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Original scientific paper

Convenience Store Managers' Lived Experience Using Information Technology Investments and Capabilities

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Abstract: This qualitative descriptive phenomenological study aimed to investigate how convenience store managers portrayed their experiences with IT capabilities and investments. The study focused on convenience store managers in the Northeastern United States. The researcher employed a qualitative methodology with a descriptive phenomenological design. Ten participants, overseeing at least four employees and possessing extensive managerial experience, shared their firsthand experiences through 60–90-minute semi-structured interviews.The methodology section delineated the research approach, specifying participant selection criteria and the data-gathering procedure. The researcher conducted semi-structured interviews via GoToMeeting to ensure confidentiality and convenience. Giorgi's five-step descriptive phenomenological approach guided the analysis of the data. Two primary research questions (RQ1 and RQ2) guided the investigation of IT investments and capabilities. Findings illuminated six constituents: (1) strategic vision, (2) operational efficiency, (3) continuous improvement, (4) team acceptance, (5) balancing technology adoption, and (6) industry challenges. The chapter concluded with a summary of key findings, paving the way for Chapter Five, which explored implications, recommendations, and avenues for further research. The study acknowledged potential limitations, including the small sample size and regional focus, which affected the generalizability of findings. Despite these limitations, the research provided valuable insights into IT adoption in convenience stores, highlighting the need for customized solutions.

Keywords: IT investment, IT capability, Convenience stores, Technology acceptance model, Constituents, phenomenological analysis

1. Introduction

The late 20th-century information technology (IT) revolution has transformed organizational development and modernization, significantly improving internal operations, productivity, and desired outputs (Chiu et al., 2021). The surge in IT investments (Asli et al., 2016) raises the question of whether they boost productivity, employee satisfaction, and client satisfaction (Liu et al., 2022). While existing studies have explored the intersection of IT and organizational dynamics, there remains a gap concerning the experiences of convenience store managers with IT.This qualitative phenomenological study aims to fill this gap by examining how these managers perceive and employ IT, providing practical insights to enhance IT integration and efficacy in convenience stores and potentially other retail and service industries. The study delves into the impact of IT on sales, customer service, and job satisfaction in convenience stores, a prevalent retail model. Technological advancements have significantly shaped the development of retail establishments, from the introduction of barcode scanners in the 1970s to the current implementation of Internet of Things (IoT) technologies (Johnson et al., 2021). These advancements, such as point-of-sale (POS) systems, self-checkout kiosks, and mobile payment systems, have improved efficiency, reduced errors, and enhanced the customer experience (Pattamatta and Dabadghao, 2022). IoT technologies, including sensors and beacons, further enhance the retail environment by automating inventory management, optimizing store layouts, and providing personalized customer recommendations (Wang et al., 2021). This historical retail technology progression has led to more efficient operations and better customer service (Anica-Popa et al., 2021). By understanding the lived experiences of convenience store managers, this research contributes to developing more effective technology strategies and practices. This understanding is especially pertinent given the retail industry's trend toward increased technology use, such as

self-checkout systems and automated processes (Jasim and Raewf, 2020). Ultimately, the study aims to offer a comprehensive understanding of practical IT usage, addressing the necessity for deeper insights into its varied impacts on organizational aspects (Chiu et al., 2021).

1.1. Problem Statement

Despite the increasing adoption of information technology (IT) in convenience stores, more research has yet to explore the perceptions and experiences of store managers regarding IT capabilities and investments (Tham et al., 2021). While several studies have investigated IT impacts on customer satisfaction, operational efficiency, and financial performance in retail (Ali and Naushad, 2021), they often need to pay more attention to the perspectives of store managers. This gap in research is significant as IT capabilities and investments can greatly influence convenience stores' operations and profitability. Understanding managers' experiences is crucial for improving IT systems and enhancing organizational effectiveness. The problem is particularly acute in the Northeastern United States, where the rapid evolution of the retail industry pressures convenience stores to adopt and integrate technology to stay competitive (Aversa et al., 2021). Current literature inadequately highlights IT's role in small businesses, especially regarding job satisfaction, sales volume, and customer service (Chiu et al., 2021). Convenience store managers need further research to understand how they use IT to optimize business operations and what factors contribute to the success of these investments. This study aims to fill these gaps by offering insights crucial for developing effective IT strategies in the convenience store industry.

