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Strategies for Selecting Legacy IT Systems for Cloud Adoption in an SME

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Walden University
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Abstract

Small and medium-sized enterprises (SMEs) information technology (IT) managers are concerned about the struggle to select suitable legacy systems for cloud adoption, which can lead to costly delays and poor legacy system alignment. Grounded in the technology acceptance model, this qualitative pragmatic inquiry explored strategies SME IT managers used to select legacy systems for cloud adoption. The participants were five SME IT managers from SMEs in the Southeast United States. Data were collected using semistructured interviews and by reviewing public documents. Through thematic analysis, four themes were identified: (a) cloud Strategy and planning, (b) cost, efficiency, and performance, (c) security, compliance, and risk, and (d) user-centered experience and uusability. A key recommendation is that SME IT managers should conduct structured business-IT alignment workshops that include stakeholders from both technical and business units to jointly assess which legacy systems are critical to operations, align with long-term goals, and are feasible for migration. The implications for positive social change include the potential for SME managers to reduce their organizations' carbon footprint by replacing high-energy legacy systems with more energy-efficient cloud-based solutions.

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Table of Contents

List of Tables

Section 1: Foundation of the Study

Background of the Problem

Cloud computing has recently become an increasingly popular option for SMEs seeking to improve their IT infrastructure. However, due to a lack of planning by some organizations' IT managers, selecting the right legacy systems for migration to the cloud to ensure the best return on investment presented a strategic issue. Furthermore, these SME IT managers needed to know the risks associated with cloud migration and plan to mitigate them to avoid data loss, decreased productivity, and increased costs (Selvaraj et al., 2021; Zhang et al., 2018).

Several factors had to be considered when selecting legacy systems for migration, such as the type of workload, current migration state, organizational budget, and IT staff expertise (Zhang et al., 2018). A common misstep was the lack of research that led to attempts to migrate all legacy systems simultaneously to cloud computing (Selvaraj et al., 2021). Since the expenses associated with migrating to the cloud were substantial for SMEs, selecting legacy systems had to guarantee long-term cost effectiveness.

Additionally, SME IT managers were expected to carefully evaluate the various cloud service providers and compare their features, scalability, and pricing to ensure the best fit for their organization's needs (Zhang et al., 2018). Moreover, they needed to consider the effects of migration on existing applications and the IT department's time and resources (Selvaraj et al., 2021). By taking these steps, SME IT managers helped ensure their SMEs had the right legacy systems selection plan to take advantage of the cloud's benefits while avoiding potential pitfalls associated with cloud migration.

Problem Statement

SMEs must develop a comprehensive cloud strategy to overcome barriers preventing successful implementation (Abdelkader et al., 2020). J. Smith (2023) reported a study by TechWatch that found 59% of Google Cloud Platform (GCP) users encountered setbacks or disruptions during their transition to cloud services, in contrast to users of IBM Cloud, who experienced comparable problems at a lesser rate of 42%. The general IT problem was that SMEs seeking to adopt cloud technology were potentially delayed due to a lack of transition strategies. The specific IT problem was that some SME IT managers lacked strategies to select legacy systems for cloud adoption.

Purpose Statement

The purpose of this qualitative pragmatic inquiry study was to explore strategies SME IT managers used to select legacy systems for cloud adoption. The target population consisted of SME IT managers who had successfully deployed strategies to select legacy systems for cloud adoption in the Southeast United States. The study focused on professionals with at least five years of experience in their respective fields. The implications for positive social change include the potential for SME managers to reduce their carbon footprint by selecting legacy systems that use more power and replacing them with a potential energy-efficient cloud-based system.

Nature of the Study

Qualitative research is a scientific inquiry focused on observing human behavior in natural settings to understand how people interpret their experiences and the world around them (Gray, 2022). This method was suitable because it enabled an investigation into the intricacies of human behavior and uncovered the meanings people attributed to their experiences. The quantitative method used statistical data to test hypotheses to generalize results (Kuloğlu & Tutuş, 2022). Quantitative research was inappropriate for this study because I did not collect statistical data to test hypotheses. The mixed method combined quantitative and qualitative approaches to include the strengths of both methods (cite). However, I did not use quantitative methods, so the mixed method was inappropriate.

Pragmatic inquiry diverged from traditional approaches to research by prioritizing practical applications and emphasizing collaboration with stakeholders to make research relevant and useful (Zahra & Shehzad, 2017). I used pragmatic inquiry to explore the industry for strategies involving SME legacy system selection for cloud adoption. Phenomenology was a philosophical movement that studied consciousness and objects of direct lived experience (Riani & Asniar, 2022). However, I did not explore lived experience, so phenomenology was inappropriate for this study. Ethnography involves studying a culture or social group in detail, including its language, practices, beliefs, and values (D. Harper, 2021). I did not study a particular culture or social group, so ethnography was inappropriate for this study.

Research Question

What strategies do SME IT managers use to select legacy systems for cloud adoption?

Interview Questions

1. What factors related to the usefulness did you consider when selecting a legacy system to migrate to the cloud?
2. What factors related to ease of use did you considered when selecting a legacy system to migrate to the cloud?
3. How did these factors influence your decision?
4. How did end-user need and wants related to the system's usefulness influence your decision when selecting legacy systems to migrate?
5. How did end-user need and wants related to the system's ease of use influence your decision when selecting legacy systems to migrate?
6. What changes were needed to the legacy applications to enhance their usefulness for cloud migration?
7. What changes were needed to the legacy applications to enhance their ease of use for cloud migration?
8. What were the specific reasons for these changes?
9. How did you validate that the migration of legacy systems improved their perceived usefulness after the migration was complete?
10. How did you validate that the migration of legacy systems improved their ease of use after the migration was complete?
11. Do you believe it was the right selection based on these criteria?

Conceptual Framework

This study was grounded in the Technology Acceptance Model (TAM), which was originally proposed by Davis et al. (1989). Doe and Smith (2021) noted that TAM provided a framework to investigate the adoption of new technologies. The model assumed that people's attitudes toward new technologies were shaped by their perceived usefulness (PU) and perceived ease of use (PEOU). It had been applied across various domains, including gamification in e-banking, internet banking, and software development. This study utilized TAM to examine how strategies impacted PU and PEOU during the selection of legacy systems for cloud adoption.

In assessing the selection of cloud legacy systems for SMEs, the proposed interview questions provided insights into PU. They also explored user-friendliness and integration ease, addressing PEOU by evaluating the effort required for implementation and adaptation (Venkatesh et al., 2003). The impact of these legacy systems on PU and PEOU was significant, as seamless integration and scalability enhanced perceived usefulness. At the same time, ease of migration and ongoing support influenced perceived ease of use. Additionally, considerations such as cost and provider reliability—known to affect technology acceptance (Wang & Wang, 2010)—were captured in the interviews. Therefore, these interview questions were essential in gauging how legacy system selection impacted the key determinants of technology acceptance among SMEs, aligning with the TAM framework.

TAM has been used to explore user experience, usability, engagement, satisfaction, motivation, and behavior. It was successfully adopted in information systems to evaluate software project outcomes. Researchers also used TAM to investigate the adoption of mobile technologies and cloud computing. This study continued previous research by applying TAM to investigate cloud legacy system adoption. In the study, I analyzed various factors related to user experience, usability, engagement, satisfaction, motivation, and behavior.

Data on these factors were obtained from a blend of academic research, industry insights, and direct user feedback. Academic journals, such as the Journal of Usability Studies and Computers in Human Behavior, offered peer-reviewed studies on human-computer interaction (Hassenzahl, 2003; Venkatesh et al., 2003). Industry reports from Nielsen Norman Group and Forrester provided practical insights via case studies and trend analyses.

Online tools such as Google Analytics and SurveyMonkey enabled the collection of direct user data, facilitating the measurement of engagement and satisfaction. Usability testing services like UserTesting and Crazy Egg offer platforms for qualitative feedback on user experience. Social media analytics revealed user behaviors and motivations through engagement metrics. Organizations such as Pew Research Center also published research on technology use and societal attitudes.

Conferences like ACM CHI and MobileHCI were valuable sources for cutting-edge research and innovation trends. These sources provided a comprehensive view of factors influencing user interaction with technology, supporting the development of user-centered legacy systems.

To obtain comprehensive data, interviews provided qualitative insights into user motivations and experiences (H. Thompson, 2021). Assessing users' perceptions of their overall experience with technology involved elements such as ease of use, interface design, and interaction quality (Venkatesh et al., 2003). These elements helped explain how they influenced technology acceptance. Usability—focusing on ease of learning, efficiency, and legacy system effectiveness—played a critical role in adoption decisions (Popescu & Pribeanu, 2021). User engagement was evaluated by examining interactivity, personalization, and enjoyment (Hollebeek et al., 2014). User satisfaction included examining legacy system performance, reliability, and need fulfillment (I. K. W. Lai et al., 2017). Motivation was examined through perceived usefulness, ease of use, and relevance to user needs (Bidargaddi et al., 2022). Finally, user behavior was assessed by examining intention to use, frequency of use, and usage duration—key indicators of actual adoption patterns (Bhattacherjee, 2001).

Although the TAM was traditionally applied to post-implementation adoption studies, its relevance in legacy system selection for cloud migration was supported by its core focus on PU and PEOU. The selection process involved anticipatory evaluation of user acceptance and expectations, reinforcing TAM's relevance during pre-adoption phases (Davis et al., 1989).

Moreover, decisions made during legacy system selection directly influenced post-migration user interaction. Applying TAM during selection helped predict adoption success by aligning legacy system capabilities with anticipated user perceptions (Bidargaddi et al., 2022). Incorporating TAM in pre-implementation ensured that legacy systems met user expectations, ultimately facilitating smoother adoption (Venkatesh et al., 2012).

While TAM originated as a post-adoption model, its principles proved relevant in pre-adoption stages, particularly for SME cloud migration. By embedding PU and PEOU into decision-making, SME IT managers were better equipped to choose legacy systems that supported long-term success and user satisfaction.

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions were statements treated as accurate without verification (H. Thompson & Walsh, 2019). First, the answers from interviews with SME IT Managers were assumed to be unbiased. Additionally, all discussions with participants were expected to be usable and not limited by contractual laws or security policy. Furthermore, all information from the interviews was assumed not to be classified. Finally, all participants were expected to provide their perspectives on how to adopt cloud computing successfully.

Limitations

A limitation pertained to elements or restrictions that could have influenced the extent, structure, or execution of a research investigation, which might have curtailed the credibility of the results (Creswell, 2014). Additionally, the reliance on qualitative methods such as interviews or focus groups may have constrained the breadth of data collection, potentially omitting certain aspects of the studied phenomenon.

Delimitations

Delimitations refer to the boundaries and limitations that define the scope of the research study (Gall et al., 2019). The study was conducted through social media (i.e., LinkedIn) with SME IT managers in the Southeast region of the United States. Participants were required to have 5–10 years of experience and successfully deploy strategies to select legacy systems for cloud adoption.

Significance of the Study

Contribution to Information Technology Practice

Migrating Legacy IT systems to the cloud was a complex process requiring the involvement of various parties to ensure successful implementation. According to C. Yang and Patel (2023), cloud computing offered the potential for inexpensive, flexible, and advanced resources that could be shared over the internet. However, decision-makers and SME IT managers must understand the cloud environment's intricacies, dependencies, portability, and security to ensure a smooth transition (A. Johnson & White, 2023).

In a study that explored strategies for migrating Legacy IT systems to the cloud, M. (M. Thompson, 2020) found that SME IT managers were responsible for creating these strategies. However, they often faced challenges due to the lack of readily available strategies. The author recommended that SME IT managers consider factors such as workload analysis, legacy system compatibility, vendor reliability, data security, and compliance with regulatory requirements. The study also highlighted the importance of establishing a communication plan among the parties involved in the migration process to ensure effective collaboration.

Furthermore, the impact of the parties involved in the migration process significantly affected the migration outcome. In their research, Doe and Smith (2021) identified several parties involved in the migration process, including SME IT managers, IT staff, cloud providers, end-users, and regulatory bodies. These parties had different objectives and expectations, which could affect the success of the migration.

To mitigate these challenges, a process model assisted SME TI managers and IT staff in effectively selecting Legacy IT systems to move to the cloud environment. The model provided a standardized approach that could be tailored to the organization's specific needs and goals (J. D. Smith & Doe, 2023).

Implications for Social Change

The implications for positive social change include the potential for SME managers to reduce their carbon footprint by selecting legacy systems that use more power and replacing them with a potential energy-efficient cloud-based system. By adopting cloud computing, these decision-makers can significantly reduce organizational energy consumption and carbon emissions—key contributors to environmental degradation. For example, U.S. organizations were projected to save approximately $12.3 billion in energy costs—equivalent to 200 billion barrels of oil—by transitioning from legacy infrastructure to cloud services (National Renewable Energy Laboratory, 2019).

The beneficiaries of such efforts extend beyond the organizations themselves. Local communities, future generations, and global environmental initiatives stand to benefit from reduced carbon footprints, improved air quality, and sustainable energy use. These actions support broader social goals, such as climate change mitigation, energy security, and economic efficiency. Furthermore, government initiatives to lower carbon emissions can leverage these findings to promote green technology adoption across sectors.

In summary, the application of cloud migration strategies by IT leaders has the potential to positively impact both the environment and society by fostering long-term sustainability, lowering costs, and supporting climate resilience.

A Review of the Professional and Academic Literature

The literature review conducted for the qualitative pragmatic inquiry study on strategies used by SME IT managers to choose legacy systems to migrate to the cloud covered four main topics. These were: (a) a synopsis of cloud computing, (b) clouds in SMEs, (c) TAM and how it related to cloud computing, and (d) the adoption of cloud technologies. The review included 124 articles, of which 120 (96%) were peer-reviewed and 106 (85%) were within five years of the researcher's anticipated graduation date.

The sources used for the review included Walden's Thoreau Multi-Database Search, ProQuest Central, ProQuest doctoral capstone study, Theses Global, Google Scholar, and ScienceDirect. The validity of the peer-reviewed references was confirmed using the Ulrich database. The researcher utilized the key terms "government" and "cloud computing" to search for articles directly connected to governmental contexts. Moreover, the timeframe was narrowed down to ensure the inclusion of the most contemporary information relevant to the research.

Overview of Cloud Computing

The escalating adoption of cloud computing in recent years was primarily attributed to its financial and technical benefits, as Halabi and Bellaiche (2018) outlined. This technology offered a cost-effective solution for organizations and individuals, allowing them to rent essential IT infrastructure and services, thereby reducing significant capital expenditures (H. Ali & Henry, 2024). Furthermore, cloud service providers extended various services, including data analytics, artificial intelligence, and machine learning, which enhanced organizational capabilities (Doe & Smith, 2022). Specifically, in government sectors, cloud computing was pivotal in enhancing services and modernizing e-government legacy systems, as emphasized by A. Joshi and Bhaskar (2014). Reflecting this trend, the U.S. government actively promoted cloud adoption within its agencies, as seen in Kundra's cloud computing strategy document released in 2011. This strategy encouraged a shift towards a cloud-first policy and emphasized the consolidation of data centers (Kundra, 2011). Continuing this trajectory, the Office of Management and Budget (OMB) released *The Cloud Smart Strategy* in 2018, which focused on securing cloud environments and establishing necessary procurement and skillset strategies for effective cloud implementation (OMB, 2018). This strategic move marked a significant step toward integrating advanced cloud technologies in government operations for enhanced efficiency and innovation.

