

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

by

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Of the Requirements for the Degree

Doctor of Business Administration

Strategy and Innovation

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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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Researchers will review your abstract to determine whether your manuscript is worthy of reading and relevant to their literature review. Those in your field will review your abstract to learn more about the nature and quality of your doctoral work. Thus, the abstract stands as a record of your doctoral-level work. (b) Additional guidelines for development of an abstract are in section 3.3 of the *APA Publication Manual*, 7th edition, or on Campus at Academic Writer,

<https://academicwriter-apa-org.library.capella.edu/learn/browse/QG->

[59?group=All&view=list&term=abstract&sort=asc](https://academicwriter-apa-org.library.capella.edu/learn/browse/QG-59?group=All&view=list&term=abstract&sort=asc) (c) References are generally not used in the abstract, as the focus is the study, the research, and the findings.

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Avoid identifying participants or anyone connected with the research site. You may use individuals' titles with no name (e.g., "Thanks to the research director and site proctor for their help"). Or you may name individuals without connecting them to the site (e.g., "Thanks to Abdul Ibrahim and Mary Carson for their help"). Typically, avoid naming the site.

Note: if the Abstract runs onto a second page, change the page number of the Dedication to four.

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This acknowledgments page is optional. The acknowledgments differ from the dedication in that they recognize individuals who have supported your scholarly efforts related to the advanced doctoral manuscript or who have held a role in your academic career as it relates to the research of the advanced doctoral manuscript. This might mean a mentor and committee members, advisor, online or colloquia faculty, and other support people from Capella or other organizations. If you received financial support from fellowships, grants, or other organizational support, note it in this section. The acknowledgments are also appropriate for thanking statisticians, transcriptions, those who have provided permission to use an instrument, and the like.

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SECTION 1. PROJECT DESCRIPTION

Overview of the Project

The business and function of health care are facing challenges. More than half of American hospitals were operating at a loss at the end of 2022 due to the Covid-19 pandemic, a shortage of skilled workers, and historically high inflation, according to Bain & Company (2024). According to a 2023 survey, the biggest issue for health systems was rising costs, which accounted for 60% of their focus. While artificial intelligence (AI) has the potential to solve these problems, its use is still not common. According to a recent industry survey, there are significant differences in how well generative AI is used: three-quarters of health care executives recognize its transformative nature, while only 6% have established formal strategies to leverage the technology (Bain & Company, 2024). This gap underscores the urgent need to understand AI's capabilities and effectively harness it to enhance business efficiency and profitability (Locke et al., 2021). Patient satisfaction and clinical treatment are no longer the only factors health systems consider when prioritizing their business operations. Operational efficiency is becoming a top concern, along with patient satisfaction and clinical treatment. The AI health market is expected to grow at an unprecedented rate, growing at a compound annual growth rate (CAGR) of 37.66% from 2023 to 2032 (Bohr & Memarzadeh, 2020). The growing awareness of the potential of AI in healthcare business operations is evidenced by this sector's projected expansion from an estimated \$15.1 billion in 2022 to staggering \$355.78 billion by 2032 (Towards Healthcare, 2023). The project aims to explore the strategic implementation of AI in health care organizations to enhance operational efficiency and financial performance, aligning with the pressing need for innovative solutions in health care business administration (Ahn et al., 2023).

The aim of the capstone study is to outline principles for developing an AI implementation plan to increase AI adoption in the health sector and achieve operational and competitive objectives. The goal of the project is to gain insight into the potential of machine learning and other AI technologies to improve the effectiveness, efficiency, and cost-effectiveness of health care organizations. Additionally, the research will examine the potential benefits of strategic AI integration in the healthcare landscape, including reducing administrative burdens, improving resource utilization, and boosting organizational efficiency. By focusing on these aspects of business administration, the project seeks to develop a theoretical model for AI-powered strategic innovation in health care that aligns with the pressing need for innovative solutions in health care business administration.