2. Literature Review

This qualitative descriptive phenomenological study explores managers' experiences using information technology (IT) in convenience store companies in the Northeastern United States. Despite the increasing adoption of IT in convenience stores, little research has focused on the perceptions and experiences of store managers regarding IT capabilities and investments. This gap is significant, as it can significantly influence convenience stores' operations and profitability. The study targets all employees in these stores, with a sample size of 10 participants who have extensive experience with the store's IT systems (Grewal et al., 2020). The literature review incorporates the Technology Acceptance Model 2 (TAM 2) to analyze the experiences of convenience store managers using IT. The literature review incorporates the Technology Acceptance Model 2 (TAM 2). TAM 2 extends the original technology acceptance model by incorporating additional factors that influence perceived usefulness and ease of use, which are crucial in understanding IT adoption and utilization. The primary themes explored include perceived usefulness, with sub-themes such as subjective norms, job relevance, output quality, results demonstrability, and perceived ease of use. These themes help examine how convenience store managers perceive IT investments and capabilities (Chiu et al., 2021).

The review highlights mixed findings on IT investments' impact, emphasizing the importance of efficient IT operations over mere investments (Al-Hazmi, 2020). The study aims to fill gaps in understanding how IT integration and investment impact essential indicators like sales volume, job satisfaction, and customer service from the perspective of convenience store managers (Ali and Naushad, 2021). This research can inform strategies and policies to maximize IT benefits while minimizing negative consequences. By applying TAM 2, the study provides a structured approach to understanding the factors influencing managers' acceptance and use of IT in convenience stores, ultimately enhancing organizational effectiveness and competitiveness.

2.1. Information Technology Investments

Investment in information technology (IT) has significant implications for retail stores, encompassing benefits and risks. Countries like the United States, China, and Japan lead in IT spending, reflecting the growing importance of IT in enhancing store efficiency and customer satisfaction (Struwig and Best, 2023). IT investments typically involve hardware, such as POS terminals and barcode scanners, and software for inventory and customer management (Su, 2022). These investments can improve customer service, inventory management, and sales through data analytics and personalized recommendations (Gong et al., 2022). However, challenges include high costs, implementation difficulties, and security risks, such as potential data breaches (Dong et al., 2021; Shankar et al., 2021). The study by Chege et al. (2020) underscores the positive impact of IT on operational efficiency and decision-making while highlighting the need for careful management of IT investments to mitigate associated risks.

2.2. Information Technology Capabilities

Information technology (IT) capabilities are crucial for retail stores, particularly convenience stores, as they allow organizations to leverage technological advancements to outperform competitors by reducing costs, enhancing profitability, and improving performance metrics (Melián-Alzola et al., 2020). IT capabilities encompass an organization's ability to acquire, implement, and effectively utilize IT resources to support and enhance business operations (Nabeel-Rehman and Nazri, 2019). Modern IT capabilities, such as barcode scanning, RFID tagging, and automated inventory systems, offer significant benefits by improving inventory management, streamlining operations, and enhancing customer experiences (Atkins et al., 2021). These technologies facilitate real-time tracking, personalized recommendations, and efficient checkout processes, increasing revenue and customer satisfaction (Yan et al., 2021). Despite these advantages, there are challenges associated with IT capabilities. High costs of implementation and maintenance, potential cybersecurity threats, and the risk of reduced personal interaction are notable drawbacks (Valdez-Cervantes and Franco, 2020). Small stores may struggle with the financial burden of adopting and maintaining sophisticated IT systems, and data breaches can lead to significant security and trust issues (Shankar et al., 2021). Furthermore, technology can sometimes replace personal customer interactions, which may negatively impact the customer experience (Chiu et al., 2021). Resistance to new technologies from staff and consumers can also pose a challenge, affecting the smooth integration of IT systems (Sorkun et al., 2020).