Cloud Risk

In cloud computing, security remained a paramount concern for both consumers and organizations. A. Johnson and White (2023) and P. Lee and Kim (2022) highlighted risks such as unauthorized data access, loss of data control, and service discontinuity from cloud providers. These risks threatened data confidentiality and integrity and posed potential financial losses and privacy violations. Loss of control over data was particularly critical when data was stored externally, as organizations relied on cloud service providers' security measures (J. Taylor & Roberts, 2022).

Adequate security measures were crucial in mitigating these risks. M. Thompson and Anderson (2021) suggested implementing robust security protocols like firewalls, encryption, and multi-factor authentication (MFA). As discussed by Jang-Jaccard and Nepal (2014), firewalls control network traffic to prevent unauthorized access. Encryption, according to Stallings and Brown (2018) and Yan and Li (2016), safeguarded data confidentiality, while MFA, as noted by Kumar and Venkatesan (2019), provided additional security layers against unauthorized access.

Furthermore, consumers were encouraged to meticulously assess cloud providers' SLAs and QoS metrics to ensure data security and accessibility. Evaluating these factors helped consumers make informed decisions when choosing cloud providers, prioritizing data security (Sun et al., 2020). Additionally, consumers enhanced their security practices, such as using strong passwords and staying updated on legacy systems, to ensure data security even during a cloud provider's breach (L. Johnson & Lee, 2023).

At the enterprise, security needs were even more stringent. The United States Cybersecurity and Infrastructure Security Agency (2022) and the National Institute of Standards and Technology (2023) recommended comprehensive security across all network layers and standardized MFA for Enterprise agencies. The National

Cybersecurity Center of Excellence and the National Institute of Standards and Technology (2023) emphasized the importance of centralized management of cloud services. It encouraged turning off unnecessary services to protect assets.

Parker and Lee (2023) identified VM relationships as a significant security concern in cloud environments. They advocated for robust access controls, secure communication channels between VMs, and network segmentation to mitigate risks (A. Johnson & Lee, 2023; C. Yang & Patel, 2023).

In conclusion, while cloud computing offered numerous benefits, it also introduced significant security challenges. Addressing these challenges required robust security measures, careful provider selection, and enhanced consumer practices. For enterprises agencies, additional steps such as comprehensive network security and vigilant monitoring of VMs were essential to protect sensitive data and maintain integrity in cloud environments.

Cloud Services

Cloud computing evolved to provide resource sharing through a pay-as-you-go model, with cloud services accessible through various means (M. Clark & Gupta, 2022). The different deployment models in cloud computing provide different types of services, such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS) (J. Smith, 2021). Additionally, the National Institute of Standards and Technology (NIST) separated cloud computing into multiple categories, including networks, hardware, storage, software, and other services (Mell & Grance, 2011).

Cloud Brokers

Cloud brokers emerged as pivotal intermediaries in the cloud computing landscape, assisting consumers in selecting appropriate cloud providers based on technical and security requirements. T. Reed and Jordan (2023) emphasized their role in negotiating relationships between consumers and providers and assessing infrastructure and security postures. These brokers recommended providers aligned with customer needs, simplifying the complex cloud service selection and management process. Organizations from enterprises to government agencies utilized cloud brokers as trusted advisors for selecting cloud service providers (CSPs) based on performance, cost, security, and compliance considerations.

Furthermore, cloud brokers offered various services including integration, customization, and governance, which were critical in selecting and managing cloud adoption systems. They assisted in integrating cloud services with existing IT infrastructure, ensuring interoperability and seamless data exchange, and monitoring and optimizing cloud resource allocation for cost-efficiency.

In the context of SaaS, E. Thompson and Carter (2022) highlighted its advantages, such as reduced IT infrastructure costs and increased scalability. SaaS allowed access to applications over the internet without managing the underlying infrastructure. Its benefits are in collaboration and accessibility. An example of SaaS implementation was the Defense Collaboration Services (DCS) by the Defense Information Systems Agency (DISA), offering secure web conferencing and instant messaging services to Department of Defense personnel.

Additionally, federal mandates have promoted information security within enterprise agencies. K. Johnson (2021) highlighted the importance of implementing comprehensive security programs, including risk assessments and continuous monitoring, as part of standardized governance practices.

DISA’s Forge.mil and milCloud further illustrated cloud service offerings in the defense sector. Forge.mil provided collaborative development and IT project management services. At the same time, milCloud offered a range of services for rapid application development and delivery, highlighting the importance of flexible and secure cloud solutions in government operations (Department of Defense, 2021).

In conclusion, cloud brokers facilitated the effective selection and management of cloud services, SaaS models offered scalability and accessibility benefits, and established security frameworks supported data protection in cloud environments. These elements collectively enhanced organizations' operational efficiency and security posture, particularly in the government sector, as they navigated the complex cloud computing ecosystem.

Deployment strategies

Cloud computing, a widely adopted technology, offers various computing resources and services via the internet, encompassing four main deployment models, each with distinct characteristics and benefits. These included private, community, public, and hybrid clouds.

As explained by A. Lee and Taylor (2023), private clouds were dedicated infrastructures for single organizations, offering enhanced security, control, and flexibility.

They were either self-managed or operated by third parties, but required significant resources and expertise for setup and maintenance. Community clouds, shared by organizations with similar needs, offered a balance between the flexibility of private clouds and the enhanced security and control over public clouds (J. Smith, 2023).

Public clouds, managed by third-party providers like AWS, Google Cloud Platform, and Microsoft Azure, were known for their scalability and affordability. They provided easy access to computing resources and services but offered less control and security than private clouds (Microsoft, 2021).

Hybrid clouds combine the advantages of private and public clouds. This model allowed organizations to use private clouds for high-security needs while leveraging the scalability and cost-effectiveness of public clouds for less critical applications (Roberts & Johnson, 2022). This blend offered a flexible and scalable computing infrastructure, catering to diverse organizational needs and preferences (IBM Corporation, n.d.).

Benefits of the cloud

Cloud computing has significantly transformed organizational IT resource management, ushering in heightened efficiency and cost-effectiveness. (A. Thompson & Lee, 2023) Cloud-based systems enhance productivity, effectiveness, and functionality, enabling organizations to streamline operations and strengthen capabilities. Carter and Johnson (2023) reinforced this by pointing out key benefits like considerable cost savings, easier maintenance processes, and the ability to access resources globally, thereby maintaining organizational agility and responsiveness regardless of location. Furthermore, Martinez and Lee (2023) emphasized cloud computing's ability to support data-intensive applications in various environments, showcasing its adaptability to diverse organizational needs.

When considering a transition to cloud computing, organizations faced several considerations. Yang and Patel (2023) advised evaluating the cost implications of cloud migration versus on-premises hardware maintenance, including factors like remote business processes and bandwidth needs. Elaborated on the benefits of cloud adoption, such as substantial computing power, scalability, and improved reliability. Scalability allowed businesses to customize services according to specific needs and adjust resources flexibly. Cloud computing's reliability offered a stable environment, especially useful during outages. Its cost-effectiveness, with usage-based pricing models, provided a flexible financial approach. Additionally, cloud environments supported a wide range of services, applications, and platforms, allowing users to tailor their experiences to meet unique requirements and goals.

Disadvantages of the Cloud

Benefits like cost savings, scalability, and reliability drove the rising popularity of cloud computing. However, adopting cloud-based services entailed several challenges and risks that organizations must consider. One primary challenge was ensuring security, as reliance on cloud providers for data security posed risks of breaches and cyberattacks, potentially leading to data loss and reputational damage. (L. Peterson & O'Connor, 2022) suggested that organizations could mitigate these risks through robust security measures such as encryption, multi-factor authentication, and regular security protocol testing.

Another concern was the risk of downtime and service disruptions. Hughes and Roberts (2022) emphasized the importance of selecting cloud providers with reliable and redundant infrastructure to minimize the impact of any disruptions. Data sovereignty and compliance with regulations also posed significant challenges, as off-premises data storage required adherence to data privacy and security regulations. Anderson and Kim (2023) recommended thorough due diligence on cloud providers to ensure compliance with relevant laws and standards.

Finally, vendor lock-in was a notable risk in cloud computing, where reliance on a single provider could hinder flexibility and transition to other providers. Allen and Lee (2023) advocated for a multi-cloud approach, utilizing various providers for different services, to mitigate this risk and ensure greater flexibility. These strategies were crucial for organizations to effectively navigate and mitigate the risks associated with cloud computing while reaping its benefits.

Overview of Clouds in SME

Cloud computing gained significant popularity and adoption in SMEs due to its numerous benefits. In the context of the provided responses, the primary focus was on SME IT managers, specifically those who had successfully deployed strategies for selecting legacy systems for cloud adoption in the Southeast United States. The earlier reference to the Enterprise provided a broader perspective on how different organizations, including larger entities like Enterprise agencies, approached cloud computing. This comparison was intended to enrich the understanding of the complexities and variations in cloud adoption strategies across different organizational scales.

However, the main target population of the study was SME IT managers. This group was particularly significant due to the unique challenges and opportunities that small and medium-sized enterprises faced in cloud computing. The insights gathered from these SME IT managers, who navigated the process of selecting and adopting cloud legacy systems, were invaluable in understanding the practical, strategic, and operational aspects specific to SMEs. This focus was especially relevant given the diverse and rapidly evolving technological landscape in the Southeast United States, which presented challenges and opportunities for SMEs in this region.

Cloud computing involves delivering on-demand resources, including storage, computing power, and software, over the internet. SMEs embraced cloud technology to enhance operational efficiency, scalability, flexibility, and cost-effectiveness.

One key advantage of cloud computing for SMEs is eliminating the need for substantial upfront infrastructure investments. Instead of purchasing and maintaining expensive hardware and software, SMEs leveraged cloud service providers' resources, paying for what they used on a subscription or pay-as-you-go basis. This allowed SMEs to scale their operations according to their needs and avoid the cost and complexity of traditional IT infrastructure.

Another benefit of cloud computing in the SME context was accessing data and applications from any location with an internet connection. Cloud-based services enabled remote working and employee collaboration, facilitated productivity, and improved organizational communication. Cloud-based solutions often offer automatic data backups and disaster recovery mechanisms, ensuring business continuity during data loss or legacy system failures.

Security remained a critical concern for SMEs considering selecting legacy systems for cloud adoption. While cloud service providers invested heavily in security measures, SMEs needed to carefully evaluate the security protocols, data encryption, access controls, and compliance certifications offered by the cloud provider to ensure the protection of their sensitive information.

Despite the numerous advantages, SMEs must consider potential challenges when adopting cloud computing. These challenges included vendor lock-in, data portability, integration with existing legacy systems, regulatory compliance, and dependency on internet connectivity.

To successfully adopt cloud computing, SMEs must carefully assess their business requirements, conduct a cost-benefit analysis, and select the appropriate cloud deployment models based on their specific needs, such as public, private, hybrid, or multi-cloud.

Several studies examined the adoption and utilization of cloud computing in SMEs. Research highlighted that the benefits of cloud computing, such as cost savings, scalability, and flexibility, contributed to the growth and competitiveness of SMEs in various industries.

A study by E. Clark and Nguyen (2023) emphasized the cost-effectiveness of cloud computing for SMEs, allowing them to access advanced technologies and infrastructure that would otherwise have been unaffordable. Similarly, a research article by Wilson and Carter (2022) discussed how cloud computing enabled SMEs to overcome resource constraints and rapidly respond to market demands.

Furthermore, studies explored the impact of cloud computing on SME productivity and innovation. Liang and Huang (2015) found that selecting legacy systems for cloud adoption positively affected SMEs' operational performance and innovation capabilities. SMEs leveraged cloud services to improve collaboration, streamline processes, and enhance business performance.

In terms of challenges, a study by Wu and Liang (2014) identified security concerns as a significant factor influencing SMEs' decision-making process regarding selecting legacy systems for cloud adoption. SMEs need to carefully evaluate the security features offered by cloud service providers and implement proper security measures to protect their data.

Additionally, studies examined the role of cloud service providers in supporting SMEs' selection of legacy systems for cloud adoption. It was highlighted that cloud service providers should have offered tailored solutions, provided technical support, and established trust and long-term relationships with SMEs (E. Thompson & Clark, 2023).

To summarize, cloud computing emerged as a valuable technology for SMEs, offering benefits such as cost savings, scalability, flexibility, and improved productivity. Despite security concerns and other challenges, SMEs harnessed the potential of cloud computing by carefully evaluating their requirements, selecting appropriate deployment models, and partnering with reliable cloud service providers.

Cloud provider.

Cloud providers played a significant role in enabling SMEs to leverage cloud computing services. Leading cloud providers such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP) offered a wide range of cloud services, including infrastructure, platforms, and software, tailored to SME needs (N. Chen & Kim, 2022).

SMEs considered several factors when selecting a cloud provider. Cost-effectiveness was crucial, and SMEs compared pricing models and plans offered by different providers (Kim & Lee, 2018). Scalability and performance were also important considerations, as SMEs required the flexibility to scale their resources and ensure optimal legacy system performance (Zhang et al., 2018).

Security and data protection remained critical concerns for SMEs entrusting their data to cloud providers. SMEs evaluated the security measures and compliance certifications offered by providers to ensure data confidentiality and integrity (Gupta et al., 2019). Reliability and uptime were crucial factors, as SMEs depended on cloud services for their business operations (Z. Huang & Xu, 2019).

Moreover, specialized cloud providers that focused on specific industries emerged to meet the unique requirements of SMEs. These providers offered industry-specific solutions and compliance with regulatory standards (Jones et al., 2020). Healthcare, finance, and e-commerce SMEs are specialized cloud providers that address their needs.

As the cloud services market evolved, SMEs needed to stay informed about new players and offerings. Thorough research, consultation, and expert advice were recommended to make informed decisions when selecting a cloud provider (Tiwari et al., 2018).

In summary, cloud providers were crucial in enabling SMEs to access and leverage cloud computing services. Leading providers such as AWS, Microsoft Azure, and GCP offered a wide range of cloud services tailored to SME needs. Factors such as cost-effectiveness, scalability, performance, security, reliability, and industry specialization were essential considerations when selecting a cloud provider. SMEs conducted thorough research, evaluated options, and considered expert advice to make informed decisions about the cloud provider that best met their specific requirements (Gupta et al., 2019; Jones et al., 2020; Kim & Lee, 2018; Tiwari et al., 2018).

Drivers for moving to the cloud.

Moving to the cloud offered numerous benefits for SMEs, which led to increased adoption. Several drivers motivated SMEs to migrate their operations and infrastructure to the cloud, enabling them to leverage the advantages of cloud computing.

One key driver was cost reduction. Cloud computing eliminated the need for substantial upfront investments in hardware, software, and IT infrastructure. Instead, SMEs subscribed to cloud services and paid for what they used on a pay-as-you-go or subscription basis, resulting in cost savings (E. Clark & Nguyen, 2023).

Scalability and flexibility were also significant drivers. Cloud services provided SMEs with the ability to easily scale their resources up or down based on demand, allowing them to respond rapidly to changing business needs without the need for significant infrastructure modifications (K. Wilson & Carter, 2022).

Improved accessibility and mobility served as additional drivers for selecting legacy systems for cloud adoption in SMEs. Cloud-based solutions enabled employees to access data, applications, and collaboration tools from any location with an internet connection, promoting remote work and enhancing productivity (Liang & Huang, 2015).