The significance of this project is that it has the potential to change the way health care is done and the way health care is conducted as a business. Khan and Alotaibi (2020) claimed that AI technologies can aid in handling vast amounts of data and generate results and suggestions that would otherwise be difficult for human beings to understand. This capability plays a pivotal role in health care organizations for strategic decision-making and operational efficiency. By leveraging AI capabilities, health care organizations can achieve several benefits, such as better operational workflows, optimized resource allocation, and financial performance improvements (Khanna et al., 2022). For instance, AI-based solutions can contribute to the improvement of workflow in hospitals, decreasing wait times and improving resource utilization, which results in more efficient and cost-effective health care delivery (Sun & Medaglia, 2019).

Healthcare administration could benefit greatly from the implementation of AI to the extent of cutting down on expenses and boosting efficiency. An Accenture (2020) study estimates that “key” clinical health AI applications could save the U.S. health care system \$150

billion a year by 2026. These savings are due to better administrative efficiency, fewer dosage inaccuracies, and more streamlined diagnostic protocols. Furthermore, AI can enhance strategic planning and decision-making processes in health care organizations by providing data-driven insights and predictive analytics (Basile et al., 2022).

From a business administration point of view, there are multiple challenges to consider when using AI in healthcare. The project will, of course, address ethical concerns like privacy and equitable algorithms, as well as employment concerns in the AI age, but primarily strategic and operational challenges towards AI implementation. The integration process will involve organizational readiness, change management, return on investment (ROI), and business objectives alignment (Dwivedi et al., 2021). The project will seek to find ways to overcome these challenges with a view to ensuring the implementation of AI is in line with both ethical principles and business imperatives.

The project will examine common topics from a business strategy perspective that are used in the health care industry. These include measures of readiness for AI integration, effective change management strategies to prepare for the implementation of AI, and ways to measure and optimise the return on investment (ROI) for AI (Sun & Medaglia, 2019). Other ideas include the way that AI can be incorporated into current business processes and decision-making structures (Dwivedi et al., 2021), and the legal and policy landscape of AI use in health care (O'Sullivan et al., 2019). These factors will be important for building a holistic framework for the implementation of AI in future evaluations.

This project will offer guidelines for the strategic implementation of AI that is aligned with ethical values and business goals. The project will also provide recommendations on building governance structures for AI, building cross-functional teams around AI, and launching

business perspective metrics for AI performance. (Almeida et al., 2021) In terms of the essential elements, the project will provide a holistic perspective on how to apply AI in health care from a business administration perspective, setting the stage for a new age of efficient, responsible, and strategic technological integration.

Problem Statement and Purpose

Problem Statement

The overall business issue is the slow pace of AI use in the health care industry, which leads to substantial operational inefficiencies, reduced competitive edge, and unachieved cost reductions (Ahmed et al., 2023). There are several critical problems from a business administration point of view caused by the lag in the adoption and implementation of AI. Health care providers not making effective use of AI risk not only the administrative burden and inefficiency of inefficient resource utilization and higher operational costs, but also lower productivity (Sun & Medaglia, 2019). As the health care environment becomes more competitive, resistance to AI adoption could mean missing out on as many as patients and top talent as other organizations become more technologically advanced (Dwivedi et al., 2021). As reported by Berger (2023) in a report from Bain & Company, 75% of health system executives say generative AI would transform the business, but only 6% have a formal AI strategy in place. There is an immense mismatch between the recognition of the potential of AI in strategy and the actual practical application of the same, highlighting the gravity of the issue. The slow rate of adoption poses a challenge for the industry, as it limits its potential to fully realize the benefits of AI in terms of operational efficiency, strategic decision-making, and market positioning.