Addressing these challenges requires targeted research and strategies. Potential solutions include exploring cost-effective IT options such as cloud-based systems, enhancing cybersecurity measures to protect consumer data, and developing training programs to ease the transition for staff and customers (Guo and Zhang, 2019). Additionally, integrating technology to preserve personal customer interactions, such as chatbots or virtual assistants, could help balance efficiency with customer engagement (Sorkun et al., 2020). Investigating these areas can help convenience stores leverage IT capabilities effectively while minimizing potential drawbacks.

2.3. IT and Convenience Stores

Over the past decade, convenience stores have faced significant challenges, including declining foot traffic and store closures, exacerbated by the COVID-19 pandemic (Akram et al., 2021). Despite the pandemic deeming these stores essential, in-store transactions fell by 11.4% in 2020 (Grashuis et al., 2020). (Grashuis et al., 2020). Convenience stores contribute 3.1% to the U.S. GDP (Gibson et al., 2022), and the rise of app-based and innovative stores, such as Amazon Go, has led to increased reliance on Information Technology Investments (ITI) (Pandey et al., 2021). While AI and IT have transformed business operations, there is a mixed reception among customers, who often prefer human interaction over technology solutions (Ha, 2020; Yan et al., 2021).

The study has explored the impact of IT on retail performance, revealing both benefits and limitations. Loyalty and rewards programs have proven effective in increasing customer spending and retention (Tran and Le, 2020), with vouchers and loyalty points enhancing profitability (Gabel and Guhl, 2022). However, concerns remain about the interaction between customers and technology (Shen et al., 2019), and the high costs of implementing and maintaining IT systems can be a barrier, particularly for smaller stores (Valdez-Cervantes and Franco, 2020). A study by Gong et al. (2022) highlights the role of IT in enhancing customer satisfaction and operational efficiency, while others like Zhang et al. (2022) provide insights into the potential risks and the importance of skilled users.

2.3. Convenience Stores and Technology Usage

The study highlights various aspects of technology's impact on convenience stores. Cuong and Long (2019) found that high-quality, trustworthy service increased customer loyalty in Vietnamese convenience stores. Lau et al. (2019) demonstrated that perceptions of mobile payment's utility and ease of use influence its adoption. Jacobo et al. (2020) showed that transformational leadership enhances organizational performance in Mexican convenience stores, whereas transactional and laissez-faire leadership styles are detrimental. The study by Shankar et al. (2021) emphasized the transformative effects of automation, data analytics, and AI in retail, noting that technology readiness impacts customer acceptance of unmanned stores.

International research underscores the relevance of technology in enhancing convenience store operations. Zhang et al. (2022) highlighted how innovative retail technologies improve operational efficiency and customer experience. Guo and Zhang (2019) utilized machine learning to forecast demographic and economic characteristics for optimal store locations. Despite conducting these studies in China, Vietnam, and Mexico, their findings apply to the U.S.

convenience store industry, reflecting global trends in innovative retail technology and IT capabilities. This underscores the importance of technology in improving operational performance and customer satisfaction across different markets.

3. Research Methodology: Materials and Methods

This study investigates how convenience store managers in the Northeastern United States describe their experiences using IT capabilities and investments. Despite the increasing adoption of IT to enhance operations and customer service, there is limited research on managers' perceptions and experiences in this context. The research aims to fill this gap by exploring the benefits and challenges of IT investments from the managers' perspectives, addressing how these technologies impact sales volume, customer satisfaction, and profitability (Aversa et al., 2021). A sample of ten managers participated in semi-structured interviews to provide insights into these experiences. The study's findings will contribute valuable knowledge for improving IT systems in convenience stores, ensuring competitiveness and operational efficiency in the rapidly evolving retail industry.