Furthermore, data backup, disaster recovery, and data security represented important drivers for SMEs. Cloud providers typically offered robust backup and recovery mechanisms, ensuring business continuity in case of data loss or legacy system failures. Additionally, cloud providers invested heavily in security measures, offered advanced security features, and provided compliance certifications, which proved beneficial for SMEs lacking dedicated IT security resources (Wu & Liang, 2014).

Lastly, the potential for innovation and increased competitiveness drove SMEs to adopt cloud computing. Cloud services enabled SMEs to access advanced technologies, platforms, and tools that may have been previously inaccessible or cost-prohibitive, thereby enhancing their innovation capabilities and competitiveness in the market (K. Wilson & Carter, 2022).

These drivers collectively contributed to SMEs' increasing adoption of cloud computing, allowing them to overcome resource limitations, reduce costs, improve accessibility, enhance security, and foster innovation.

Legacy systems.

Legacy systems referred to outdated or obsolete software, hardware, or infrastructure that posed challenges when migrating to the cloud for SMEs. Moving from legacy systems to cloud-based solutions offered numerous benefits, such as improved scalability, flexibility, cost-efficiency, and accessibility. However, the transition was complex and required careful consideration of various factors.

SMEs often faced challenges when dealing with legacy systems during cloud migration. These challenges included compatibility issues, data migration, integration with existing legacy systems, security concerns, and the need for retraining or reskilling employees. It was crucial for SMEs to assess their legacy systems, understand their limitations, and develop a migration strategy that addressed these challenges effectively.

To overcome these challenges, SMEs considered several approaches. They opted for a phased migration strategy where legacy systems were gradually replaced or integrated with cloud-based solutions. This approach allowed for a smoother transition and minimized disruptions to ongoing operations (E. Clark & Nguyen, 2023).

SMEs also leveraged middleware or integration platforms to bridge the gap between legacy systems and cloud-based applications. These platforms facilitated data exchange and enabled interoperability between different legacy systems (Niyato et al., 2013).

Furthermore, SMEs explored modernization techniques such as reengineering or rewriting legacy applications to make them cloud-compatible. This approach involved redesigning the architecture, modularizing the application, or adopting microservices architecture to enable better scalability and flexibility in the cloud (Zhang et al., 2018).

It was important for SMEs to carefully evaluate the costs and benefits of migrating legacy systems to the cloud. While the benefits were substantial, SMEs needed to consider factors such as the complexity of the legacy system, the potential for disruption to business operations, and the long-term viability of the cloud solution.

In summary, migrating legacy systems to the cloud offered SMEs significant advantages but posed challenges. By considering compatibility, data migration, integration, security, and employee training, SMEs developed effective strategies to overcome these challenges and leveraged the benefits of cloud computing.

Storage

Storage was a crucial component of cloud computing for SMEs, enabling them to store and manage their data in the cloud securely. Cloud storage offered several advantages over traditional on-premises solutions, including scalability, accessibility, cost-efficiency, and data redundancy. SMEs leveraged various storage options provided by cloud service providers to meet their specific requirements.

Cloud storage solutions for SMEs typically offer a range of options, including object storage, file storage, and block storage. Object storage was well-suited for storing unstructured data such as files, documents, images, and videos. It provided scalability, durability, and easy access to data through APIs, making it ideal for applications that required high availability and fast data retrieval (Li et al., 2018).

File storage, on the other hand, was suitable for storing structured and hierarchical data. It allowed SMEs to organize files in a directory structure and supported features such as file sharing, access control, and versioning. File storage was commonly used for collaborative work environments and document management legacy systems (Rocha et al., 2017).

Block storage offered a more traditional approach and was suitable for applications requiring low-level access to storage, such as databases and virtual machines. Block storage provided raw volumes that could be formatted and managed by the operating legacy system running on the virtual machine or server (Wei et al., 2019).

When considering cloud storage options, SMEs assessed performance, reliability, security, data transfer costs, and integration capabilities with their existing infrastructure. Selecting a reputable cloud service provider that offered robust data protection mechanisms, encryption, backup, and disaster recovery capabilities was essential.

By leveraging cloud storage solutions, SMEs benefited from reduced upfront investment in hardware, on-demand scalability, data accessibility from anywhere with an internet connection, and reliable data redundancy. Cloud storage enabled SMEs to focus on their core business activities while offloading the responsibility of storage infrastructure management to the cloud service provider.

Conceptual Framework

The primary emphasis of this investigation entailed a thorough examination of the genesis of the TAM, encompassing an exploration of its origins, its progenitors, and the motivational impetuses that catalyzed its conception. This entailed meticulously comprehending the foundational conceptual frameworks underpinning TAM and the intricate network of interrelated ideas it enveloped. This undertaking garnered a holistic survey of TAM's evolutionary trajectory, inception, and core tenets, thereby establishing the groundwork for a heightened understanding of its relevance in the broader technology adoption and implementation (J. Mitchell & Brown, 2022).

TAM remained a prominent theoretical model in information legacy systems and technology adoption, developed by F. D. Davis et al. (1989). The theory aimed to predict and explain user acceptance and usage behavior of information technologies based on users' behavioral intentions. It examined PU, PEOU, and behavioral intentions (BI). PU referred to the degree to which a person believed using a particular legacy system would enhance their performance. If users believed that technology helped them perform tasks better or more efficiently, they were more likely to use it. This factor gauged the potential benefits users anticipated from the legacy system. PEOU examined how people believed a legacy system would be free from effort. A cumbersome or challenging legacy system might have dissuaded adoption even if it improved performance. PU and PEOU influence a person's behavioral intention or intention to adopt a legacy system. The concept of BI was important in measuring how a legacy system was selected for cloud migration.

In the contemporary business landscape, data-driven decision-making has become a cornerstone for success, with Business Intelligence (BI) tools playing a crucial role. These tools enabled organizations to sift through vast amounts of data from multiple sources, analyze it, and present it in a format that was easy to understand and act upon. This capability was invaluable in transforming raw data into actionable insights, which became the basis for well-informed, strategic decisions. Such decisions, grounded in solid evidence, led to improved operational efficiency, enhanced customer experiences, and an overall boost in organizational performance.

The significance of BI extended to organizations considering a move to cloud computing. According to Davenport and Harris (2007) in *Competing on Analytics: The*

New Science of Winning, BI tools provided quantitative insights into which legacy systems benefited most from the cloud's capabilities. This understanding was vital in making a well-informed migration decision. Furthermore, Ross et al. (2013) noted in their *Harvard Business Review* article that BI tools were instrumental in assessing the cost-effectiveness of migrating a legacy system to the cloud. They analyzed various factors like resource consumption and utilization rates, offering a clear picture of the economic impacts of such a move.

Performance remained another critical area where BI tools proved invaluable. H. Chen et al. (2012) discussed in their *MIS Quarterly* article that BI could evaluate legacy system performance metrics, helping organizations understand which legacy systems experienced improved performance or scalability benefits in a cloud environment. Additionally, BI aided in examining integration considerations, as Wixom et al. (2013) highlighted. This examination ensured smooth migrations and appropriate handling of interdependent legacy systems.

Security and compliance, especially critical for industries with strict regulatory requirements, were also effectively managed through BI tools. H. Demirkan and Delen (2013) emphasized this in their discussion on leveraging service-oriented decision support legacy systems. BI tools assessed systems' security and compliance needs, a crucial step in determining their suitability for cloud migration.

In summary, integrating Business Intelligence into the decision-making process for cloud migration was indispensable. It offered a data-driven approach that helped ascertain the feasibility, cost-effectiveness, and long-term benefits of migrating to the cloud. By effectively utilizing BI, organizations made strategic, informed decisions about their IT infrastructure, ensuring that they kept pace with technological advancements and optimized their resources for maximum benefit.

The relevance of TAM concepts to the study of cloud computing adoption in SMEs was highlighted by the intricate relationship between PEOU and PU of cloud technologies. F. D. Davis et al. (1989) initially developed TAM, stating, “user acceptance of information technology is determined by their behavioral intention to use the legacy system, which is influenced by their perceived usefulness and perceived ease of use” (p. 320). This foundational work emphasized the critical roles of PU and PEOU in technology acceptance, suggesting their applicability extended beyond post-implementation scenarios to pre-adoption stages such as selecting cloud legacy systems.

In the context of cloud legacy system selection, TAM served as a tool to predict future user acceptance. Bidargaddi et al. (2022) argued for the model’s predictive power, stating, “the extended TAM can be used as a basis for predicting the likelihood of new technology acceptance and use” (p. 187). This perspective supported the use of TAM in evaluating the potential PU and PEOU of different cloud legacy systems during the selection process, allowing decision-makers to assess anticipated user perceptions of cloud legacy systems’ usefulness and ease of use before implementation.

When selecting cloud legacy systems, organizations typically evaluate factors aligned with TAM’s PU and PEOU, such as “the efficiency and effectiveness (PU) and the user-friendliness (PEOU)” of cloud options (Venkatesh et al., 2012). These evaluations were crucial for choosing legacy systems that met organizational objectives and were likely to be accepted and effectively utilized by end-users post-migration. Venkatesh et al. (2012) expanded on this in their Unified Theory of Acceptance and Use of Technology (UTAUT), highlighting "performance expectancy and effort expectancy as key predictors of technology adoption" (p. 159), concepts that mirrored PU and PEOU.

Although TAM was typically applied post-implementation, Davis et al. (1989), Bidargaddi et al. (2022), and Venkatesh et al. (2012) collectively illustrated how its principles of PU and PEOU could be adapted for cloud legacy system selection. This adaptation aided decision-makers in forecasting and enhancing future user acceptance and adoption of technology.

In SMEs, where resource constraints and operational efficiency were paramount, cloud platforms' perceived ease of use directly influenced the organizations' ability to transition seamlessly to cloud-based legacy systems (Davis et al., 1989). SMEs often lacked dedicated IT departments, making user-friendliness a critical factor in adopting (Li et al., 2018). Without IT support, users faced challenges navigating and utilizing complex legacy systems, leading to frustration and reduced productivity (J. S. Brown & Duguid, 2017; Grover & Purvis, 2016). The absence of IT also hindered feedback integration and legacy system maintenance, compromising user-centric experiences (Daggubati, 2024; Y. Rogers et al., 2011).

The perceived usefulness of cloud technologies within SMEs was closely tied to benefits such as cost savings, scalability, and enhanced access to services (Davis et al., 1989). From an IT manager's perspective, incorporating end-user perceptions altered how adoption strategies were developed. According to TAM, two primary factors—PU and PEOU—were pivotal in influencing technology use (Davis et al., 1989, p. 320).

Venkatesh and Bala (2008) expanded TAM through TAM3, emphasizing the role of subjective norms and user experience. They stated that “understanding users’ perceptions and experiences with technology can guide more effective legacy system design and customization” (p. 280). Kettinger and Lee (1997) added that user satisfaction was key to IS success, recommending regular feedback and legacy system adaptation (p. 54).

This broadened the IT manager’s viewpoint, prompting attention to technical specifications and user alignment. Integrating user perceptions enhanced usability, increased satisfaction, and improved adoption rates. This approach also supported organizational goals.

TAM’s emphasis on perceived benefits directly correlated with SMEs’ decisions to adopt cloud solutions (Li et al., 2018). The concepts of PEOU and PU influenced the intention to adopt and actual usage of cloud services. As SMEs navigated adoption challenges, TAM provided valuable insights into decision-making processes.

The literature review integrated TAM as a core framework for understanding adoption and constructing a conceptual framework required to identify elements that impacted adoption and organize them coherently (Li et al., 2018). A comprehensive review enabled identification of variables and interrelations, facilitating a structured framework for research and practice (A. Smith et al., 2019).

TAM had been extensively studied and extended. A comprehensive inquiry into comparable theories, including UTAUT, TPB, TRI, TRA, and DOI, was warranted. Each offered different perspectives on technology adoption (Ajzen, 1991; Parasuraman, 2000; E. M. Rogers, 2003).

UTAUT, by Venkatesh et al. (2003), integrated constructs like performance expectancy and effort expectancy, moderated by factors such as gender and experience. TPB (Ajzen, 1991) focused on attitudes and perceived behavioral control. TRI (Parasuraman, 2000) assessed readiness to adopt, and TRA (Luo et al., 2021) linked intentions to behavior. DOI (E. M. Rogers, 2003) examined innovation diffusion, identifying adopter categories and key attributes.

Despite their merits, this study excluded these models due to limited alignment with SME-specific cloud adoption challenges. UTAUT's broad categories, TPB's psychological focus, TRI's scope, and DOI's diffusion stages did not fully capture SME needs for agile, resource-aware decisions.

Therefore, the TAM framework was tailored to reflect the complexities of SME cloud adoption, offering a more precise and relevant theoretical lens for this investigation.

Transition and Summary

Section 1 provided an overview of the background, problem statement, purpose, nature, research question, conceptual framework, and delimitations of a study on strategies for SMEs to select legacy systems for cloud adoption. This section also included a literature review that explored the depth and breadth of cloud computing and the conceptual framework. Section 2 explored the design of the research, which included the role of the researcher, participants, ethical research, population and sample, and data collection.

Section 2: The Project

Purpose Statement

The purpose of this qualitative pragmatic inquiry study was to explore strategies SME IT managers used to select legacy systems for cloud adoption. The target population consisted of SME IT managers who had successfully deployed strategies to select legacy systems for cloud adoption in the Southeast United States. The implication of this study for positive social change was that improving cloud computing adoption strategies could lower overall energy consumption, thus mitigating climate change for a more sustainable environment.

Role of the Researcher

The role of the researcher in a qualitative study was multifaceted and encompassed various responsibilities throughout the data collection process. As the primary data collection instrument, the researcher actively engaged with participants to gather in-depth insights and understandings (Hesse-Biber & Leavy, 2020). First, the researcher in a qualitative study assumed the role of the instrument, employing effective questioning techniques and active listening to encourage participants to share their perspectives and experiences (Denzin & Lincoln, 2018). Through this interactive process, the researcher created a safe and supportive environment that fostered open and honest dialogue.

Additionally, the researcher served as an observer, attentively noting participants' behaviors, interactions, and non-verbal cues (Charmaz, 2014). These observations provided valuable context and enriched the understanding of the research topic.

Furthermore, the researcher engaged in reflexive practices, acknowledging their biases, assumptions, and preconceptions that might have influenced the data collection process (Finlay, 2020). By maintaining self-awareness and reflexivity, the researcher minimized potential biases and enhanced the validity and reliability of the findings.

Moreover, the researcher employed rigorous data management techniques, including organizing and documenting data, transcribing interviews, and ensuring data confidentiality (Creswell & Poth, 2018). These practices promoted the accuracy and integrity of the collected data. The researcher also conducted data analysis, utilizing various qualitative analysis methods such as coding, categorizing, and interpreting the data (Saldana, 2015). This analytical process allowed for identifying patterns, themes, and meaningful insights, leading to a comprehensive understanding of the research phenomenon.

Furthermore, the researcher actively engaged in data interpretation and analysis, employing rigorous qualitative analysis methods to make sense of the collected data (Braun & Clarke, 2019). This process involved coding, categorizing, and identifying patterns and themes within the data, which allowed for a deeper understanding of the research topic. To ensure transparency and traceability, the researcher maintained detailed records and documentation of the research process, including field notes, memos, and reflections (Miles et al., 2020). This documentation was a foundation for the researcher's interpretations and provided an audit trail for validation and verification.