There is a specific business problem – U.S. health care organizations are lacking a systematic approach to incorporate AI into their business operations, which means they are failing to enjoy optimum operational efficiency and opportunities to save on expenses (Dwivedi et al., 2021). Sun and Medaglia (2019) cited the following as major challenges for AI integration in hospitals: Skills gap, lack of adequate data structure, and compliance issues. Furthermore, according to Pifer (2023), extensive use of artificial intelligence in health care has the potential to save the United States up to \$360 billion per year. Lack of a framework for AI integration in healthcare organizations presents many problems. Firstly, it results in the disparate and uneven adoption of AI solutions across different departments, precluding the development of a system to boost the overall organization's effectiveness (Dwivedi et al., 2021). Secondly, it raises issues related to ethical questions and compliance with the laws and norms, which do not allow health care leaders to use AI without challenges (Gerke et al., 2020). Also, there is no framework that defines how to integrate AI in health care organizations, which makes it difficult for organizations to manage and analyze copious amounts of data collected in clinical practices (Ahmed et al., 2023). According to Kong (2019), 80% of health data is unstructured and underutilized. The issue is that there is a lot of opportunity to find valuable data and use it to improve patient care and to run an organization more efficiently.

Alignment with the Program

The project is in progress in the specialization for Strategy and Innovation of the Doctorate of Business Administration (DBA) program offered by Capella University. The study is focused on developing strategic frameworks for implementing AI in health care organizations, which align with the specialization's focus on using innovative technologies to increase operational efficiency and the competitive advantage (Zewail & Saber, 2023). The project

addresses key aspects of the specialization, such as strategic planning, innovation management, organizational change, and technology-driven business transformation (Zewail & Saber, 2023). It is a good example of how the DBA Capstone program is focused on using theory to solve real-world business problems as they relate to health care. The project addresses the intricate topic of incorporating AI into health care organizations, thereby adding to the field's body of knowledge in strategic management and technological innovation within the health care sector. The project explores how AI can be strategically leveraged to create sustainable competitive advantages, drive organizational innovation, and transform business models in health care (Zewail & Saber, 2023). It helps develop higher-level leadership skills that are essential for thriving in the changing environment of health care management.

The research aligns with the strategy and innovation specialization by examining how health care organizations can develop and implement AI strategies that are responsive to market dynamics, regulatory changes, and emerging technological trends. The project's holistic approach to implementing AI shows that the theories of innovation, change management, and strategic management have been applied. In addition, the project examines the potential for the use of AI as a catalyst for disruptive innovation in the health care sector, with the possibility of significantly impacting industry structures and the competitive landscape. The project is aligned with the specialization's emphasis on understanding and applying new technologies to transform the organization and generate new value.

Purpose Statement

The aim of the qualitative inquiry is to understand the views of health care industry leaders in the U.S. regarding the components of an AI implementation strategy to optimize operational efficiency and profitability and to stay competitive in the health care industry. The

study will look at U.S. health care leaders who have experience with AI, and use in-depth interviews to uncover the major factors that contribute to successful implementation of AI, obstacles to use, and best practices for leveraging AI in health care organizations (Alhashmi et al., 2019). The project will look at the challenges of structuring the implementation process of AI in health care organizations, including the strategic implementation of AI to optimize the use of available resources and processes, thereby reducing operational costs (Gerke et al., 2020); the identification of new revenue opportunities and cost reduction opportunities through AI; and the use of AI to gather and analyze data and make decisions that will strengthen the competitive position of a health care organization. The study aims to provide valuable insights for health care management and strategy, drawing from a group of experts, potentially influencing future AI applications and enhancing business administration practices within healthcare environments (Gerke et al., 2020). This research seeks to define a framework for the implementation of AI in line with organizational objectives, challenges faced by the industry, and opportunities that arise for it in the healthcare domain. With the holistic approach, health care leaders can gain insights into how to navigate the intricate landscape of AI adoption while aligning with business priorities and achieving sustainable growth and competitive advantage.