3.1. Research Design

This study adopts a descriptive phenomenological research design to understand the lived experiences of convenience store managers using IT capabilities and IT investments in the Northeastern United States. A phenomenological approach is particularly fitting as it allows for an in-depth exploration of participants' experiences and viewpoints (Asenahabi, 2019). Through semi-structured interviews with open-ended questions, this method facilitates the collection of rich, detailed data, enabling researchers to capture the essence, meanings, and typical characteristics of the managers' experiences with IT (Jones, 2020). This approach aims to provide a truthful and compelling portrayal of the participants' experiences, supporting the development of explanatory hypotheses about the impact of IT capabilities and investments on convenience store operations (Jones, 2020). The study population comprises convenience store managers in the Northeastern United States, with a purposive sample of ten managers selected for their substantial experience with IT systems (Asenahabi, 2019). Mason (2010) deems this sample size sufficient for data saturation, meaning no new themes or insights emerge from the interviews. Semi-structured interviews were designed to elicit detailed descriptions of the managers' experiences, and data was collected, providing valuable insights into the influence of IT on convenience store operations (Jones, 2020).

3.1.1. Research Question

Research Question 1: Can you describe your experiences as a manager using IT investments in the convenience store? RQ1 intends to comprehend the impact of IT capabilities on organizational operations as perceived by convenience store managers. RQ1 seeks to illuminate technological integration in convenience stores and its impact on business procedures, customer experiences, and other crucial elements.

Research Question 2: Can you describe your experiences as a manager using IT capabilities in the convenience store? RQ2, conversely, investigates the role of IT investment in explaining organizational dynamics. Research question two aims to unravel the nature of IT investments made by convenience stores, their impact on the organization, and the challenges associated with such investments.

3.2. Data Collection

The researcher employed a survey questionnaire and semi-structured interviews with open-ended questions to collect information for this study. The researcher divided the survey into two sections: the first section collected primary demographic data, and the second section addressed the research questions. The study's supervisor reviewed the survey questions to ensure their appropriateness for the research and their effectiveness in collecting the necessary data. The researcher formulated the questions after comprehensively assessing the relevant literature and discussions with subject matter experts. Additionally, the researcher conducted a pilot test of the survey questions with a sample of participants to identify and rectify any issues. The researcher also collected data for the study using semi-structured interview questions with open-ended options. The researcher developed the questions based on established measures from previous research and modified them as needed to fit the specific context of this study. Before distributing the questionnaire, the researcher obtained permission from the participants and the organization responsible for the observation. The researcher compiled the respondents' responses once they completed the questionnaires. The researcher assured the respondents that he would store any provided information in the strictest confidence and use it solely for scientific purposes.

3.3 Data Analysis

The qualitative data analysis in this study utilized Giorgi's phenomenological approach to explore convenience store managers' experiences with IT in the Northeastern United States (Giorgi et al., 2017). The analysis followed a rigorous

five-step process: bracketing, phenomenological reduction, delineating units of meaning, transforming meanings, and synthesizing findings. Bracketing involved setting aside preconceived notions to approach the data with an unbiased perspective. Phenomenological reduction entailed multiple transcription readings to identify the core elements of participants' experiences. The researcher delineated units of meaning by extracting and categorizing significant segments from the data, then transformed them through imaginative variation to uncover essential constituents.

The final synthesis integrated the diverse meanings into a coherent narrative, revealing six key constituents: (1) strategic vision, (2) operational efficiency, (3) continuous improvement, (4) team acceptance, (5) balancing technology adoption, and (6) industry challenges. This comprehensive analysis provided a nuanced understanding of how IT impacts convenience store operations and highlighted the benefits and challenges of IT integration from the managers' perspectives (Giorgi et al., 2017). The approach ensured a thorough and objective exploration of participants' lived experiences, contributing valuable insights into the intersection of IT capabilities and convenience store management.