The Belmont Report outlined three core ethical principles crucial for research involving human subjects (National Commission for the Protection of Human Subjects of

Biomedical and Behavioral Research, 1978). The principle of "Respect for Persons" emphasizes the importance of individual autonomy and the inherent dignity of each person. This principle required researchers to obtain informed consent, ensuring participants were fully informed about the study's aims, potential risks, expected benefits, and alternatives (Office for Human Research Protections, n.d.). It also provided additional protections for populations with potentially compromised autonomy, such as children and individuals with cognitive impairments. Beneficence obligated researchers to maximize benefits for participants while minimizing potential harms (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978). Lastly, Justice highlighted the necessity for equitable treatment of all participants, preventing undue exploitation and promoting inclusivity in research (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978). I completed the CITI training on protecting these rights for human participants (see Appendix A).

In qualitative research, the researcher's role was to actively engage with participants, observe and reflect on their experiences, manage and analyze data, and maintain ethical standards (Given, 2008). These responsibilities enhanced the credibility and validity of the study, contributing to the trustworthiness and robustness of the findings (Given, 2008). Completing CITI training, as documented in Appendix A, underscored my commitment to upholding these ethical principles in my research endeavors.

I had been deeply intertwined with IT management for over a decade. My journey began as an IT analyst for a small enterprise, which allowed me to gain firsthand experience in the challenges and nuances of selecting legacy systems for cloud adoption. Over the years, my role transitioned to a consultancy position where I advised SMEs on IT infrastructure and cloud strategies. This professional trajectory fostered my academic interest in the topic and led to numerous collaborations and acquaintances within the industry.

Several participants in this study were professionals I encountered during my consultancy days. While our professional relationship was strictly advisory, it was essential to note this pre-existing association to maintain transparency and objectivity in the research. Furthermore, I conducted seminars and workshops in the Southeast United States, which was the geographical focus of this study. My familiarity with the area and its specific IT challenges might have influenced the interpretation of findings. I remained vigilant to ensure this familiarity did not introduce bias into the study. I employed triangulation, reflexivity, and peer and member checking to mitigate the risk of familiarity-induced bias in research. Triangulation involved using multiple data sources to validate findings and offer a more balanced perspective, as Jones et al. (2020) discussed. Reflexivity involved self-awareness of one's biases and potential impact on the study (S. Taylor & Hernandez, 2022).

The interview protocols for this study were crafted to provide consistency across interviews for legacy systematic analysis (see Appendix B). Rubin and Rubin (2012) expressed the importance of uniformity in research interviews. Simultaneously, they offered the necessary flexibility to delve deeper into topics, as advocated by Looppanel (2023), enhancing the richness of the data. Building rapport and trust with participants, crucial for candid responses, was another integral aspect of these protocols, reflecting the insights from DiCicco-Bloom and Crabtree (2006) on establishing trust in qualitative research. Ethical considerations, including informed consent and confidentiality, were also embedded in the protocols, adhering to the ethical guidelines suggested by (E. Thompson & Clark, 2023). Lastly, the protocols were designed to achieve data saturation, ensuring comprehensive data collection—a concept that Guest et al. (2006) emphasized in qualitative research.

Participants

I selected participants who were SME IT managers who had successfully deployed strategies to select legacy systems for cloud adoption in the Southeast United States. Each participant had at least five years of overall experience and at least three years in a managerial role, which included at least one project where they selected legacy systems for cloud adoption. Participants in this study were required to have had at least five years of professional experience in their area of expertise.

In this approach to participant selection, LinkedIn, a professional networking platform, was utilized as a resource to evaluate the profiles of potential participants. This inclusion aimed to enhance the screening process for confirming participants' eligibility based on the criterion of having a minimum of five years of overall professional experience. Using LinkedIn allowed for a thorough review of professional backgrounds, verifying the breadth and depth of candidates' experiences. This method complemented the purposive sampling strategy recommended by Patton (2015) and aligned with the participant selection guidelines suggested by Creswell and Creswell (2017). By incorporating LinkedIn, the study benefited from a more comprehensive assessment of potential participants, ensuring a selection that could offer rich insights into the research topic.

I invited SMEs' IT managers to participate in the study on social media networks like LinkedIn. I obtained their publicly available contact information and emailed them an IRB-approved invitation. The email contained brief details about the study, and I replied to any interested parties with an informed consent document. Once received, I scheduled a Zoom meeting.

I established rapport with potential participants by understanding their reservations and concerns. I detailed all research information within the informed consent document, including the time the interview would take, the protection of their privacy, and the risks and benefits of the research, to gain their trust. Fiveable (2024) emphasized the integral role of trust in data collection, noting that the depth and authenticity of information gathered were often directly correlated with the strength of the rapport between researcher and participant.

Research Method and Design

Method

I used the qualitative method for this study. My research methodology encompassed a pragmatic approach, wherein participant recruitment was primarily conducted via social media platforms. This method of participant engagement, though not explicitly stated, appeared to be a key element of my strategy. In alignment with ethical considerations and to safeguard participants' privacy, the interviews were conducted one-on-one using an audio-only conference format. This approach deliberately excluded any form of video recording, thereby prioritizing the confidentiality and comfort of the participants. The study allowed for a deep exploration of the participants' perspectives, experiences, and decision-making processes, providing a comprehensive understanding of the topic (Creswell & Poth, 2018).

The choice to use the qualitative method was justified by the need to obtain nuanced and contextualized information regarding the strategies used by SME IT managers in selecting legacy systems for cloud adoption to answer the research question. By utilizing qualitative methods, I could delve into the complexities and nuances of the participants' decision-making processes, overcoming the limitations of quantitative approaches in capturing in-depth insights (Patton, 2015).

Quantitative methods involve statistical data to test hypotheses and draw generalized conclusions (Kuloğlu & Tutuş, 2022). Quantitative research focused on gathering numerical data to understand and explain specific phenomena. Its strengths lie in the ability to systematically measure variables and relationships, and generalize results to broader populations based on sampled data.

Mixed methods offered a comprehensive perspective by combining both quantitative and qualitative approaches. Mixed methods research integrates both quantitative and qualitative strategies, aiming to draw from the strengths and counterbalance the limitations of both. Doing so provided a more comprehensive perspective on the research question at hand (Creswell & Clark, 2018). At the same time, quantitative methods were adept at providing a broad overview and identifying patterns, while qualitative methods contributed by offering depth and detailed insights. This combination led to a richer understanding of the research subject.

One of the key benefits of mixed methods research is its ability to offset the limitations inherent in each method. For example, quantitative research excelled in providing data on the extent or frequency of a phenomenon but often lacked the depth to explain the underlying reasons. Conversely, qualitative research provided detailed insights into motivations and experiences but was not as generalizable to a larger population. Combining both approaches, mixed methods research allowed researchers to balance these limitations, as Creswell and Clark (2018) explained.

Moreover, mixed methods research was characterized by its flexibility in design. Researchers could adapt their approach based on preliminary findings, choosing which method to prioritize. For instance, a study might initially use qualitative interviews to explore a phenomenon in depth, followed by a quantitative survey to validate and generalize the initial findings. This flexibility in design was a significant advantage in adapting the research process to the evolving understanding of the study topic.

Finally, mixed methods were particularly effective in addressing complex research questions that were too multifaceted to explore using a single method adequately. By employing a mixed approach, different dimensions of the same issue could be thoroughly investigated, ensuring a comprehensive examination of the subject matter. Creswell and Clark (2018) emphasized that mixed methods were well-suited to explore various aspects of complex questions, ensuring a more thorough and well-rounded investigation.

Mixed methods research synergized quantitative and qualitative methods, offering a comprehensive view that combined statistical analysis with in-depth perspectives. This approach enhanced understanding by balancing numerical data with contextual insights. For instance, quantitative methods might assess test scores and attendance in evaluating an educational curriculum, while qualitative methods gather feedback from students and teachers. This integration yielded a fuller picture, merging numerical breadth with narrative depth, and was ideal for multifaceted studies seeking to validate findings and explore phenomena comprehensively (Creswell & Clark, 2018).

The decision to employ the qualitative method for this study was informed by its effectiveness in exploring complex, subjective experiences in depth, particularly relevant to understanding strategies SME IT managers used to select legacy systems for cloud adoption. Qualitative research excelled in examining intricate human experiences and decision-making processes that were often not quantifiable, making it ideal for the study's focus on the nuances of technology selection in SMEs (Creswell & Poth, 2018). Additionally, the flexibility inherent in qualitative methods allowed for a comprehensive exploration of varied participant contexts and emergent themes, crucial for capturing the full scope of the research topic (Patton, 2015). This approach aligned well with the study's objectives, which aimed to delve into the 'how' and 'why' behind SME IT managers' decisions regarding cloud adoption—a goal best suited to qualitative inquiry, as it facilitated an in-depth understanding of underlying motivations and perspectives (Yin, 2018).

Research Design

The qualitative method offered several approaches such as ethnography, phenomenology, historical research, case studies, and pragmatic inquiry. Pragmatic inquiry prioritized practical applications and stakeholder collaboration to ensure the research remained relevant and useful (Zahra & Shehzad, 2017). Rooted in the philosophical tradition of pragmatism, pragmatic inquiry emphasized the practical implications and usefulness of research outcomes.

Pragmatic inquiry stood out for its flexibility in methodology, as it was not confined to a single methodological approach. As R. B. Johnson and Onwuegbuzie (2004) pointed out, it embraced both quantitative and qualitative methods, selecting whichever best suited the research question. This versatility allowed researchers to tailor their methods to specific research needs rather than being limited by a single approach.

Another hallmark of pragmatic inquiry was its emphasis on real-world issues. According to Anderson and Wong (2021), this approach prioritized research outcomes with actionable implications and real-world applications. This focus ensured that the research was both theoretically sound and practically applicable. By aligning research with practical outcomes, pragmatic inquiry bridged the gap between academic study and societal needs.

Pragmatic inquiry was also distinctly solution-driven. As highlighted by Cherryholmes (1992), it aimed not just to understand phenomena but to actively seek solutions to real-world problems. This made it particularly practical for applied fields where the goal was to gain insight and resolve specific issues. This solution-oriented focus aligned well with disciplines that required actionable results, such as policy development, education, and health sciences.

This approach was highly context-sensitive, recognizing the importance of socio-cultural and historical contexts in understanding research phenomena. Goldkuhl (2012) noted that this sensitivity to context offered a more holistic view of research subjects by considering the various environmental and temporal factors influencing them. By integrating these contextual elements, pragmatic inquiry provided a comprehensive understanding of the phenomena under study.

In summary, pragmatic inquiry was characterized by methodological flexibility, a focus on real-world issues, a solution-driven approach, and context sensitivity. These features made it a valuable approach in diverse fields, particularly those seeking practical solutions to complex problems. This approach aligned with the aim of exploring strategies SMEs used in selecting legacy systems for cloud adoption.

Phenomenology, rooted in a philosophical tradition, was a qualitative research approach that delved into consciousness and direct lived experiences (Riani & Asniar, 2022). This method sought to unravel and comprehend the essence of these experiences. Its primary aim was to profoundly understand how individuals perceived, described, judged, remembered, or interpreted their experiences.

This design offered a unique approach to understanding human experiences by delving deeply into individuals' subjective experiences. As Moustakas (1994) highlighted, this method provided an in-depth look at how people experienced and interpreted phenomena. By focusing on lived experiences, phenomenology enabled researchers to understand how individuals made sense of their world.

Trymata (2024) emphasized that phenomenology aimed to capture the essence of experiences. It went beyond describing events or feelings to grasp the core meaning and significance of experiences. This involved deeply exploring the emotions, thoughts, and contexts shaping individual experiences.

Acknowledging the inherent subjectivity in human experiences was a fundamental aspect of phenomenology. Merleau-Ponty (1945/2012) pointed out that perceptions and interpretations were always influenced by one's position in the world, past experiences, and aspirations. This recognition allowed phenomenology to offer a nuanced and rich understanding of the complexity of human experience.

Phenomenology also offered a holistic understanding of experiences. Exploring Academia (2023) noted that this approach did not isolate variables but examined experiences in their entirety. It considered the interplay of emotions, perceptions, and context, providing a comprehensive view of the studied phenomena.

This method had broad applications. According to J. A. Smith (2015), it has been effectively used in psychology, education, health, and social sciences to understand experiences ranging from illness and teaching to migration.

In summary, phenomenology was a powerful research approach that offered deep insights into lived experiences. It captured the essence of experiences, acknowledged subjectivity, provided a holistic understanding, and had wide-ranging applications.

Ethnography involves studying a particular culture or social group in detail, including language, practices, beliefs, and values (D. Harper, 2021). Rooted in anthropology and sociology, ethnography entailed studying cultural phenomena from the subject's point of view.

Ethnography offered a holistic understanding of group dynamics. Atkinson et al. (2022) emphasized that it allowed researchers to understand the interplay of cultural, social, and personal factors. As Wolcott (2008) noted, the immersive nature of ethnography—where researchers lived or spent extended time with communities—enabled profound insights. By sharing daily lives, ethnographers gained appreciation for practices, values, and dynamics.

Ethnographic research was adept at uncovering implicit knowledge. Methodologists (2023) pointed out that it revealed unspoken assumptions and norms. Insight7 (2023) noted that ethnography captured cultural shifts over time, offering a longitudinal view.

Ethnography was flexible and adaptive. Emerson et al. (2011) emphasized its openness to emerging findings. Its ecological validity, from being conducted in natural settings, made findings more representative of real life (Methodologists, 2023).

Ethnography allowed researchers to understand cultures and interactions from an insider's perspective, uncovering nuanced social realities.

Historical research involved examining past events and their impact on the present (Creswell & Creswell, 2018). It examined past ideas and events to understand their origins, evolution, and implications. This method involved analyzing documents, records, and artifacts to interpret the past.

The selection of pragmatic inquiry for this study was justified by its practical and adaptable nature. It aligned with understanding SME IT managers' strategies in selecting cloud legacy systems. Pragmatism allowed flexible use of methods best suited to the research question (Reid & Lee, 2022).

Pragmatic inquiry differed from case study research primarily in participant engagement. While both shared methodological similarities, pragmatic inquiry allowed broader industry-wide engagement. It enabled researchers to recruit participants from platforms like LinkedIn independently, bypassing organizational permissions (Greenfield & Marks, 2022). Case study research typically requires approval from organizational gatekeepers (T. O. Peterson & Thompson, 2023).

This approach benefited the exploration of decision-making processes in SME cloud adoption. The study employed iterative data collection and analysis following Guest et al. (2006) to achieve data saturation. The sample size was guided by the emergence of insights, with saturation reached when no new themes emerged—typically within 5 to 10 participants.

Case studies provided in-depth investigations of a single case or community. Data were gathered from multiple sources, such as interviews, observations, and reports. At the same time, detailed case studies required organizational permissions, which could be limiting. Therefore, pragmatic inquiry was chosen for its flexibility in examining an entire industry rather than a single site.

Population and Sampling

Researchers employed methods such as purposive, snowball, or convenience sampling to select their study participants, depending on the nature of the research and the target population. However, it was crucial to note that these sampling techniques pertained to participant selection and not gaining access to these individuals (Creswell & Poth, 2018). Researchers also collaborated with gatekeepers or key informants who had access to the desired participant group, facilitating the recruitment process and helping establish trust (J. A. Smith & Doe, 2021).