Gap in Practice

The practice gaps are the lack of knowledge and understanding on how to prepare and execute detailed AI strategies, efficiently adopting AI solutions, and the lack of competencies to benefit from AI in a profitable way among healthcare leaders in the United States (Sharma et al., 2021). This is reflected by the “AI gap,” where there is a mismatch between understanding the potential of AI and its use in health care organizations (Bain & Company, 2024). Some of the

reasons for the failure are a lack of a roadmap for the use of AI technologies, poor data framework systems, and a lack of AI-literate personnel in the health care sector (Sharma et al., 2021). The absence of integration of AI in healthcare can be seen in the following ways. To begin with, the vast majority of health care companies don't have a clear vision of how to embed AI and only put it in patchwork pieces, which leaves them underutilizing the technologies (Chen & Decary, 2020). Second, another major challenge is the problem of data silos and different systems that are not compatible with each other. Third, a lack of knowledge about the existing uses of AI and their impact among health care workers leads to not using them or using them inappropriately (Esmaeilzadeh, 2020). Hence, the fragmented AI strategies, incompatible data systems, and the limited AI literacy among health care professionals are things to consider when creating a strategy.

The vision for the future is a world in which healthcare organizations are able to effectively use AI in their strategic decision-making to boost their operational efficiency, optimize resources, and increase their profitability. Ideally, AI will augment human knowledge to help health care leaders make data-driven decisions, generate new revenue sources, and improve administrative efficiencies (Schönberger, 2019). The implementation of AI would lead to substantial savings in costs, a better competitive edge, and a fast response to market changes. The executives in the health care industry would use AI analytics to predict trends, control risk, and optimize the utilization of resources to create sustainable and profitable business operations (Schönberger, 2019). The incorporation of AI would enable organizations to devote their human resources to higher-value tasks, such as those that demand creativity, emotional intelligence, and strategic thinking, thereby improving the performance and competitiveness of the organization in the marketplace. The benefits of the right use of AI in health care have been explored. This

involves making sure the appropriate data infrastructure is established, building relationships with the appropriate AI technology vendors, and training health care workers (Singh et al., 2020). In addition, the following ethical issues should be addressed, along with making the AI process understandable to the healthcare staff.

The aim of the research study is to fill the gap in research with the experiences of health care leaders who have experience with AI. The research has several objectives. Firstly, it is designed to pinpoint factors that have been demonstrated to increase the efficacy 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 explore best practices for integrating AI into health care operations. The aim is to develop an all-encompassing approach towards the use of AI-based tools in strategic decision-making. The framework will be built to direct the implementation of other health care organizations to improve the efficiency of their operations and profitability, focusing on the application of AI in this sector (Lysaght et al., 2019). Some of the factors that will influence the level at which AI can be incorporated into health care management include cultural transformations, resource deployment, and policy environments.

Theoretical Framework

eived behavioral control reflects leaders' beliefs about their ability to successfully implement and manage AI systems within their organizations.

The theory on which the qualitative inquiry is based is a technology acceptance model (TAM) developed by Fred Davis (Davis & Granić, 2024). TAM offers a solid theoretical foundation for the components of business management and strategic decision-making perspectives in the adoption of AI in health care organizations. According to Davis & Granić (2024), there are five

components of TAM: perceived usefulness (PU), perceived ease of use (PEOU), attitude toward using, behavioral intention to use, and actual system use. Perceived usefulness (PU): the degree to which a user thinks using a technology will improve his or 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. This can result in better efficiencies with the use of resources, improved organisational decision-making, and better cost management (Khashan et al., 2024).

Perceived ease of use (PEOU) is the extent to which a user expects to find using a technology effortless. In healthcare, PEOU is associated with the ease of implementing and using AI systems by healthcare leaders and staff. In healthcare, PEOU is linked to the healthcare leaders and staff's ease of implementing and operating AI systems. An increase in perceived ease of use may increase the likelihood of acceptance and adoption of AI. Attitude toward using is a user's general appraisal of the use of the technology. The behavioral intention to use reflects the user's intention to use the technology in the future. Real system use is the real use and implementation of the technology.

