKuwaiti (2023) also addressed how AI can be used to personalize the care of patients with predictive analytics and machine learning to allow more personalized treatment plans based on large datasets of patient data. The personalization directly responds to the gaps in the traditional healthcare strategies based on generalized solutions. It is also the capability of AI to decrease mistakes of humans in a clinical environment, assist patients, and enhance efficiency within its operations, which makes it an interesting area to investigate further (Barwise et al., 2021). The progress, though, is placed in the framework of persisting challenges like high costs of implementation, regulatory, and integration problems, which suggest that a systematic and tactical approach to AI adoption is necessary.

According to a number of academic sources, AI is claimed to solve various issues that are critical in healthcare operations and financial management (AlKuwaiti et al., 2023; Salomi and Claro, 2020). Another theme is the increased cost of operations, shortage of workforce, and inefficiency in service delivery. AlKuwaiti (2023) assumes that AI can prevent the effects of shortages of skilled workers, as it will be used to automate the administrative process (planning and billing, etc.) and facilitate clinical diagnostics, thereby enabling healthcare providers to concentrate on more demanding activities. Moreover, AI will help save overhead expenses related to human error as it will increase the precision of clinical decision-making and minimize unwarranted tests and procedures (Krishnan et al., 2023).

Recent studies, such as Bain & Company (2024), aligned closely with the broader academic discourse surrounding the critical challenges facing the healthcare sector, particularly

in the context of rising costs and workforce shortages. Bain & Company (2024) reported that over 50% of American hospitals faced financial deficits at the end of 2022, a problem exacerbated by skilled worker shortages and historically high inflation. The report aligned with the concerns raised by Krishnan et al. (2023) and AlKuwaiti (2023) regarding the strain on healthcare systems, which struggle to balance operational efficiency and financial viability. The AI is increasingly seen as a potential solution to the issues, as the implementation can lead to significant cost savings and improved workforce productivity. However, as noted by Bain & Company (2024), while three-quarters of healthcare executives recognize AI's transformative potential, only 6% have implemented formal AI strategies, indicating a significant gap between awareness and action. The gap is similarly highlighted by Rojek et al. (2023), who emphasized the need for clear guidelines and structured implementation frameworks to ensure that AI can effectively address systemic challenges. Thus, both the academic literature and industry reports converge on the idea that AI represents a promising but underutilized tool in addressing the most pressing operational and financial issues in healthcare today.

The literature reveals several key themes related to the barriers hindering AI adoption in healthcare, with a prominent focus on the gap between awareness and implementation (Schönberger, 2019; Sharma et al., 2021; Singh et al., 2020). While healthcare professionals recognize the potential of AI, a significant discrepancy exists between acknowledging its benefits and actually integrating it into daily practice. Ahmed et al. (2023) highlighted that education and training deficits among healthcare staff present a significant barrier to AI adoption, as many professionals lack the necessary skills to use AI tools effectively. Steerling et al. (2023) discussed the issue of trust, noting that AI systems must meet stringent quality expectations to gain acceptance among clinicians and patients alike. The ethical implications of

AI, such as concerns over patient privacy and data security, further complicate adoption (Mennella et al., 2024). The concerns highlighted the need for clear regulatory frameworks and guidelines, which are often underdeveloped in many regions (Ahmed et al., 2023; Steerling et al., 2023). The awareness versus implementation gap underscores the importance of targeted training programs and robust governance structures to foster greater confidence in AI technologies.

Latest reports, e.g., prepared by Bain and Company (2024), would fit the overall scholarly debate on the global issues that are endangering the healthcare industry, especially due to the increase in costs and shortage of workers. A survey conducted by Bain & Company (2024) indicated that most hospitals in America (more than 50 percent) ended up with financial losses at the end of 2022, which experienced a lack of skilled workers and an unprecedented inflation rate. The report coexisted with the worries that Krishnan et al. (2023) and AlKuwaiti (2023) expressed about overload on the healthcare system, as it must find a balance between efficiency in its operations and financial sustainability. The AI is also regarded as a possible remedy to the problems, as the implementation may result in considerable cost reductions and higher efficiency of the workforce. But, as it is stated by Bain & Company (2024), three-quarters of medical leaders acknowledge the potential transformative power of AI, but still 6-percent have formal AI strategies, which means there is a vast disparity between awareness and implementation. The divide is also well pointed out by Rojek et al. (2023), who stressed that there should also be clear guidelines and implementation frameworks that can guarantee that AI will be able to effectively solve systemic issues. In such a way, academic literature and industry reports agree on the fact that AI is a promising but least applied tool to tackle the most crucial current problems in healthcare in terms of operations and finance.