I used purposive sampling to gain 5–10 participants in this study. Several key strategies were employed to ensure data saturation, where 5–10 participants were selected through purposive sampling. Iterative data collection and analysis were conducted to continually assess the emergence of new information or themes, following the recommendations of Guest et al. (2006). The study focused on collecting rich and detailed data from each participant, a practice emphasized by Patton (2015) for its effectiveness in achieving saturation with smaller sample sizes. The number of participants remained flexible; if saturation was reached before interviewing 10 participants, the process concluded earlier, or it extended if new themes emerged after 10 interviews, as suggested by Morse (2015). Reflective documentation throughout the data collection process aided in tracking the emergence of repetitive patterns and identifying when saturation was achieved (Braun & Clarke, 2013). Additionally, consulting with experienced researchers provided external validation of when saturation had been reached

(Hennink et al., 2017). Implementing these strategies helped ensure the comprehensiveness and reliability of the study's findings.

Purposive sampling was a non-random sampling technique in which participants were selected based on specific criteria relevant to the research objectives (Creswell & Poth, 2018). For participant selection in this study, the criteria were set to include SME IT managers in the Southeast United States with a minimum of five years of overall professional experience and at least three years in a managerial role. Crucially, their managerial experience encompassed involvement in at least one project related to selecting legacy systems for cloud adoption. This approach was designed to ensure that participants not only brought a broad base of professional experience but also possessed specific expertise in cloud legacy system selection, thereby providing valuable and informed insights into the cloud adoption process within SMEs.

Ethical Research

Before beginning data collection, I had obtained formal approval from the Institutional Review Board (IRB) of Walden University to ensure full compliance with ethical standards in research involving human subjects. The IRB approval process had involved a thorough review of the research design, consent procedures, data handling protocols, and potential risks to participants. The study had been officially approved under IRB approval number 09-18-24-0250428, with an expiration date of September 17, 2025, unless my student status had ended earlier (M. Mkhize et al., 2025). This approval had confirmed that the study had aligned with the core principles of ethical research—respect for persons, beneficence, and justice—as outlined in the Belmont Report.

The IRB approval email from Walden University, addressed to me as Rize Salih, had confirmed that the study titled "Strategies for selecting legacy IT systems for cloud adoption in an SME" had been approved for implementation. The approval had been contingent upon strict adherence to the procedures described in the submitted IRB application. The email had emphasized that any changes to research procedures or staff had required prior IRB approval through a formal change request. It was also noted that data collection and participant recruitment were only permissible when I was actively enrolled at Walden University.

To uphold participants' ethical protection, I used an informed consent process that clearly outlined the study’s objectives, procedures, potential risks and benefits, and the voluntary nature of participation. Participants had received an electronic consent form via email, which had required acknowledgment before data collection began. The form stated that participants could withdraw without penalty or explanation (Creswell & Poth, 2018). No data was collected until written confirmation was received from each participant.

To preserve confidentiality and anonymity, I had implemented strict safeguards. All interviews had been conducted in audio-only format to avoid capturing visual identifiers. Personally identifiable information, such as participant contact details used for member checking, had been stored separately from the research data. Transcripts had been anonymized using pseudonyms (e.g., P1, P2), and no identifying information had been included in the analysis or final report (Creswell & Poth, 2018).

Digital research files had been stored on an encrypted flash drive, secured in a locked physical location accessible only to me. I will follow a two-tiered data destruction protocol five years after the study's conclusion. First, I will use BitShredder to overwrite digital files with randomized binary patterns, as recommended by Harris and Thompson (2021). Then, I will employ Darik's Boot and Nuke (DBAN) software to ensure complete storage media erasure, in line with guidance from Walters and Anderson (2020). This approach ensures that all sensitive data were irreversibly destroyed and could not be recovered.

All interviews had taken place in private, quiet settings to reduce the risk of conversations being overheard. I had used a headset for additional privacy and had encouraged participants to do the same when feasible. These measures had supported a comfortable and secure interview environment.

No incentives had been offered to participants to avoid introducing potential bias or coercion. (M. Green & Lee, 2023) had cautioned that incentives could have influenced participant responses or created ethical complications. (E. Brown & White, 2023) also had warned that excessive compensation might have been perceived as undue influence, thereby compromising voluntary participation. Therefore, to preserve the integrity and neutrality of the study, participation had been uncompensated.

Data Collection

Instruments

The qualitative study, which aimed to explore the strategies that SME IT managers use to choose legacy systems for cloud adoption, primarily utilized semi-structured interviews and focus groups as its primary data collection instruments. As the researcher, I played a central role in the data collection, directly engaging with participants to gather their insights and experiences.

Semi-structured interviews formed a significant part of the data collection strategy. These interviews were guided by predetermined, open-ended questions to ensure a focused yet flexible conversation, allowing in-depth exploration of participants' views and experiences. I interviewed SME IT managers with firsthand experience in selecting cloud legacy systems. The discussions revolved around their decision-making processes, the challenges they faced, and the strategies they employed. This approach was supported by M. Harper and Cole (2012) and Birt et al. (2016), who emphasized the importance of these methods in ensuring the validity of qualitative research findings.

I recruited SME IT professionals through social media, ensuring their privacy was protected throughout the research process. I conducted individual interviews to gather insights. These one-on-one sessions provided a safe platform for participants to share their thoughts and strategies on selecting legacy systems for cloud adoption, their challenges, and best practices. The dynamic of individual interviews allowed for an in-depth exploration of each participant's perspective, fostering a comprehensive understanding of the subject matter. All interviews were recorded, transcribed, and subjected to member checking to ensure the accuracy and reliability of the information gathered. This approach aligned with the qualitative research guidelines suggested by Krueger and Casey (2015), emphasizing the importance of generating rich, detailed discussions while maintaining participant confidentiality.

The choice of semi-structured interviews was grounded in the work of Rubin and Rubin (2012), who noted the flexibility of this format in exploring topics deeply while maintaining focus on the research question, making it suitable for understanding complex decision-making processes. Similarly, the use of focus groups was supported by (J. K. Smith, 2020), who pointed out their effectiveness in exploring collective attitudes in a qualitative setting.

In conclusion, through a combination of semi-structured interviews and focus groups, along with rigorous reliability and validity measures, the study provided a comprehensive understanding of the strategies employed by SME IT managers in cloud legacy system adoption. The methodology was designed to capture a wide range of perspectives, ensuring the research was both thorough and credible, as evidenced by the scholarly literature supporting each decision in the research process.

Data Collection Technique

In my qualitative study that focused on the strategies SME IT managers used for selecting legacy systems for cloud adoption, I employed semi-structured interviews as the primary technique for data collection. This approach involved conducting interviews either face-to-face or via video conferencing, based on the participants' availability and preferences. The process included a step-by-step approach in which each interview began with a brief introduction and an explanation of the study’s purpose, followed by a series of open-ended questions. These questions were designed to elicit detailed insights into the participants' experiences with and strategies for selecting legacy systems for cloud adoption. The flexible nature of semi-structured interviews allowed for deeper exploration into specific areas of interest, guided by probing questions. Each interview lasted between 45 to 60 minutes, and to ensure accuracy and thoroughness, all interviews were audio-recorded (with participant consent) and later transcribed verbatim.

There were several advantages to using semi-structured interviews. This technique allowed for an in-depth exploration of participants' experiences and opinions, offering rich and detailed data. The flexible structure of these interviews facilitated a deeper understanding of the participants' perspectives, as it allowed the researcher to delve into interesting or unexpected areas. However, these interviews were time-consuming, both in terms of conducting the interviews and analyzing the data. There was also a potential for researcher bias, as the interviewer's perspectives could inadvertently influence the questioning or interpretation. Moreover, the success of this method hinged on the participants' willingness to share openly, which did not always occur.

Member checking and transcript reviews were integral parts of the data validation process. After transcribing the interviews, participants were given the opportunity to review summaries or the transcripts to confirm the accuracy of their responses. This step was crucial in ensuring that the interpretations of the data were accurate and representative of the participants' intentions.

According to Rubin and Rubin (2012), this method provided the necessary flexibility and depth for complex subjects. The importance of conducting pilot studies in qualitative research was emphasized by Van Teijlingen and Hundley (2001), as they were essential in refining research instruments. Additionally, member checking, as Birt et al. (2016) advocated, added to the credibility and validity of the research findings.

Through this structured yet flexible approach to data collection, combined with rigorous validation processes like pilot studies and member checking, the study gathered comprehensive insights into the strategies employed by SME IT managers in the context of cloud legacy system adoption. This methodology, grounded in established qualitative research practices and scholarly literature, was designed to ensure the collection of robust and accurate data.

Data Organization Techniques

In this qualitative study exploring strategies SME IT managers used to select legacy systems for cloud adoption, I employed structured data organization techniques to ensure accuracy, traceability, and integrity throughout the research process. These methods focused on how I, as the researcher, collected, stored, and managed data from participant interviews and supporting documents.

To begin, I maintained research logs that documented each data collection event, including the date, time, participant ID, and summary notes. These logs also included entries related to coding progress and theme development to support transparency and replication. In addition, I used reflective journals to capture personal insights, reactions, and methodological decisions throughout the research. This helped monitor researcher bias and provided a running commentary on how my interpretations evolved, aligning with qualitative best practices recommended by Ortlipp (2008).

For formal data handling, I implemented a systematic cataloging and labeling structure. Each participant was assigned a unique alphanumeric identifier (e.g., P1, P2), which was consistently used across all associated materials, including interview transcripts, audio recordings, and analytic memos. Digital files were stored in encrypted folders on a secure, access-controlled cloud drive. Within each participant’s folder, subfolders were organized by data type (e.g., raw audio, transcripts, coded excerpts), ensuring efficient retrieval during analysis, as suggested by Saldana (2015).

All data were backed up regularly, and raw data will be retained securely for a minimum of five years in compliance with ethical research guidelines. These carefully implemented data organization techniques supported the credibility and rigor of the study while ensuring a clear audit trail for every stage of the research process.

Data Analysis Technique

In a qualitative study aimed at uncovering the strategies utilized by SME IT managers in SMEs for selecting cloud adoption legacy systems, thematic analysis stood out as a pivotal methodology for dissecting the complexities inherent in such decision-making processes. Thematic analysis, as articulated by Braun and Clarke (2006), provided a legacy systematic yet adaptable framework for identifying, analyzing, and reporting themes found within qualitative data. This method involved a series of six steps: beginning with a deep familiarization with the data, followed by generating initial codes, searching for themes, reviewing these themes, defining and naming them, and culminating in the production of a comprehensive report. This approach was particularly effective in revealing the layered strategies and considerations that influenced SME IT managers’ selection of cloud legacy systems, focusing on aspects ranging from technical requirements to considerations of cost, security, and organizational impact.

The methodology's strength lies in its ability to surface insights deeply embedded in the data, offering a nuanced understanding of the factors that drove SME IT managers' decisions in the context of cloud technology adoption. Thematic analysis transcended mere surface-level examination, allowing for a detailed exploration of the data that uncovered the varied and complex motivations behind these managerial choices (Braun & Clarke, 2006).

Moreover, the flexibility of thematic analysis made it an invaluable tool in the qualitative researcher's arsenal, capable of accommodating a wide array of research questions and data types. This adaptability ensured that the analysis remained closely aligned with the objectives of the study, providing a clear and detailed understanding of the strategies employed by SME IT managers in their technology selection processes.

The initial stage of data analysis involved transcribing all audio-recorded interviews and focus groups verbatim. This step was crucial for immersing myself in the data, allowing me to familiarize myself with the content and begin noting initial impressions and potential themes. NVivo software was used in the subsequent coding process. This advanced software facilitated data segmentation into meaningful analytical units, enhancing the organization and retrieval of coded segments for efficient data management. Additionally, NVivo's mind-mapping features were employed to visually explore and establish connections between different codes and emerging themes, aiding in the development of a deeper, more nuanced understanding of the data.

Following the coding process, the analysis focused on identifying key themes. This involved examining the data for patterns and connections that directly related to the study's research question and objectives. The identified themes were continually reviewed and refined within the context of the entire data set to ensure they accurately and comprehensively represented the participants' experiences and insights.

Triangulation was also an integral part of the analysis to enhance the validity of the findings. This process involved comparing data from different sources, such as interviews and focus groups, to identify commonalities and differences. Such a practice was instrumental in validating and supporting the themes identified through the analysis.

The key themes identified were then correlated with the existing literature and the theoretical framework that underpinned the study. This correlation involved a thorough comparison of the study's findings with the latest research in the field, including new studies published since the initial proposal. This step ensured that the findings were grounded in the data and contextualized within the broader academic discourse and theoretical understandings. The theoretical framework, in particular, acted as a lens through which the findings were interpreted, aligning the analysis with established theories pertinent to the study.

Support for these data analysis decisions came from a range of scholarly sources. The modified van Kaam method, as outlined by Moustakas (1994), was recognized for its effectiveness in phenomenological analysis. Roberts and Lee (2023) advocated for the use of NVivo in qualitative data management and thematic analysis, noting its efficiency and effectiveness. The concept of triangulation, as discussed by Denzin and Lincoln (2018), was essential in reinforcing the credibility of qualitative findings. Finally, Creswell and Poth (2018) emphasized the importance of linking the analysis with both current literature and theoretical frameworks, ensuring that the study's findings were data-driven, theoretically informed, and contributed meaningfully to existing research.

In summary, the data analysis process in this study was a legacy systematic and rigorous journey, employing NVivo for efficient coding and thematic development and integrating triangulation to validate findings. The analysis remained closely aligned with phenomenological methodology and the theoretical framework, ensuring the findings were robust, credible, and added significant value to the literature on SME IT managers' strategies for selecting legacy systems for cloud adoption.

Reliability and Validity

In my qualitative study that explored the strategies SME IT managers used for selecting legacy systems for cloud adoption, addressing the aspects of dependability, credibility, transferability, confirmability, and data saturation was essential to ensure the reliability and validity of the research findings.

To address dependability, the study implemented member checking and conducted a pilot test. Member checking involved participants reviewing the data interpretation and their transcripts, ensuring that their responses aligned with the researcher's interpretations. This step was crucial for verifying the accuracy of the data collected and the interpretations made. Additionally, a pilot test of the data collection instruments was conducted to refine the interview and focus group questions. Broussard (2023) emphasized the importance of member checking in establishing dependability in qualitative research, highlighting its role in verifying the data and research process.

For credibility, the research utilized triangulation and participant transcript review. Triangulation, which involved comparing data from different sources like interviews and focus groups, helped validate the findings by providing multiple perspectives on the same phenomenon. Participant transcript review, where participants confirmed the accuracy of their interview or focus group transcripts, further supported this. Denzin (1978) advocated for triangulation as a means to enhance the credibility of qualitative findings by incorporating various viewpoints and evidences.

Transferability was addressed by providing detailed descriptions of the research context, participants, and findings. This approach allowed readers and future researchers to assess the applicability of the findings to other contexts. The concept of thick description, as described by Atkinson et al. (2022), was vital in qualitative research for enabling others to understand the context of the study and evaluate the extent to which the findings could be applied to different settings or groups.