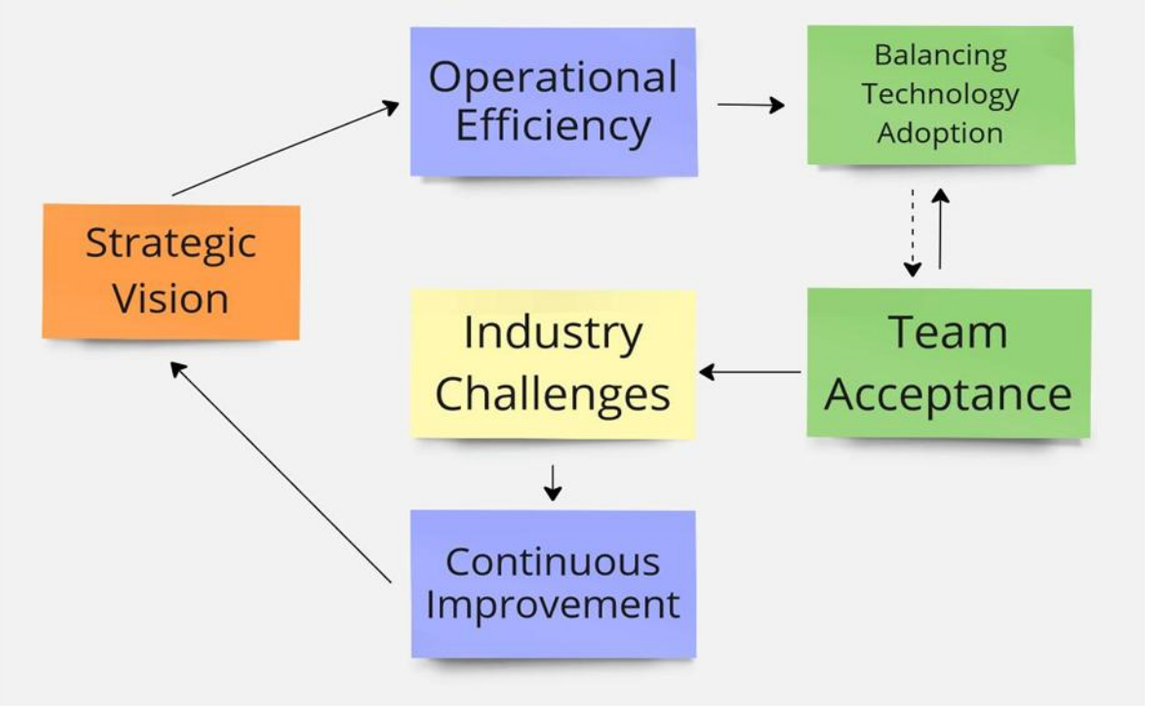
Table 1 below provides clear definitions for key constituents relevant to the study, ensuring a consistent understanding of terminology.

Table 1: Meaning of the Constituent's Definition

Constituent	Meaning of the Constituents
Strategic Vision	Aligning IT with long-term business goals for overall strategic direction.
Operational Efficiency	Optimizing daily operations through streamlined IT solutions.
Continuous Improvement	Ongoing refinement of IT processes based on feedback and evolving needs.
Team Acceptance	Involving store teams in collaborative decision-making for successful IT implementation.
Balancing Technology Adaptation	Integrating technology to enhance operations without disrupting daily functions.
Industry Challenge	Addressing sector-specific challenges, such as adapting to changing customer preferences in online ordering.