The sources provide some of the main themes concerning the reasons preventing the use

of AI in healthcare, but the lack of awareness and implementation volumes seems to take a predominant place (Schönberger, 2019; Sharma et al., 2021; Singh et al., 2020). As much as medical experts have been led to consider the potential of AI, there is a major gap between the consideration of the advantages of AI and its practical use. Ahmed et al. (2023) discussed that the lack of education and training among healthcare employees is a serious obstacle to the adoption of AI, as not all professionals have the required skills to implement AI tools in their practice. The problem of trust was mentioned by Steerling et al. (2023). The authors stated that AI systems have to be of high quality to win acceptance both with clinicians and patients. Ethical considerations of AI, like issues related to the privacy of patients or their data security, also make it more difficult to embrace AI (Mennella et al., 2024). These concerns provoked a need to have clear regulatory frameworks and guidelines, which are inadequate in most areas (Ahmed et al., 2023; Steerling et al., 2023). The awareness and implementation gap helps highlight the significance of special training and a well-established governance framework to contribute to the increase in the level of confidence towards AI technologies.

The issue of workforce preparedness, financial limitations, and technical complexity remains the most popular in the literature and can be mentioned as several typical pitfalls when it comes to the implementation of AI technologies into the healthcare system (Ahmed et al., 2023; Bajwa et al., 2021; Davis and Granić, 2024). Correspondingly, Ahmed et al. (2023) found the lack of AI literacy to be an extensive concern that prevents the ability of medical workers from taking the potential of AI to its maximum. According to Steerling et al. (2023), its implementation is expensive; however, the purchase of AI tools and the cost of training and updating the infrastructure and continued technical support are not the only costs. Complexity in the alignment of AI systems in relation to existing workflows is also an issue in the integration

process because a good number of healthcare organizations find it difficult to integrate new technologies into their operations. Nevertheless, the literature shows that AI has potential application benefits in healthcare, especially related to efficient functioning, better patient outcomes, and financial viability. As Steerling et al. (2023) have pointed out, automation based on AI would be able to simplify the administrative processes, thereby enabling the medical personnel to have a clearer time in attending to the patients. Similar conclusions were made by Ahmed et al. (2023): AI can contribute to improving clinical decision-making, which, in turn, contributes to better patient outcomes (by minimizing the number of diagnostic errors and helping patients get a personalized treatment plan). The article by Mennella et al. (2024) talked about the financial benefits of AI, and they said that the ability to decrease inefficiencies as well as the ability to allocate resources to the most appropriate place can help enhance the financial sustainability of healthcare organizations. The themes underpinning the recurrence indicate that, despite the challenges to the adoption of AI, the long-term advantages indicate that AI is an important field of future research and development.

The researchers are all somewhat unanimous about the possibility of AI game-changing in healthcare, yet they vary in their perceptions of impediments to the rampant acceptance. Hayawi and Shahriar (2024) describe the potential of large language models (LLMs) as generative AI technologies with incredible potential to upend the healthcare field, with 75% of healthcare executives noting the potential. Nonetheless, the disparity between the understanding of AI and its adoption in strategic operations is rather large, with 6% of the organizations having designed formal plans on how they should integrate AI into their technology to operate (Bain & Company, 2024). Similarly, Bohr and Memarzadeh (2020) have suggested that AI will assist members of the healthcare industry with a variety of duties, such as clinical records or patient

contact, which can be narrowed down to simplify operations and enhance patient outcomes. Nevertheless, B. Khan et al. (2023) emphasized that the real implementation of AI technologies is still limited by various factors such as regulatory obstacles, technical issues, and data privacy concerns. The division indicates that there is an overall agreement regarding the potential of AI but a disagreement as to whether health care systems are yet ready to make the most of AI.