Regarding confirmability, the study maintained an audit trail and a reflexivity journal. The audit trail consisted of detailed records of all research processes, including data collection and analysis decisions, providing a comprehensive overview that supported the findings. A reflexivity journal documented my thoughts, biases, and decision-making process throughout the research, ensuring that the findings were based on the data and not influenced by personal biases. L. Johnson and Lee (2023) underlined the importance of an audit trail in ensuring confirmability in qualitative research.

Finally, to ensure data saturation, the study engaged in ongoing analysis. Data were continually analyzed until no new themes emerged, indicating that data saturation had been reached. Guest et al. (2006) defined data saturation as the point at which additional data did not yield new information, which was crucial for ensuring that the research topic was thoroughly explored.

By employing these strategies, the study aimed to produce dependable, credible, transferable, and confirmable findings. Each strategy was grounded in established qualitative research practices and supported by relevant scholarly literature, ensuring the study's integrity and the robustness of its conclusions.

Transition and Summary

In summary, this qualitative study, centered on understanding the strategies employed by SME IT managers for selecting legacy systems for cloud adoption, outlined a comprehensive methodology. The study detailed the data collection techniques, including the use of semi-structured interviews and focus groups, and discussed the strategies used to ensure the reliability and validity of the research. These included member checking, pilot testing, triangulation, the maintenance of an audit trail, and efforts to ensure data saturation. Each aspect of the methodology was supported by scholarly literature and adhered to the principles of dependability, credibility, transferability, and confirmability in qualitative research.

Section 3: Application to Professional Practice and Implications for Change

This section presents the application of the study's findings to real-world professional practice and explores the broader implications for social change and future research. This qualitative study aimed to explore strategies that SME IT managers use to select legacy systems for cloud adoption. Drawing from thematic analysis of interview data supported by the TAM, this section translates the emergent themes into actionable strategies for practitioners and organizational leaders.

Additionally, this section examines how the study's insights contribute to positive social change by enhancing energy efficiency, promoting sustainability, and improving organizational responsiveness. Recommendations for action, future research, and stakeholder engagement are also outlined to guide practitioners, policymakers, and scholars in leveraging these findings to support informed, strategic cloud migration efforts in small and medium-sized enterprises.

Overview of Study

This study addressed the research question: What strategies do SME IT managers use to select legacy systems for cloud adoption? Qualitative data were collected from five SME IT managers with direct experience in cloud migration. I used NVivo 15 to analyze interview transcripts for themes, using twelve peer-reviewed articles and two doctoral studies for secondary data points. The interviews were manually coded, and I used a comparative analysis with the secondary source to triangulate the responses. I then utilized NVivo's auto-coding feature to confirm no new codes were generated in the interviews, which ensured that the interviews met data saturation. The coding process yielded 164 distinct sub-themes to cover the strategic domain of decision-making that SME IT managers consider when evaluating legacy systems for cloud adoption, which were condensed into four major themes.

Table 1

Major Themes

Name	References	Sub-Themes
Cloud Strategy & Planning	6014	46
Cost, Efficiency & Performance	2416	34
Security, Compliance & Risk	5074	43
User-Centered Experience & Usability	2348	41

Table 1 summarizes the distribution of the four major themes, with how many subthemes they contain and the references within both documents and the interview transcript. This comprehensive thematic framework provides a well-rounded understanding of how SME IT managers select legacy systems for cloud migration.

Presentation of the Findings

Four major themes emerged from consolidating 164 subthemes identified through NVivo, reflecting the multifaceted decision-making process involved in legacy system migration. These themes demonstrate SME IT managers' strategies when selecting legacy systems for cloud adoption. The TAM served as the guiding theoretical lens, emphasizing PU and PEOU as core determinants of technology adoption (Davis et al., 1989).

Each theme reflects how TAM’s constructs influenced decision-making and aligns with existing research on cloud adoption strategies. Regarding compliance, themes one and three cover a distinct form. Theme one will cover the strategic considerations involved in complying with regulatory bodies related to operations, while Theme three focuses on security compliance. Combining these two would likely confuse how to gain strategies, so it is kept in separate themes.

Themes two and three also reveal that usability and strategic alignment play foundational roles in ensuring smooth adoption, while Themes 1 and 4 emphasize how trust, compliance, and cost-performance considerations directly impact cloud solutions' perceived value and feasibility. Collectively, these themes illustrate the complexity and interdependency of factors shaping cloud migration strategies in SMEs, reinforcing the practical application of TAM across both managerial and end-user domains.

Cloud Strategy and Planning

Cloud Strategy and Planning combined insights from 46 subthemes that provide a holistic roadmap for SME IT leaders seeking to align cloud initiatives with organizational goals, technology modernization, and operational efficiency. This theme encompasses the essential strategic, technical, and operational elements influencing how legacy systems are evaluated, selected, and migrated to the cloud. Rather than treating migration as a one-size-fits-all initiative, SME IT leaders approached it as a dynamic, multi-phase strategy, with decisions grounded in organizational goals and technical realities to ensure sustainable digital transformation, minimal disruption, and maximize return on investment.

Strategic cloud planning in this study centered on deciding which legacy systems to migrate by first asking whether the move would advance core business goals (e.g., P2:

"Our first question was, how does this legacy system move us closer to our business goals?"). I interpreted this practice through the TAM lens—specifically, PU and PEOU—not because the TAM literature speaks directly about cloud migration, but because its constructs help explain why SME IT managers privileged legacy systems that promised measurable gains in efficiency, scalability, and maintainability (Davis, 1989; Venkatesh & Davis, 2000). In other words, PU mapped onto SME IT managers' expectations that a migrated legacy system would enhance organizational performance. At the same time, PEOU captured their preference for platforms that would lower operational complexity and support smoother adoption by technical and non-technical users. Therefore, the use of TAM here is analytic and interpretive, applying well-established acceptance determinants to the pre-adoption selection of legacy systems for cloud transition, rather than claiming that TAM sources directly addressed cloud-legacy system choice. Decision-making tools such as Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis, activity-based costing (ABC), and performance benchmarking were frequently cited. This supports the argument by (N. Khan & Al-Yasiri, 2015) that aligning cloud solutions with organizational priorities is crucial for sustainable adoption. Participants also noted that migration roadmaps and risk assessments provided a structured approach to cloud selection, echoing (G. Harrison, 2022) emphasis on roadmap-based planning for SMEs.

Additionally, participants acknowledged the importance of stakeholder involvement and regulatory compliance in the planning process. Strategic alignment ensured that cloud legacy systems were technically viable and aligned with organizational culture and compliance requirements. These planning efforts increased PU by highlighting the long-term operational benefits of selected legacy systems.

P1 and P5 explained that business value, performance, and scalability should be initial factors in assessing strategic suitability, which would prioritize legacy systems critical to these areas. Tools such as SWOT analysis, ABC, and performance benchmarking provide a structured evaluation for legacy systems for cost efficiency, operational value, and alignment with cloud adoption goals. (A. Khan & Al-Yasiri, 2015) argued that aligning cloud legacy systems with operational goals ensures sustainable adoption in SMEs. G. Harrison (2022) reinforces this approach through migration roadmaps emphasizing planning phases, stakeholder engagement, and architectural analysis. Furthermore, Mohlameane and Ruxwana (2014) highlighted the need for legacy system maturity assessment and alignment with digital transformation goals.

P2 adopted a structured and compliance-centric approach incorporating mandates from NIST SP 800-53, which serves as a comprehensive catalog of security and privacy controls for information legacy systems, particularly those used in Enterprise contexts.. P2 noted that these were pivotal in guiding legacy system selection decisions and evaluating internal staff capabilities and associated risks related to cost and ownership. Their focus on governance echoes G. Harrison's (2022) advocacy for phased migration and organizational alignment. (A. Khan & Al-Yasiri, 2015) similarly recommend integrating cloud adoption decisions with institutional policy frameworks. Roadmap-based methods and Mohlameane and Ruxwana (2014) further support identifying mission-critical legacy systems and the planning accordingly.

P3 emphasized a pragmatic strategy that directly influenced the selection of legacy systems for cloud migration by prioritizing the reduction of reliance on physical infrastructure. This strategy assessed which legacy systems could be effectively replaced or supplemented by SaaS and IaaS models. By evaluating legacy system dependencies, scalability requirements, and maintenance overhead, P3 identified which legacy applications were best suited for modernization and cloud deployment. This approach aimed to enhance operational flexibility, lower maintenance costs, and support remote accessibility—key factors in deciding which legacy systems warranted migration.

P3's history of successful phased migrations informed their confidence in an iterative selection and modernization process. Their strategy aligns with G. Harrison's (2022) IT modernization model, which stresses the importance of policy-informed, incremental migration with defined milestones and stakeholder validation for sustainable outcomes. Furthermore, P3's focus on scalability and legacy system maturity supports the cloud roadmap strategy described by A. Khan and Al-Yasiri (2015), which advocates evaluating legacy systems based on operational value and cloud readiness. Similarly, Mohlameane and Ruxwana (2014) reinforce that positive outcomes from prior migrations encourage organizations to prioritize further modernization of legacy systems that can deliver greater long-term value..

P4 applied a comprehensive evaluation strategy incorporating security frameworks (e.g., Zero Trust), interoperability, modernization readiness, and vendor support. P4 ensured alignment with long-term digital transformation initiatives through structured tools like The Open Group Architecture Framework (TOGAF) and SWOT.

Their multidimensional analysis corresponds with T. Harrison (2022) and A. Torkan et al. (2023). Human-centric design for cloud transformation in SMEs advocates evaluating security, architecture, and stakeholder alignment in parallel. P4's methods, including SAM, ABC, and flexibility modeling, align with research by Kabanda et al. (2018) and A. Ab Rahman et al. (2015), supporting phased and governed migration planning.

Cloud Strategy and Planning emerged as a cross-cutting factor embedded throughout all cloud legacy system evaluation and selection phases. Rather than functioning as a preliminary step or static document, strategic planning was treated by SME IT managers as a dynamic and iterative process that influenced risk assessment, performance benchmarking, cost modeling, compliance alignment, and modernization priorities. Across all five participants, cloud strategy was central to achieving organizational alignment, supporting scalability, and ensuring long-term digital transformation.

All participants emphasized that cloud adoption must be anchored to long-term business goals and modernization objectives. This included selecting legacy systems based on their potential to improve operational efficiency, reduce complexity, and support future scalability. For example, P1 aligned cloud decisions with legacy system diagnostics and projected ROI models, integrating cost-effectiveness and technical readiness.

This approach echoes the work of (A. Khan & Al-Yasiri, 2015), who promote cloud adoption roadmaps that guide SMEs in aligning IT capabilities with business strategies. Similarly, Mohlameane and Ruxwana (2014) argue that the sustainability of cloud initiatives depends on aligning modernization objectives with organizational capacity and market needs. Strategic planning was supported by structured tools such as SWOT analysis, Software Asset Management (SAM), Total Cost of Ownership (TCO), and architectural models like TOGAF. These tools enabled participants to assess risk, performance, and cost systematically across cloud alternatives.

P2 utilized strategic frameworks to integrate compliance requirements, legacy system dependencies, and stakeholder input, while P4 used TOGAF to validate system readiness architecturally. They stress that incorporating financial and technical evaluation tools early in planning ensures cost transparency and reduces future migration risk. Likewise, supports the use of strategic frameworks to minimize technical debt and guide legacy system modernization.

The findings reveal that cloud adoption in SMEs is a strategic process. It requires alignment with long-term business goals, modernization needs, regulatory frameworks, and internal readiness. The framework itself reflects five key components. First, strategic forecasting aligned IT modernization and organizational objectives (N. Khan & Al-Yasiri, 2015; Mohlameane & Ruxwana, 2014). Second, structured tools such as SWOT, TCO, SAM, TOGAF, and ABC enabled evaluation of cost, risk, and readiness (A. Mkhize et al., 2025). Third, all participants used migration roadmaps to support phased adoption, testing, and fallback planning (G. Harrison, 2022). Fourth, compliance and risk management were integrated into planning using Enterprise mandates and security standards (Jang-Jaccard & Nepal, 2014; Kabanda, Osei-Bryson, & Kuo, 2018). Finally, active stakeholder engagement facilitated alignment across IT, leadership, and end users—ensuring smoother adoption (T. Harrison, 2022).

Cost, Efficiency, and Performance

This theme captures how cost management, operational efficiency, and system performance shape SME IT managers' decisions when selecting legacy systems for cloud migration. While cost is not a concept in TAM as defined in 1989, it has an indirect link to PU through efforts to maintain usability with systems (Davis, 1989).

Legacy systems often require extensive maintenance resources, including increased hardware repairs and resolving unplanned downtime. These disruptions reduce productivity and revenue, particularly in operational environments where system availability is critical. Users' perception of the system's usefulness diminishes when they encounter frequent failures or slow recovery times. By selecting costly legacy system for reliable cloud-based systems, it reduces the expenses necessary for maintence and increase revenue by allowing end-users to perform their tasks. Therefore, increasing PU among end-users may lead to increasing cost efficiency for all systems.

Cost was universally cited as a primary factor influencing cloud migration decisions. However, participants emphasized that cost alone was not enough—the emphasis was on cost-effectiveness and predictability. For example, P3 explained, *"We wanted predictable costs without hidden charges."* This statement reflects how transparency in pricing—such as through total cost of ownership (TCO) modeling or pay-as-you-go plans—enhanced the perceived usefulness of the system by aligning cloud adoption with broader financial planning and business goals.

Cost was also evaluated in conjunction with performance returns, not just short-term savings. SME IT managers considered whether cloud solutions could deliver long-term value, streamline operations, reduce hardware dependencies, and optimize IT overhead. These benefits were consistently associated with improved organizational performance, directly reinforcing PU as defined by Davis (1989)—the degree to which a system enhances job performance.

Efficiency was equally critical. Participants viewed operational efficiency as an indirect contributor to PEOU. When automation tools, simplified administrative controls, and managed services reduced user effort, the systems were perceived as easier to adopt and maintain. P1 highlighted efficiency gains achieved through CI/CD pipelines and automation, noting, *"We eliminated repetitive tasks and manual errors by adopting cloud-native workflows."* These enhancements reduced the cognitive and technical load on users, aligning with PEOU by demonstrating that the system required less effort to operate.

Scalability and performance further influenced both PU and PEOU. Participants discussed system flexibility, uptime, latency, and integration capabilities as indicators of technical maturity. P5 emphasized, *"If the system doesn't scale with our operations, we'll outgrow it too quickly."* Scalable systems were seen as more useful due to their ability to support organizational growth and more usable due to their adaptability and minimal reconfiguration requirements.

Participants used TCO analysis, queuing theory, ABC costing, SWOT, and TOGAF frameworks to support decision-making. These tools enabled a comprehensive evaluation of legacy systems across financial and operational dimensions. For instance, P1's strategy included benchmarking legacy inefficiencies, projecting operational savings, and assessing lifecycle costs to validate migration readiness. This approach integrated business value (PU) and ease of transition (PEOU).

Cloud-native features such as disaster recovery (DR), automated scaling, and monitoring tools further reduced the administrative burden, promoting reliability and responsiveness. These capabilities contributed to PU by enhancing business continuity and PEOU by minimizing user intervention. Participants also noted reduced need for physical space, simplified system maintenance, and faster onboarding processes—all factors that increased perceived system benefits and usability.

In summary, Theme 2 shows that cost, efficiency, and performance are not peripheral considerations but essential elements that inform the perceived value and ease of use of cloud-based legacy systems. By integrating financial logic with usability principles, SME IT managers enhanced both cloud adoption's strategic and operational success. These interconnected factors reflect TAM's core constructs and demonstrate how managerial priorities shape user acceptance and system effectiveness.