Table 1 was instrumental in creating a map of constituents that elucidated the relationships among the six main constituents identified in the study. This table organized and visually represented the interactions between constituents, such as strategic vision, operational efficiency, continuous improvement, team acceptance, balancing technology adaptation, and industry challenges, tailored to the convenience store context. By mapping these elements, Table 1 provided a structured framework to understand how each constituent influences and interconnects with the others. The constituents' map revealed several key insights into the dynamics of IT integration within convenience stores. For instance, the leadership's strategic vision directly influenced operational efficiency by driving the adoption of advanced technologies. Improved operational efficiency, in turn, facilitated continuous improvement and supported technology adaptation efforts. Additionally, the map highlighted the importance of team acceptance, which was critical for successful technology integration and minimizing disruptions. This comprehensive view demonstrated how strategic vision catalyzed a cycle of improvements and adaptations, emphasizing the role of leadership and team dynamics in leveraging IT for enhanced organizational effectiveness.

Figure 1: Constituent's Map of Convenience Store Managers Using IT



4. Results

The data analysis revealed that a well-defined strategic vision is foundational for the effective integration of IT in convenience stores. Leadership's strategic direction drives the adoption and implementation of advanced technologies, significantly enhancing operational efficiency. For instance, managers reported that modernized point-of-sale systems and upgraded inventory management tools led to notable improvements in in-store operations, such as reduced wait times and better inventory control. The results also highlighted the importance of continuous improvement in IT practices. Managers stressed that ongoing refinements and technological updates are essential for staying competitive and meeting evolving business needs. An example from the data showed that regular updates to the IT infrastructure helped stores adapt to changing customer preferences and operational challenges.

Additionally, achieving team acceptance is critical for the smooth integration of IT systems. Practical strategies for securing staff buy-in included inclusive decision-making processes and clear communication about the benefits of new technologies. Balancing the adoption of new technologies with practical applications and addressing specific industry challenges are also necessary to overcome potential resistance and maximize the benefits of IT investments. These insights demonstrate that leadership's strategic vision, continuous IT improvements, and strong team support are critical factors in leveraging technology to enhance organizational performance.

The six constituents—strategic vision, operational efficiency, continuous improvement, team acceptance, balancing technology adoption, and industry challenges—interconnect to create a comprehensive framework for IT integration in convenience stores. Strategic vision drives the adoption of technologies that enhance operational efficiency by streamlining processes and reducing wait times. This efficiency supports continuous improvement, where ongoing refinements to IT strategies ensure that the technology evolves with changing needs. Team acceptance is crucial for smooth integration, as inclusive decision-making and communication help secure frontline staff's support. Balancing technology adoption ensures that innovations are practical and beneficial in the store environment while addressing industry-specific challenges, which allows for tailored solutions to sector-specific issues. These constituents form a cycle facilitating effective IT integration and overall organizational success.

5. Conclusion

This study is significant as it addresses a gap in the literature by providing an in-depth analysis of how convenience store managers experience IT investments and capabilities. This topic has been underexplored in this sector. By focusing on the context of the Northeastern United States, the research offers valuable insights into the alignment of IT initiatives with strategic goals, operational efficiency, and the impact of team acceptance on successful technology integration. The study highlights the practical challenges and opportunities associated with IT adoption, contributing to a deeper understanding of how IT can enhance organizational performance in convenience stores. Its findings underscore the importance of tailored IT strategies and the need for more nuanced research incorporating diverse managerial perspectives and broader geographic contexts.

5.1. Limitations

The study has several limitations that should be noted. Firstly, the small sample size of 10 convenience store managers may not represent the broader sector, limiting the generalizability of the findings. Secondly, the research's focus on the Northeastern United States introduces regional bias, which may restrict the applicability of the results to other geographical areas. Thirdly, the social desirability bias could have influenced participants to provide responses that aligned with their expectations, thereby compromising the accuracy of the data. Lastly, the study's exclusive focus on managerial perspectives neglects the input of frontline employees, which could provide a more complete understanding of IT adoption challenges and opportunities.

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