Bohr and Memarzadeh (2020) and Ahn et al. (2023) presented insights on the complex aspects of AI strategic implementation in healthcare. Bohr and Memarzadeh (2020) claimed that AI is essential in the automation of repetitive duties, thereby allowing healthcare professionals to make more complex decisions and care for patients. Both claimed that integration into administrative affairs in the early years is possible, heralding significant integration throughout clinical realms. Instead, Ahn et al. (2023) concentrate on strategic issues associated with the adoption of AI, highlighting the fact that health institutions should establish extensive implementation models, which involve training, infrastructure, and compliance with legal regulations. Although both of them recognized the potential of AI, Bohr and Memarzadeh (2020) were more concerned with the values that AI can bring now, and Ahn et al. (2023) highlighted the need for long-term planning in order to achieve successful implementation.

An essential point in academic literature is the use of AI to help combat the increased cost of operations in the field of healthcare, but there is also a difference in strategies (Ahn et al., 2023; Bohr and Memarzadeh, 2020; B. Khan et al., 2023). Bohr and Memarzadeh (2020) and Khanna et al. (2022) concurred that AI could greatly lower costs through increased efficiency of its operation, automation, and reduced human error. The potential of AI to reduce costs, in contrast with the traditional ones, including manual diagnostics and treatment planning, was especially highlighted in the study by Khanna et al. (2022). Hayawi and Shahriar (2024),

however, have talked about how generative AI can be used to cut down costs due to automation and said that the initial investment in first usage, like training, purchasing of the software, and upgrading of infrastructure, can be prohibitive, especially for smaller healthcare facilities. The different approaches show that although AI can provide a clear roadmap towards cost reductions in the long-term perspective, there are short-term financial challenges that the initial investments and implementation process may face (B. Khan et al., 2023).

Gaps and Unresolved Issues

Although the transformative power of AI in healthcare is widely recognized, the literature indicates that there has always been a significant gap between knowledge about AI and the actual use of AI. The most recognition of AI practices has been among healthcare executives; however, there is still a significant rate of non-adoption, with only 6 percent of organizations having official AI plans, as pointed out by Hayawi and Shahriar (2024). The shortage can be partially explained by the absence of workforce preparedness, excessive prices, and regulatory difficulties, which Ahmed et al. (2023) address. The other critical gap is the small number of empirical studies about the long-term effects of AI on healthcare results and economic sustainability. Existing literature, like Bohr and Memarzadeh (2020), concentrated on the theoretical advantages of AI, which showed enhanced operational efficiency and patient outcomes, yet did not deepening on case-studies or longitudinal data illustrating lasting success. Smaller healthcare providers are often disregarded in the literature, and it might be associated with additional challenges in terms of funding and technological infrastructure to use AI (Ahmed et al., 2023; Bohr and Memarzadeh, 2020; Hayawi and Shahriar, 2024).

The problem of AI intervening in the major problematic areas of operational unresponsiveness, like shortage of skilled labour, inflation, and post-COVID financial shortages,

is an unresolved challenge in the literature. Although AI is often proclaimed to be a solution to labor shortages, especially by automating tasks, there is less literature on how AI can be used to replace or augment human labor in jobs with highly specific skills such as nursing or surgery altogether (Rojek et al., 2023). Cost was noted as a leading factor of impediment by Ahmed et al. (2023), and though AI can result in lower operations costs in the long run, initial investment in technology, training, and integration is a huge obstacle. The study is aimed at filling the gaps by concentrating on how to develop strategic frameworks of AI in healthcare organizations. Particularly, it is hoped that this can help give practical information as to how such healthcare providers can remove obstacles in workforce preparedness, finances, and regulatory requirements. By conducting an in-depth needs assessment and analyzing the case studies, the research will be able to recommend viable solutions to both small and large healthcare institutions to make sure that the implementation of AI results in sustainable changes in operational performance and financial results.

According to the literature, the potential of AI in healthcare is well known, but the overall success of AI adoption strategies is rather low. The rate of adoption of AI is low, with Hradecky et al. (2022) estimating that only one-fifth of clinical needs can be addressed so far via the application of AI. Cases of successful implementation exist in isolated instances, mainly within the automation of administration and aiding with diagnostics (Krishnan et al., 2023). The pricing of idealism and the failure to achieve optimal performance are mostly explained by the absence of plans and holistic systems of AI implementation (Hradecky et al., 2022). B. Khan et al. (2023) indicate that though AI has been effective in streamlining workflows and decreasing administrative burdens in certain instances, the outcomes have not yet translated into solutions that can be implemented across the healthcare sector. Therefore, although AI has proven to be

successful in certain areas, it has not reached its full potential yet, as a significant portion of health systems is only in their exploratory stage of AI adoption (Rojek et al., 2023).