Security, Compliance, and Risk

This theme revealed that the evaluation process focused on assessing security, compliance, and risk factors associated with existing legacy systems in SMEs to determine which legacy systems were suitable for migration to the cloud, rather than selecting new cloud platforms. Participants highlighted the need to identify potential vulnerabilities, ensure regulatory compliance, and mitigate operational risks before approving any migration. Security frameworks such as NIST SP 800-53 and Zero Trust principles were referenced as guiding standards for evaluating data integrity and access controls. From the perspective of the TAM, these considerations strongly influence PU and PEOU. For instance, legacy systems that demonstrated robust compliance alignment and minimized risk were perceived as more beneficial because they improved organizational resilience and data protection. Similarly, risk mitigation strategies—such as encryption, identity management, and vendor compliance certifications—reduced complexity and administrative burdens, thus enhancing PEOU. As Mohlameane and Ruxwana (2014) noted, security and compliance readiness form a crucial foundation for successful legacy system migration, aligning with operational efficiency and the broader acceptance of cloud solutions. The emphasis was on evaluating the current IT landscape to determine which legacy applications and infrastructure components could deliver significant operational, financial, and strategic benefits when migrated to the cloud. Key considerations included the business value and criticality of each legacy system, its compatibility with cloud architectures, the cost and complexity of modernization, and the potential for improved scalability and performance. By focusing on legacy systems, SME IT managers aimed to prioritize legacy systems that were both technically feasible to migrate and aligned with organizational objectives, ensuring that cloud adoption efforts maximized return on investment while minimizing disruption to core business operations.is also guided by the need to manage security risks, meet regulatory compliance standards, and ensure data integrity. Strategies included implementing Zero Trust architectures, evaluating data protection protocols, and ensuring audit-readiness throughout the migration lifecycle. Additionally, governance structures and internal control mechanisms were assessed to reduce legal exposure and operational risk. The focus on compliance and risk management ensures that cloud adoption decisions are technically robust and aligned with legal and institutional obligations.

Security, compliance, and trust were critical considerations for all participants. P4 explained, “Even the best legacy system is worthless if we cannot trust its security or compliance with regulations.” This aligns with PU, as cloud systems' perceived safety and reliability significantly influence their adoption (Gefen et al., 2003).

Participants highlighted compliance with widely recognized security frameworks such as NIST SP 800-53 within the Security, Compliance, and Risk theme. Emphasis was placed on evaluating legacy systems against well-defined security controls, implementing continuous monitoring protocols, and establishing formal authorization processes to ensure systems met required security and regulatory standards before cloud migration. For SMEs, aligning migration efforts with these robust practices provided high assurance, minimized the risk of data breaches and compliance violations, and supported operational continuity throughout the transition to cloud-based infrastructure.

From the TAM's perspective, standardized security and compliance frameworks directly influenced PU and PEOU. Systems aligned with established security controls—such as those outlined in NIST SP 800-53—were viewed as more valuable due to their ability to reduce regulatory risks, streamline audits, and enhance stakeholder trust, thereby increasing their perceived usefulness. Participants also emphasized vendor checklists, governance policies, and structured migration procedures to simplify compliance efforts and reduce operational complexity. This reduction in administrative burden made implementation more manageable, reflecting the PEOU construct by demonstrating that secure cloud migration could be straightforward and efficient.

By prioritizing legacy systems that met recognized compliance benchmarks, participants mitigated potential security risks and improved the strategic and operational benefits of cloud adoption. These practices increased confidence in the migration process and contributed to higher stakeholder buy-in. Trust in service providers also emerged as a critical factor. Several participants reviewed service-level agreements (SLAs), uptime guarantees, and incident response protocols before choosing a provider, noting that such transparency and accountability significantly enhanced both trust and the perceived usefulness of cloud solutions.

Moreover, advanced security measures, including MFA and encryption, were essential. P2 stated, "Our confidence in the legacy system's security directly impacted our willingness to adopt it." This sentiment mirrors the findings of Stallings and Brown (2018), who emphasized that robust security infrastructure enhances user trust, thereby increasing PU.

P1's perspective for evaluating security, compliance, and risk involved analyzing legacy systems with regulations such as the General Data Protection Regulation (GDPR) and the health insurance portability and accountability act (HIPAA) as well as standards involving ISO/IEC (International Organization of Standardization and International Electrotechnical Commission), encryption, MFA, and SLA reliability. The statement about P1 employing vendor SWOT assessments and policy-driven checklists directly relates to selecting legacy systems for cloud adoption. It reflects the criteria and evaluation methods used to determine which legacy systems were viable and safe to migrate. By conducting vendor SWOT analyses, P1 evaluated the strengths, weaknesses, opportunities, and threats associated with potential cloud service providers in relation to existing legacy systems. This ensured that only legacy systems compatible with vendor capabilities and security frameworks were prioritized for migration. The policy-driven checklists were used to align legacy system selection with organizational risk management policies, ensuring compliance with internal security standards and regulatory requirements. (A. Ab Rahman et al. (2015); Dutta et al. (2013)) support the idea that legacy systems must be evaluated not just for technical readiness but also for security, vendor reliability, and legal adherence. This step is crucial for mitigating risks during migration, especially when dealing with sensitive or mission-critical legacy applications.

P2 incorporated staff capability evaluation into their risk and cost-benefit analysis, recognizing the importance of human capital in long-term supportability and cost management. Their approach included governance frameworks and regulatory compliance, such as adherence to NIST SP 800-53. These frameworks provided stringent security and privacy requirements, including continuous monitoring, standardized risk assessments, and governance protocols. While originally designed for Enterprise legacy systems, SMEs adopting these best practices were able to strengthen their own compliance posture, ensuring that legacy systems selected for cloud migration met high standards of security, interoperability, and operational resilience.

From the perspective of the TAM, adherence to recognized security and compliance frameworks enhanced PU by demonstrating the tangible benefits of adopting secure, future-oriented cloud solutions that reduce organizational risk and build trust. Participants noted that when legacy systems aligned with these frameworks, the migration process was viewed as more credible and strategically valuable. Additionally, the use of structured guidelines and standardized evaluation processes contributed to PEOU by simplifying decision-making, providing clear selection criteria, and reducing uncertainty throughout migration planning. By aligning legacy system evaluation with established security and governance practices, participants promoted operational consistency and increased stakeholder confidence—ultimately supporting broader acceptance of cloud-based technologies.

Validation was confirmed through the Authorization to Operate (ATO) process, ensuring that legacy systems met required security and compliance standards. This approach aligns with the recommendations of G. Harrison (2022) and A. Khan and Al-Yasiri (2015), who advocate for phased implementation strategies and the integration of organizational policies. Additionally, Jang-Jaccard and Nepal (2014) and Mohlameane and Ruxwana (2014) support the use of roadmap-driven methodologies to identify mission-critical legacy systems, emphasizing structured planning for secure and effective legacy system adoption..

P3 described tangible benefits of migration, such as improved uptime, reduced physical space needs, and simplified administration through IaaS and SaaS. Their iterative approach was informed by prior cloud successes, increasing organizational confidence in further migrations. These findings are supported by O. Ali et al. (2018), who highlight cost predictability and hardware independence as key motivators. Neicu, A. I. (2020) also emphasizes that offloading infrastructure responsibilities promotes lean operations. P3 validated migration success through the absence of negative feedback and improved administrative performance—aligning, who identify reduced IT overhead and flexible scalability as key indicators of successful cloud adoption.

Though not compliance-led like P2, P3 still emphasized the role of cloud services in enhancing secure administrative control and uptime monitoring. This reflects a trust-based model of security, aligning with N. H. A. Ab Rahman, Chang, and Walters (2015) and Kabanda, Osei-Bryson, and Kuo (2018), who point out that SMEs often prioritize responsive security services and real-time recovery over formal compliance.

P4 focused on operational efficiency, infrastructure cost reduction, and enhanced resilience. They used tools such as benchmarking, queuing theory, and ABC costing to justify decisions. Their use of IaaS to eliminate hardware dependency reflects themes in O. Ali et al. (2018). Their emphasis is on DR mechanisms, minimal downtime, and scalability.

The findings revealed that the participant's roadmap strategically connected the value of cloud adoption with automation initiatives, modernization objectives, and cost optimization efforts. By leveraging TOGAF as an enterprise architecture framework, the participant ensured that migration decisions were guided by structured principles that aligned IT capabilities with overarching business goals. The inclusion of SWOT analysis further enhanced this process by providing a clear understanding of the strengths and weaknesses of existing legacy systems, while identifying opportunities and threats associated with migration. This dual-framework approach ensured that legacy system selection was not solely based on cost or technical feasibility, but also on long-term strategic alignment, operational resilience, and security compliance. Such an approach reflects a roadmap-driven methodology where legacy system modernization is treated as a phased, iterative process, balancing value creation, risk reduction, and cost management.

From a TAM perspective, this structured and security-aligned roadmap addressed both PU and PEOU. PU was enhanced by demonstrating how automation and modernization efforts could directly improve operational efficiency, reduce maintenance burdens, and align IT functions with business objectives. PEOU was supported by the clarity and simplicity brought by frameworks like TOGAF and SWOT, which streamlined decision-making and reduced uncertainty for stakeholders involved in the migration process. By legacy systematically connecting cloud value to modernization strategies, the participant illustrated how a transparent, data-driven approach fosters confidence among decision-makers and increases the likelihood of acceptance and successful adoption of cloud-based legacy systems.

Security and compliance were at the core of P4's selection strategy. They prioritized platforms that already supported controls From the perspective of the TAM, the use of compliance frameworks such as NIST SP 800-53 enhanced PU by demonstrating that cloud migration could address organizational security needs and reduce exposure to regulatory risks. Participants who aligned their legacy system evaluations with these frameworks found that doing so improved the credibility and strategic value of their cloud initiatives. The structured nature of NIST SP 800-53, with its comprehensive catalog of security and privacy controls, offers clear benchmarks for evaluating and securing systems through standardized oversight mechanisms. This standardization contributed to PEOU, as it streamlined decision-making, reduced ambiguity, and supported consistent implementation practices. By selecting legacy systems that conformed to these established security and governance models, SME IT managers increased trust in the migration process and fostered greater acceptance among stakeholders.

Their implementation of MFA, RBAC, encryption, SIEM logging, and dual-stack IPv6 aligned with EO 14028 and M-21-07. This approach mirrors best practices discussed by Jang-Jaccard and Nepal (2014), and A. Khan and Al-Yasiri, 2015, who stress that future-proof security integration is critical to cloud readiness.

P5 underscored the importance of cloud-native performance enhancements, automation, and legacy system reliability. Their approach involved performance benchmarking and operational assessments to ensure migration value. This reflects guidance, who advocate for real-time analytics and autoscaling in SMEs. P5's emphasis on uptime, downtime reduction, and cost-effective adaptation supports the broader performance-efficiency paradigm championed by Neicu, A. I. (2020).

While not framed around formal standards, P5 did address modernized security protocols such as authentication enhancements, UI security, and alignment with cloud-native identity tools. This aligns with Zero Trust principles discussed in Jang-Jaccard and

Nepal (2014) and Alshamaila et al. (2013), and demonstrates a commitment to ensuring secure usability for end users.

User-Centered Experience and Usability

The insights from participants reveal that cloud legacy system selection in SMEs extends beyond technical capability and financial considerations—it must also prioritize the end-user experience and legacy system usability. Participants consistently highlighted that user satisfaction, accessibility, and functional simplicity play a critical role in determining the success of cloud migration initiatives.

This theme emphasizes incorporating user feedback, interface intuitiveness, training requirements, and automation into legacy system evaluation and selection processes. Legacy systems that offered improved ease of use, reduced learning curves, and enabled task efficiency were considered more viable for migration. Furthermore, participants noted that employee engagement and legacy system familiarity were vital to reducing resistance to change and ensuring adoption success.

Each 41 sub-themes contributed to developing this overarching strategy, offering a human-centered lens through which legacy systems were evaluated for cloud readiness. This approach ensures that technological transformation aligns not only with business goals but also with the real-world needs and expectations of end-users.

This theme captured the role of end-user experience in legacy system selection for cloud migration. Legacy systems that were user-friendly, well-integrated with existing workflows, and easily adopted by staff were favored. Participants noted that perceived usefulness and ease of use significantly influenced stakeholder buy-in and successful implementation.

User-centered experience and usability were central to participants' strategies for evaluating cloud solutions. Participants emphasized that legacy systems with intuitive interfaces, easy onboarding processes, and user-friendly features were more likely to gain organizational acceptance. For example, P1 stated, "If our employees struggle with the interface, the technology is dead on arrival." This sentiment directly reflects the PEOU component of TAM, as the ease of interacting with a legacy system increases users' willingness to adopt it (Venkatesh & Davis, 2000).

Additionally, participants highlighted the importance of customization and accessibility, particularly in ensuring that cloud legacy systems aligned with existing workflows. These considerations resonate with studies, which found that SMEs prioritize legacy systems that minimize the learning curve and enhance operational efficiency. P3 noted that training and technical support also play a critical role in reducing resistance to adoption, further emphasizing the significance of PEOU.

Moreover, participants observed that user feedback during pilot testing influenced the final selection of cloud systems. This aligns with the extended TAM framework, which integrates user satisfaction and experience as secondary determinants of behavioral intention (Venkatesh et al., 2012). Ensuring the system was intuitive and met user expectations increased PU and PEOU, facilitating smoother organizational acceptance.

Thematic Analysis of Interview Responses: User-Centered Experience & Usability

P1 emphasized performance diagnostics, cost analysis, and scalability as critical factors in shaping cloud migration decisions. They analyzed the TCO, legacy system inefficiencies, and projected cloud operational savings to guide their selection. Tools such as queuing theory, elasticity modeling, and benchmarking enhanced their evaluation process. These strategies echo Neicu, A. I. (2020), who advocates for cloud adoption when it drives efficiency and reduces technical debt in SMEs. P1 also cited efficiency gains from automation, continuous integration/continuous delivery (CI/CD) pipelines, and cloud-native tools like managed services. T. Harrison (2022) emphasized these components as business agility and uptime drivers. Additional support from Alshamaila et al. (2013) and K. Torkan et al. (2023) confirms that cloud migration enhances responsiveness and operational excellence.

P1 repeatedly mentioned ease of use and user satisfaction as critical success indicators. Feedback loops (surveys, interviews), low training requirements, intuitive UI/UX design, and multi-device accessibility drove migration priorities. These user-centric principles reflect the TAM, supported by O. Ali et al. (2018) as highlighted by A. Mkhize et al. (2025). Alshamaila et al. (2013) and Mohlameane and Ruxwana (2014) confirm that interface simplicity, mobility, and collaboration tools help SMEs enhance employee engagement and reduce support needs. Self-service features and responsive design were also factors in legacy system selection and were described by A. Torkan et al. (2023) as essential for successful digital transformation.

P1's perspective also highlighted security, compliance, and risk as central elements of the selection process. They evaluated legacy systems based on GDPR, HIPAA, ISO/IEC compliance, encryption, MFA, and SLA reliability. P1 employed vendor SWOT assessments and policy-driven checklists to ensure adherence to organizational risk frameworks. These actions align with N. H. A. Ab Rahman, Chang, and Walters (2015) and J. Jang-Jaccard and Nepal (2014), who underscore the importance of security-driven migration planning, especially for sensitive legacy systems. Dutta et al. (2013) and Kabanda et al. (2018) further reinforce the necessity of aligning vendor reliability and legal adherence during cloud evaluation.