The TAM can be applied to health care organizations with different operations and strategies to explain the factors that affect the adoption and integration of AI technologies. The model is suited for the purpose of the project, as it aims to identify the components of a strategy to integrate AI, and it offers a framework to consider the key factors that will impact the possibility of AI adoption. The TAM has undergone some changes and modifications with the aim of realizing its applicability in any given situation. For instance, Wang et al. (2021) developed the technology acceptance model 2 (TAM2), which added other factors such as subjective norm and perceived usefulness. In TAM2, the model is extended with the addition of social influence

processes and cognitive instrumental processes, expanding the model to a more comprehensive understanding of user acceptance. The unified theory of acceptance and use of technology (UTAUT) by Marikyan (2021) is another model that combines aspects of TAM with other technology acceptability models. UTAUT has other constructs like performance expectancy, effort expectancy, social influence, and facilitating conditions. This model provides a more comprehensive view of technology use—individually and organizationally.

The original TAM will be used as the theoretical framework for this study, although TAM2 and UTAUT will be used as well. The constructs of PU and PEOU from TAM are very similar to the project's objective, which is the exploration of the strategies for implementing AI in healthcare leaders' perception. The results from TAM2 and UTAUT will then guide the design of interview questions and data analysis to gain a comprehensive understanding of the influences of AI adoption.

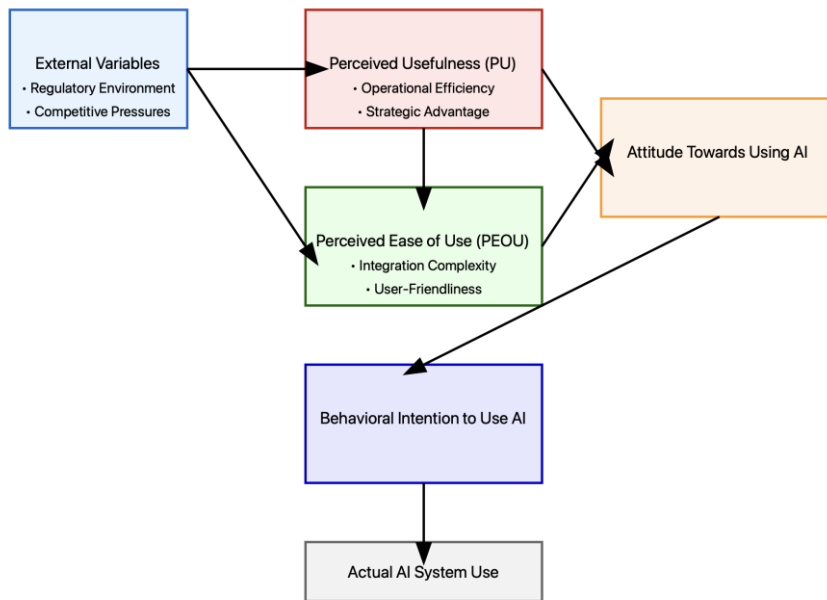
TAM's constructs can be applied to the problem of slow AI adoption in health care, as they help explain the factors that impact organizational readiness to implement AI. The analysis of perceived usefulness and perceived ease of use can provide insights into why some organizations are more ready to take up AI technologies compared to others, and direct the creation of effective strategies for implementing AI (Khashan et al., 2024). In the health industry, TAM and the variants have been employed to understand the adoption of a number of items such as electronic health records, telehealth, and the latest in the regard of artificial intelligence (Shaikh et al., 2023). The overall goal of the project is to delve into the experiences of the decision-makers in healthcare organizations who will be using the AI tool, and how effective they find it, and how easy to use it they find.

The TAM framework will be used as a foundation for the literature review and will help inform the development of data collection tools during the course of this project. The project's aim to identify the elements of an AI implementation strategy that could lead to an increase in operational efficiency and profitability in the health care sector is closely related to the concepts of TAM. PU and PEOU can be used to analyze the opportunities and obstacles of AI implementation in healthcare. TAM can serve as a framework for synthesizing and discussing research on technology adoption in the healthcare sector, such as that of AI and other emerging technologies, during the literature review. The constructs of TAM do not necessarily have to be used explicitly in the studies; however, they can be used to classify and synthesize the results of many studies. The approach will help to identify the current knowledge gaps and develop questions that will be addressed to health care leaders.