Some studies conducted have also found some vital elements that either promote or obstruct the implementation of AI in healthcare (Hradecky et al., 2022; Krishnan et al., 2023; Rojek et al., 2023). One of the most valuable aspects to successfully implement AI is the presence of strong organizational leadership and strategic planning that Hradecky et al. (2022) noted, where institutions with clear AI adoption strategies are at ease to succeed. Contrarily, absenteeism of workforce training and readiness is such a critical impediment, Ahmed et al. (2023) observed, wherein many medical professionals are not ready to collaborate with AI tools. As with the privacy and security of data, regulatory and ethical considerations have slowed down widespread use thereof (Hayawi and Shahriar, 2024). The difficulties are also complicated by the financial issue since the expense of adopting AI technologies is significantly high, and the infrastructure costs are substantial (Rojek et al., 2023). Sharma et al. (2021) have proved that AI is able to disrupt the area of financial management in healthcare, which can lead to decreasing operational expenses and simplifying the procedure of billing. But a significant number of the studies do not provide long-term and in-depth assessment of the solutions (Alhashmi et al., 2019; Sharma et al., 2021). Although some of the success stories are isolated, more studies are necessary to fully comprehend the effect of AI in healthcare cost reduction and financial sustainability in the long term.

The years 2022-2024 have recorded trends in AI adoption in the healthcare sector, with its swift growth and growing awareness of the transformative potential of AI (Hradecky et al., 2022). One of the most notable trends is the drastic expansion of the AI market size in the healthcare sector, which had over USD 15.1 billion in 2022 and is expected to have an estimated

USD 355.78 billion in 2032, with the compound annual growth rate (CAGR) standing at about 37.66% (Towards Healthcare, 2023). The impressive rise emphasizes a change in the attitude of the healthcare sector towards integrating technology, as it is no longer dubious, but is positioned to actively implement AI solutions (Bohr and Memarzadeh, 2020). Investments in AI technologies, especially those in the operational inefficiencies and financial management issues, have increased significantly, as the latter have become acute because of the cost increases and a lack of workers that were aggravated by the COVID-19 pandemic (Bain & Company, 2024).

The use of generative AI in particular has become a trend, with nearly three out of four healthcare executives agreeing that it can transform operations (Bain & Company, 2024). The type of AI is being incorporated in the different health care segments like clinical decision-making, patient outreach, and administrative work, and hence simplifying the processes and minimizing the operational weight of health care staff (Krishnan et al., 2023). Moreover, researchers also pointed to how AI-driven automation could help in overcoming the workforce shortage and enhancing patient outcomes (Bohr & Memarzadeh, 2020). With its ability to improve efficiency and cost reduction, the use of generative AI is becoming a strategic necessity for healthcare organizations. The estimated growth rates of the AI market in healthcare, with the expected CAGR of 37.66, are indicative of the trends in the sector (Bohr and Memarzadeh, 2020). The expansion is also a testament to a powerful response on behalf of the market to the pressing need to advance operational efficiency and financial sustainability within the healthcare systems. Higher demand for AI solutions reflects how the industry acknowledges the potential of AI to deliver solutions to critical issues, including the escalating cost of operations and the current impact of the COVID-19 pandemic (Towards Healthcare, 2023). With the organizations experiencing more AI technologies activity, and actively experimenting with the technology, the

development tendencies indicate a shift in the paradigm of how healthcare providers tackle the technology integration, focusing on strategic planning and resource distribution, and ensuring the benefits of AI usage in healthcare delivery optimization (Bohr & Memarzadeh, 2020).

Data Collection Techniques and Instruments

Past research studying the topic of AI adoption in healthcare has utilized an array of data collection methods to gain in-depth information on the topic (Jianxun et al., 2021; Marikyan, 2021). Research methods like interviews and focus groups are often employed to get a more detailed understanding of the views of healthcare professionals on the problem of AI implementation and the factors that facilitated it (AlKuwaiti et al., 2023). Gerke et al. (2020) report that interviews can also enable the researcher to explore the personal experiences and perceptions in depth and thus get rich qualitative information, which might be missing in quantitative research. Also, case studies have been experienced as one of the most pertinent literature, providing an in-depth analysis of particular healthcare organizations that have managed to implement AI technologies successfully (Gerke et al., 2020; Zewail and Saber, 2023). The approach not only displayed the practical applications but also brought to light the situational aspects that affected the adoption of AI. This data is usually systematically analyzed with the help of qualitative coding methods in order to identify common themes, obstacles, and enablers within various healthcare environments (Alhashmi et al., 2019).

In order to evaluate the effects of AI on healthcare organizations, researchers have exploited different measures, such as financial performance measures and performance efficiency measures (Zewail & Saber, 2023). Financial indicators are usually concerned with the analysis of cost savings in the context of AI application (e.g., a decrease in labor costs, administrative expenses, the use of resources, etc.) (Bajwa et al., 2021). The indicators of

operational efficiency comprise patient throughput, wait times, and patient accuracy in clinical determination. The indicators play a vital role in defining the extent to which AI technologies can increase workflow and positively affect patient outcomes (Umapathy et al., 2023). Other surveys include patient satisfaction to measure the qualitative effects of AI solutions on the entire patient experience (Evans, 2019; Umapathy et al., 2023). The combination of these various tools can help scientists provide an overall picture of AI's usefulness and can show that this technology is not only financially sound but also helps in enhancing the quality of care in medical facilities (Evans, 2019).

According to the report of Bain & Company (2024, although three-quarters of the executives see the potential of AI, only six percent have provided strategic plans, which demonstrates the implementation gap. B. Khan et al. (2023) observed that the applications of AI can save a significant amount of money in healthcare services compared to traditional approaches. Hradecky et al. (2022) have found that barriers to adoption, including those of workforce training, are critical issues. The results highlight the fact that even though healthcare organizations acknowledge the potential of AI to improve operational efficiency and financial outcomes, it encounters significant challenges that need to be overcome to successfully implement AI.

Synthesis of the Practitioner Literature

The provided practitioner literature offered some insights into capitalizing on AI technology in the healthcare sector. Due to the growing application of AI tools, the clinical workflow in healthcare has changed (Azhar 2024; Cruickshank et al., 2024). The revolution of the diagnosis-to-treatment practices not only increased patient safety and health outcomes but also addressed the disparities in healthcare. The AI technology will enable the healthcare

professional to discover the disease in advance using the most recent screening methods. Managing the disease in time enhanced the health and safety of the patients. The adoption of AI technologies in the most recent diagnostic services helps healthcare organizations to make quicker diagnostic and treatment decisions and to enhance patient outcomes. On the contrary, the technical malfunctions of the AI technology have an impact on the decision-making process, unlike expedited diagnosis and treatment decisions (Maaløe, 2024; McKendrick and Thurai, 2022). The unfinished information in the hospital databases does not allow prioritizing complex and urgent cases by the medical workers, which impacts patient outcomes. The information that is missing cannot aid the staff in determining the at-risk patients, which is a threat both to patient safety and health outcomes. The ever-increasing worries regarding patient safety stemming from missed information reflect the need to have technology that could help streamline the care delivery process.

The technology has transformed administrative processes, including appointment booking and payment procedures, streamlining the hospital processes. Comparatively, Purdy and Williams (2023) depicted that the AI application enhanced strategic decision-making in the healthcare industry (Purdy and Williams, 2023). Getting correct information in the health sector is significant to make clinically informed decisions. However, other professionals, like Garrett (2024), mentioned other problems with privacy and data breaches in the healthcare industry introduced by AI tools as well. However, in spite of the possibility of substituting the workflow in healthcare, AI technology poses significant risks as well. This information privacy breach has implications on the perception and satisfaction of the patients as well, which is a detriment to the healthcare industry. The moral principles devised by the World Health Organization (WHO) mentioned the idea that AI can change the process of healthcare delivery (World Health

Organization, 2024). Considering the ethics and human rights during the AI technology deployment and use in the healthcare sector.