To gather the data, the literature review using the TAM constructs will inform the semi-structured interview questions to be asked of the healthcare leaders. For example, questions could be asked about the leader's attitudes towards the effectiveness of AI in improving operational performance (PU) and challenges in implementing AI in operations PEOU. Further, the interview guide will contain questions regarding organizational culture, legal considerations, etc., that can be relevant to decisions on using AI. It should be noted that the theories from other models, such as UTAUT, could be applied to explain the technology adoption, but in this study, the theoretical framework is mainly used as TAM to ensure consistency and focus on the research approach (Jianxun et al., 2021).

Figure 1

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



During the data analysis phase of the study, the information collected through interviews with health care leaders will be analyzed through the qualitative coding process. The technology acceptance model (TAM) constructs will not directly influence the coding process, but can be used as a conceptual prism to understand the emerging themes. The analysis will be conducted to discover patterns and themes in the responses given by the participants on how AI is being used in healthcare organizations (Marikyan, 2021). This project was chosen because the technology constructs provided by TAM are relevant in an organizational context. The healthcare sector has specific requirements and barriers when it comes to technology implementation, with a complex regulatory system, patient-centred approach, and existing clinical practices. TAM's focus on perceived usefulness and ease of use helps to understand how various industry-specific factors could affect an organization's decision to adopt AI.

The study is expected to add to the body of knowledge in healthcare management and technology acceptance in a number of ways. First, it will give insight into the strategies of the healthcare leaders for implementing AI. Second, it will examine the role of organizational factors unique to the health care sector in their decision to adopt AI (Kumar et al., 2021). Third, it will explore the possibility of mapping the TAM constructs to the challenges of implementing AI in the healthcare context (Jianxun et al., 2021). The results of this research can guide better practices for the adoption of AI in healthcare institutions. Furthermore, they can provide policymakers with useful information when considering policies regarding the use of AI in healthcare. The aim of the research is to fill the gap between the theoretical models of technology acceptance and practical implementation strategies in healthcare by understanding the factors that influence AI adoption from a leadership perspective.

Project Context

Historical Background and Current Trends

Synthesis of the Scholarly Literature

Synthesis of the Practitioner Literature

Alignment of the Project with the Literature and Discipline

SECTION 2. PROCESS

Project Questions

Project Design/Method

Stakeholders, Participants, and Target Audience

Role of the Researcher

Project Study Protocol

Sample

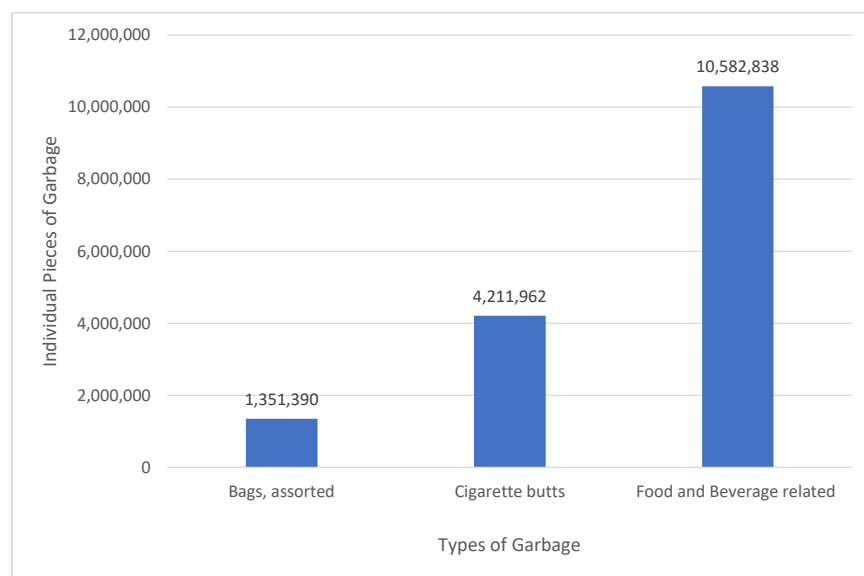
Data Collection

Ethical Considerations

Data Analysis

Figure 1

Types of Garbage



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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
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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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