The utilization of AI contributed to the facilitation of fair care in the healthcare circles for patients. Moreover, the professionals who believe more in the power of AI tools in the healthcare sector have seen how there can be a transformation of efficiency and quality of services (Bousquette, 2023; Forbes, 2024a). Knowing whether AI technology is beneficial to healthcare is significant. From diagnosis to medical treatment, management of the medical data is crucial. Furthermore, the new paradigms of healthcare utilization also place an emphasis on applying AI in enhancing the quality of medical care. The AI could enhance the efficiency of operations in healthcare delivery. Optimizing the work of the medical images with the help of AI-based diagnostic tools enhanced the interpretation of the medical images, which facilitated the early detection of the disease (Forbes, 2024b; Prasad, 2024). Accurate diagnoses in medical image analysis translate to better patient outcomes, as precision results in better outcomes. Additionally, the AI systems can help human resources to implement customized care plans, which will result in improved outcomes. The algorithms produced by AI dealt with the enormous medical data to determine the most appropriate treatment option to control the diseases. Anticipating optimal interventions improved the safety and health outcomes of patients. However, contrary to the positive connotation of AI in health care provision, the possibility of bias is a problem when employing AI technology (Khalaf, 2019). Indicatively, the inability of the AI tool to evaluate the data, which is not a reflection of the information of the entire population, worsens the health inequities. The health disparities within the healthcare sector can be increased by making AI tools a priority. Also, another existing problem of assessing medical data is the under-representation of the data, which adds to the likelihood of bias.

The application of AI technology also positively affects the employees of the healthcare sphere. The office worsens the workload of the personnel, resulting in burnout among the employees. The new AI tools, however, could help to solve burnout as they can decrease the workload of the staff. Manual activities like data entry and recording of the findings of the patient in the databases were automated, hence reducing the workload. Electronic documentation of medical information in the healthcare system helps decrease the number of hours the staff has to deal with, which results in employee burnout decreasing as well (Garrett, 2024). A contrasting opinion by practitioners like Thibodeaux (2023) was that the use of the AI algorithm in the healthcare industry leads to a loss of trust by the staff, resulting in turnover. It is because overdependence on technology jeopardizes the employment of workers and overall productivity. According to the report of Forrester Research, automation, as in the case of AI technology, will eliminate 2.4 million jobs in the U.S. in the year 2030 (Gownder, 2023). Substitution of human resources through technology leads to high expenditures and makes one lose productivity. Transparency fostering of the AI can be used to eliminate the issues in comparison to the turnover issues.

The AI has favourable consequences regarding the care quality and patient safety. Parallel processing of the medical data came in handy in creating prediction models, which enhanced the diagnosis and treatment of illnesses that streamlined the process of care delivery (Forbes, 2024a). To start with, the AI enables healthcare leaders to provide cost-effective patient care. The clinical decision support (CDS) tools are artificial intelligence-powered technologies that help in making healthcare sector decisions (Azhar, 2024; Nigam, 2024). Clinicians were able to communicate the treatment plan of the patient using the CDS system. Improved patient safety and the total healthcare cost were reduced by 30 percent through the provision of timely care

following the collaborative decision. Secondly, clinician burnout and productivity are also minimized with the CDS. The AI-based tools assist the clinician in making their decisions on the machine learning (ML) technology (Saltman, 2022). The ML algorithm is built into the electronic health record (EHR) system of the healthcare organization that streamlines the care delivery process. The alerts were used in real-time and the clinicians were able to make informed decisions, which promoted patient safety.

The utilization of AI in the healthcare sector has also revolutionized the care delivery process. Initially, text messaging helped to provide health information, such as laboratory test reports, to people. Getting medical information helps individuals who seek medical attention to do so at the right time to enhance health outcomes. Also, the rise of digital health, like telemedicine and mHealth, facilitated the delivery of remote care to patients (Das, 2019; Wong, 2021). Upholding fair care delivery by healthcare leaders to everyone will reduce healthcare inequities, which Virtual care enables. The digitization of the healthcare industry increased the efficiency of the functioning of the organization (Garrett, 2024). As an illustration, AI-enhanced medical imaging, data analytics, and telehealth methods enhance the effectiveness of healthcare services. To begin with, medical imaging with the help of AI tools has refined the diagnostic process, making patients safer. Secondly, the AI-based algorithms of data analytics also enhanced the decision-making process by supplying healthcare leaders with accurate data that is correct (Fortune Business Insights, 2024). Thirdly, the telehealth approach enables healthcare professionals to provide effective care to patients. Origins of big health implementation. Using the power of AI can bring efficient health technology solutions to patients, improving their health.

The application of AI technology can be applied to the financial side of the healthcare

industry as well. Technological health services make the industry profitable. The digital health market will be growing by 27 percent in 2030 when professionals turn to the use of AI technology in providing high-quality care (Holgersson et al., 2024). The applications of AI and new technologies introduce a transformational change and revolution in the healthcare industry. Incorporating AI in clinical operations enhances operational efficiencies across the healthcare value chain. In addition, waste is also minimized as a result of the optimum utilization of the resource. AI in the care delivery process can transform it, improve the level of care, and reduce the costs. According to the Massachusetts Institute of Technology Sloan Management Review (2024), the efficiency of 40% and the cost reduction of 50% in the healthcare field were the consequences of the use of technology. AI and machine learning are a key aspect of its efforts.

The interprofessional teamwork also enhanced the collaboration with other professionals, as the digital transformation improved the ability to engage in the strategic decision-making process within the healthcare sector with the help of AI. The AI technology helps the healthcare leaders anticipate the probability of errors with proactive intent and improve patient safety. Nurturing a discussion culture assisted the leaders in offering proactive care and minimizing the chance of error (Kim & Song, 2022). The digital technologies used in the clinical decision-making process not only optimized the process of delivering healthcare to patients but also improved their safety. For example, AI-based algorithms facilitate healthcare leaders to identify the disease risk in patients and provide proactive care services. With the help of timely treatment of the disease, patients feel safer and more trusting, which contributes to the overall organization's performance. Also, the AI-based algorithm can assist healthcare professionals in making superior decisions as well. Patient flow scheduling, appointment scheduling, or other production-related AI technology is aimed at optimizing the supply chain process, which results

in making the organization more efficient in its operations.

The practitioner literature provides information about some of the major themes and trends of the adoption of AI in healthcare. The healthcare industry practitioners realized the transformative potential of AI since technology enhanced clinical and administrative workflow (Azhar, 2022; Kim and Song, 2022). The health and safety of the patients was enhanced by the disease management using AI technology. A combination of technology that can streamline the treatment and diagnosis process and improve patient safety. Further, interprofessional collaboration was also made easier by machine-based algorithms, which enhanced the strategic decision-making process. Staff burnout can also be minimized by utilizing AI since it will decrease the job load and enhance the efficiency of the company (Garrett, 2024). Nonetheless, the privacy and ethical concerns raised by AI usage are challenging to healthcare leaders, which restricts its adoption in the healthcare sector. The use of AI technology is discouraged by the complexity in managing huge amounts of medical data and technical glitches (Gownder, 2023; Khalaf, 2019). This leads to inaccuracies because the absence of data influences the quality of care since the necessary information aligning the treatment and diagnosis process is missing. Other issues, such as data privacy issues, also inhibit healthcare leaders from using AI technology. Another variable that has caused the use of AI in healthcare to decrease is the monetary fines that are applied because of data breaches. Fortune Business Insights (2024) reports that in 2020, the number of issues related to data breaches rose by 36.0%, which impeded access to patient records of 21.3 million health care professionals. The policies that the WHO came up with focus on ethical standards for utilizing AI technology in the healthcare sector.

The examination of the viewpoint of healthcare leaders to bridge the gap in implementation highlights how important effective strategies are in taking advantage of AI in the

healthcare industry. The beneficial aspect of AI technology is well-known in the healthcare field and shows the great success percentage of AI implementation. The AI technology improved the administrative workflow and helped revolutionize the process of care delivery and improve patient safety (Maaloe, 2024; McKendrick and Thurai, 2022). The views of the practitioners they had to give were encouraging to use AI in healthcare. Digitalization and technology in the healthcare sector introduce immense gains to the general healthcare process. Moreover, access and analysis of the large amount of medical data also reduced the administrative load on personnel, reducing burnout (Thibodea).

Alignment of the Project with the Literature and Discipline

The project is correlated with the academic and professional literature that reveals the significance of AI technology in the medical world. Themes found in the academic literature were able to shed light on how generative AI can be used to transform the process of healthcare delivery (AlKuwaiti et al., 2023; Esmaeilzadeh, 2020; Mukai and Ogasawara, 2022). The practice gap of lag in AI adoption needs to be addressed to facilitate the workflow in the healthcare industry, both clinical and administrative. The project is based on the existing academic literature to enable healthcare administrators to apply AI in health (Singh et al., 2020; Steerling et al., 2023). A logical flow of the scholarly literature to the literature on the professional showed the contribution of the practitioners of the healthcare industry to changing the process of delivering healthcare. Practitioner literature sources, including Harvard Business Review, Forbes, Fortune, and industry reports, highlighted the necessity to use AI technology to optimize the healthcare workflow (Maaløe, 2024; Nigam, 2024; Prasad, 2024). The project matched the most recent literature in the field and stressed the importance of employing successful strategies in dealing with the AI adoption lag within the healthcare sector.

SECTION 2. PROCESS

Project Questions

Project Design/Method

Stakeholders, Participants, and Target Audience

Role of the Researcher

Project Study Protocol

Sample

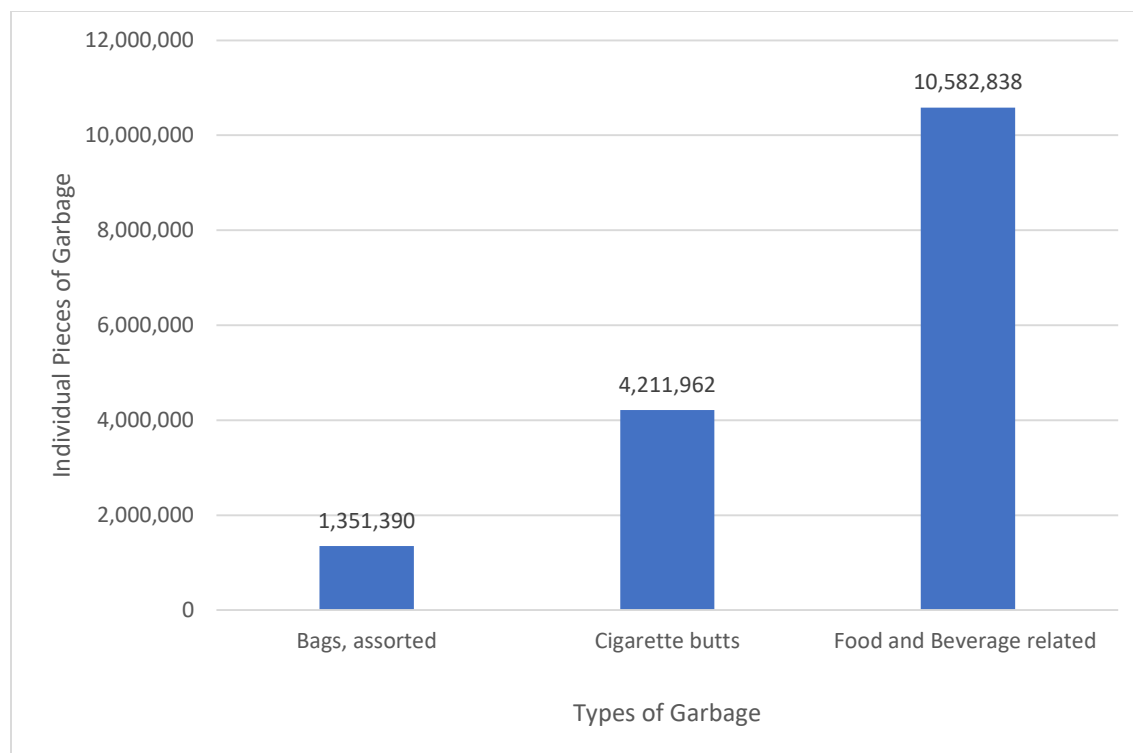
Data Collection

Ethical Considerations

Data Analysis

Figure 1

Types of Garbage



Note: Insert information about the source or presentation of the data if you did not create the figure. Add copyright/permission notes for copied information, even government materials, require 10-point acknowledgment below the image. Be sure to include a permission acknowledgment, e.g., “Reprinted [or adapted] with permission.” See the templates at <https://academicwriter-apa-org.library.capella.edu/learn/browse/QG-28>.

Table 1

Demographic Information

Participant	Age	Sex	Position	Years in position
P1	25-30	Male	Chairperson	10-15
P2	41-45	Female	CEO	6-10

Note. Potential participants under age 16 were omitted from the sample. Only essential

notes need to be included. See [Table setup \(apa.org\)](#) and <https://academicwriter-apa-org.library.capella.edu/learn/browse/QG-44?group=All&view=list&term=tables&sort=asc>. The [Doctoral Publications Guidebook](#) also addresses tables and figures.

SECTION 3. FINDINGS AND APPLICATION

Relevant Outcomes and Findings

Application and Benefits

Implications

Recommendations for Policy

Recommendations for Practice

Recommendations for Future Work

Conclusion

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APPENDIX A. TITLE OF APPENDIX A

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