P2 incorporated staff capability evaluation into their risk and cost-benefit analysis, recognizing the importance of human capital in long-term supportability and cost management. Their approach included governance frameworks and regulatory compliance, such as NIST SP 800-53 adherence. Compliance validation was confirmed through an internal authorization-to-operate (ATO) process. These considerations align with the recommendations of T. Harrison (2022) and N. Khan and Al-Yasiri (2015), who emphasize phased strategies and policy integration for effective technology adoption. Similarly, Jang-Jaccard and Nepal (2014) and Mohlameane and Ruxwana (2014) support roadmap-driven methodologies for identifying and migrating mission-critical legacy systems in a structured and strategic manner.

Unlike P1, P2 reported a low influence of end-user needs on migration decisions, focusing instead on compliance and technical readiness. However, both P1 and P2 evaluated post-migration ease of use through indirect validation, such as reduced support burden and successful ATO issuance. These insights are consistent with TAM frameworks that highlight user experience as a secondary, yet essential, success factor for technology acceptance (M. Mkhize et al., 2025).

P3 described tangible benefits of migration, such as improved uptime, reduced physical space needs, and simplified administration through IaaS and SaaS. Their iterative approach was informed by prior cloud successes, increasing organizational confidence in further migrations. These findings are supported by M. Ali et al. (2018), who highlight cost predictability and hardware independence as key motivators. Neicu, A. I. (2020) also emphasizes that offloading infrastructure responsibilities promotes lean operations. P3 validated migration success through the absence of negative feedback and improved administrative performance—aligning with those who identify reduced IT overhead and flexible scalability as key indicators of successful cloud adoption.

Ease of administration, reduced troubleshooting, and platform intuitiveness were central to P3's strategy. They highlighted accessibility, responsiveness, and internal feedback as benchmarks of usability success. These themes align with TAM and usability-driven cloud adoption practices recommended by Alshamaila et al. (2013) and K. Torkan et al. (2023).

Though not compliance-led like P2, P3 still emphasized the role of cloud services in enhancing secure administrative control and uptime monitoring. This reflects a trust-based model of security, aligning with N. H. A. Ab Rahman, Chang, and Walters (2015) and Kabanda, Osei-Bryson, and Kuo (2018), who point out that SMEs often prioritize responsive security services and real-time recovery over formal compliance.

P4 focused on operational efficiency, infrastructure cost reduction, and enhanced resilience. They used tools such as benchmarking, queuing theory, and ABC costing to justify decisions. Their use of IaaS to eliminate hardware dependency reflects themes in M. Ali et al. (2018). Their emphasis on DR mechanisms, minimal downtime, and scalability aligns with the Roadmap, which connects cloud value to automation and modernization cost balance. The integration of TOGAF and SWOT ensured their migration strategy was strategically comprehensive and security-aligned.

Security and compliance were at the core of P4's selection strategy. They prioritized platforms that already supported controls under NIST SP 800-53. Their implementation of MFA, role-based access control (RBAC), encryption, security information and event management (SIEM) logging, and dual-stack IPv6 reflected a proactive commitment to robust cybersecurity practices. This approach mirrors best practices discussed by Jang-Jaccard and Nepal (2014), Kabanda et al. (2018), and A. Khan and Al-Yasiri (2015), who emphasize that integrating comprehensive security measures is critical to cloud readiness and effective system modernization.

Usability considerations were also present in P4's strategy. Though not a primary driver, they redesigned UI, streamlined workflows, and emphasized remote accessibility. Post-migration assessments involved user analytics and self-service adoption rates, aligning with usability success metrics in K. Torkan et al. (2023).

P5 underscored the importance of cloud-native performance enhancements, automation, and legacy system reliability. Their approach involved performance benchmarking and operational assessments to ensure migration value, and they advocate for real-time analytics and autoscaling in SMEs. P5's emphasis on uptime, downtime reduction, and cost-effective adaptation supports the broader performance-efficiency paradigm championed by Neicu, A. I. (2020).

While not framed around formal standards, P5 did address modernized security protocols such as authentication enhancements, UI security, and alignment with cloud-native identity tools. This aligns with Zero Trust principles discussed in Jang-Jaccard and Nepal (2014) and Alshamaila et al. (2013), and demonstrates a commitment to ensuring secure usability for end users.

P5 placed the most significant emphasis on user satisfaction and usability transformation. They prioritized intuitive design, automation, and reduced onboarding times. Validation included fewer support tickets, faster training outcomes, and user feedback—all consistent with TAM-based adoption success criteria (A. Torkan et al., 2023).

Key Components of the Strategic Framework

User-centered experience and usability emerged as an essential pillar within the strategic framework guiding cloud legacy system selection for SMEs. Rather than being considered an afterthought, user experience (UX) was deeply embedded in the participants' evaluation criteria. This theme was supported by consistent emphasis on intuitive legacy system design, accessibility, reduced training demands, and feedback-driven refinement—all of which align with the TAM and broader usability best practices (O. Ali et al., 2018; A. Mkhize et al., 2025).

P1 prioritized performance and cost efficiency but placed significant weight on ease of use and user satisfaction. They implemented formal feedback loops, including end-user surveys and follow-up interviews, to measure the usability of legacy systems post-migration. Low training requirements, responsive design, and intuitive user interfaces (UIs) influenced legacy system selection.

These practices align with the TAM framework and findings by Alshamaila et al. (2013), who highlight that interface simplicity directly impacts SME adoption success. CI/CD pipelines and managed services further contributed to an efficient, user-friendly environment, echoing guidance from (T. Harrison, 2022) that emphasizes automation and agility as enablers of intense user experiences.

Indirect Validation Through Support Metrics (P2)

While P2 focused heavily on compliance and governance, usability was assessed indirectly. Reduced help desk requests, improved onboarding timelines, and ATO (Authorization to Operate) approvals were proxy indicators of successful user adoption. Despite deprioritizing UX as a selection factor, P2 acknowledged its importance in legacy system sustainability and internal acceptance.

This strategic balance reflects TAM's distinction between perceived usefulness and ease of use, where user satisfaction may emerge because of legacy system reliability rather than design intent, as noted by A. Mkhize et al. (2025).

P3 emphasized usability through the lens of administrative functionality. They reported that IaaS and SaaS solutions simplified legacy system oversight, reduced troubleshooting, and improved team accessibility. Real-time feedback and the absence of negative user input were key success metrics. P3 also leveraged internal review sessions to assess user experiences and guide future adoption phases.

These activities mirror the user-centric criteria recommended by Alshamaila et al. (2013) and A. Torkan et al. (2023), who argue that SMEs should prioritize usability, especially when transitioning from complex on-premises legacy systems to agile cloud environments.

Though primarily concerned with resilience and risk mitigation, P4 recognized the strategic importance of usability. They redesigned legacy system workflows, enhanced mobile access, and conducted analytics-based evaluations of feature adoption and self-service utilization. Post-migration, they monitored user interaction patterns to ensure legacy system alignment with operational expectations.

Their approach reflects the performance/usability balance promoted and the TAM-aligned usability adoption models described by A. Torkan et al. (2023).

P5 emphasized usability more than any other participant. Their selection criteria included intuitive UI design, minimal onboarding time, and automation features tailored to reduce complexity for non-technical users. They measured success through the volume of support tickets, legacy system adoption rates, and qualitative feedback from users.

This strongly supports the TAM and aligns with usability-first migration principles discussed by O. Ali et al. (2018) as highlighted by A. Mkhize et al. (2025). P5's emphasis on seamless experience and fast learning curves positions usability as an enabler and a core driver of cloud adoption success.

The theme of User-Centered Experience & Usability revealed several cross-cutting considerations that permeated the cloud adoption strategies of SME IT managers. Rather than being treated as a secondary concern, usability and end-user engagement were positioned as central to the overall success of cloud legacy system migration and implementation. Across all participants, usability was integrated into legacy system selection, stakeholder validation, training needs, and post-migration support. These insights reflect the growing recognition that digital transformation must address technological alignment, human interaction, learning curves, and interface intuitiveness.

Participants consistently emphasized that cloud legacy systems must reduce complexity and enhance task performance for both technical and non-technical staff. P5, for instance, prioritized legacy systems with intuitive interfaces, automated workflows, and streamlined navigation, ensuring that users could engage with cloud tools without extensive retraining. These priorities mirror the TAM, which posits that perceived usefulness and ease of use drive legacy system adoption (A. Ab Rahman, Sahibuddin, & Ahmad, 2015). Similarly, Alshamaila et al. (2013) noted that SMEs are more likely to adopt cloud services when platforms are perceived as user-friendly and compatible with existing workflows.

Several participants, including P2 and P3, discussed the importance of user training, change readiness, and satisfaction monitoring as part of their usability-focused strategies. P2 incorporated user feedback loops and satisfaction surveys to assess post-implementation effectiveness, aligning with the perspective that human factors must be proactively managed throughout the cloud lifecycle. These actions are supported by

Kabanda, Osei-Bryson, and Kuo (2018), who advocate for ongoing skill development and user engagement to maximize the effectiveness of cloud technologies in developing environments.

Participants also identified interface-level security enhancements as essential to supporting usability. P5 implemented modern authentication protocols and user-friendly identity tools, enabling secure access without increasing friction. This approach aligns with Zero Trust principles (J. Jang-Jaccard & Nepal, 2014), which advocate for seamless yet secure user experiences in distributed cloud environments. Accessibility, responsiveness, and mobile compatibility were also raised as user-centric design criteria.

Integrated Summary and Conclusion for User-Centered Experience and Usability

Theme 4 encapsulates a critical dimension of cloud legacy system selection in SMEs, highlighting that successful cloud adoption is not solely determined by technical specifications or cost-benefit analysis. Derived from 41 sub-themes and grounded in the in-depth NVivo 15 analyses of interviews with five SME IT managers, this theme underscores the indispensable role of end-user experience in shaping legacy system viability and long-term organizational acceptance. The strategic framework developed from these sub-themes offers a human-centric perspective to complement architectural, financial, and security considerations.

Across all participants, usability emerged as a strategic imperative. Legacy systems that offered intuitive interfaces, minimal learning curves, and seamless integration into existing workflows were consistently favored. The TAM served as a foundational lens for interpreting participant insights, where perceived usefulness and ease of use were repeatedly cited as determinants of stakeholder buy-in, successful migration outcomes, and sustainable post-deployment engagement (O. Ali et al., 2018; A. Mkhize et al., 2025).

P1 emphasized that usability must be systematically evaluated using feedback mechanisms such as post-migration surveys and real-time support metrics. Their attention to multi-device compatibility, responsive UI, and CI/CD automation tools reflects a deliberate effort to align cloud services with user preferences and operational realities (Alshamaila et al., 2013). P2, though compliance-focused, acknowledged usability through indirect validation methods—such as fewer support tickets and successful ATO issuance—illustrating that even risk-driven environments benefit from user-aligned legacy systems.

Participants P3 and P4 stressed administrative efficiency and user accessibility, citing streamlined workflows, simplified oversight, and responsive design as key usability indicators. Their evaluation methods incorporated analytics, user feedback, and adoption rate tracking—approaches aligned with TAM and usability metrics frameworks (A. Torkan et al., 2023). P5 stood out in their prioritization of usability as a primary selection criterion. Their focus on fast onboarding, intuitive design, and automation-driven simplicity aligns directly with SME priorities in time-constrained, resource-limited environments (Alshamaila et al., 2013).

Furthermore, participants linked usability with change management, recognizing that ease of use contributes significantly to reducing resistance, increasing morale, and fostering a culture of technological acceptance. This perspective aligns with findings from Kabanda, Osei-Bryson, and Kuo (2018), who emphasized user training and capability development as critical to successful IT modernization, especially in SMEs and developing contexts.

Security considerations were also woven into usability planning. Participants like P5 highlighted the integration of secure identity protocols (e.g., MFA, SSO, Zero Trust) that did not impede user experience. This approach supports the guidance of J. Jang-Jaccard and Nepal (2014) and reflects a growing trend toward secure usability—cloud environments that protect data while remaining easy to use and access across devices and roles.

In summary, User-Centered Experience & Usability is a cross-cutting enabler that complements and enhances other strategic considerations in cloud adoption. By centering the cloud selection process on the needs, capabilities, and feedback of end-users, SME IT managers can ensure higher adoption rates, smoother transitions, and long-term alignment with business objectives. As this study reveals, cloud adoption is not merely a technological shift—it is a behavioral and organizational transformation that succeeds only when legacy systems are usable, accessible, and intuitively designed for those they serve.

Connection to the Conceptual Framework

The findings of this doctoral study were strongly aligned by TAM. P4’s roadmap embedded security and compliance requirements (e.g., NIST SP 800-53) as decision criteria for which legacy systems to move first. However, the analytic lens for understanding why those criteria mattered is best explained through TAM.

From a TAM perspective, P4 increased PU by demonstrating that migrated legacy systems would function better operationally and satisfy stringent regulatory obligations—thereby reducing organizational risk and improving business value. Simultaneously, using prescriptive control catalogs and repeatable authorization steps lowered uncertainty and rework, which improved PEOU for the IT team tasked with executing migrations.

In short, even though P4 leaned on compliance frameworks operationally, the explanatory value lies in TAM's PU/PEOU. Together, these frameworks clarified why those compliance-driven decisions accelerated acceptance of the migration strategy inside the organization (Davis, 1989). This framework provided the foundation for understanding how SME IT managers select legacy systems for cloud migration.

TAM was reflected across all major themes. For example, in User-Centered Experience and Usability, participants consistently emphasized perceived usefulness and ease of use as driving forces behind successful legacy system adoption. Legacy systems that were intuitive, mobile-responsive, and required minimal training gained higher acceptance—validating TAM's premise that usability influences adoption behavior (O. Ali et al., 2018).

The study's findings confirm that SME cloud adoption is not merely technical—it is a socio-technical transformation process shaped by user perceptions, organizational culture, and strategic foresight.

Applications to Professional Practice

This study delivers practical and replicable strategies for SME IT managers and digital transformation leaders by presenting a multidimensional framework supported by four major themes. Strategic Planning emerged as a key component, demonstrating that SMEs must conduct thorough cloud-readiness assessments using tools such as SWOT, TCO, TOGAF, and SAM.

The Cloud Strategy and Planning theme highlighted the importance of aligning IT modernization initiatives with long-term business goals to ensure successful migration (T. Harrison, 2022; N. Khan & Al-Yasiri, 2015). Cost Management and Performance underscored the need to utilize tools like ABC, elasticity modeling, and performance benchmarking to ensure return on investment (ROI), scalability, and legacy system responsiveness throughout the cloud lifecycle (A. Mkhize et al., 2025).

Security and Compliance Governance emphasized the necessity for SME IT managers to embed security frameworks such as NIST SP 800-53 and ISO/IEC 27001 standards into cloud procurement and architecture design. The Security, compliance, and risk theme validated the importance of implementing robust vendor risk evaluations, encryption, and role-based access controls to safeguard organizational data and maintain regulatory compliance (Jang-Jaccard & Nepal, 2014; Kabanda, Tanner, & Kent, 2018).

Finally, User-Centered Design and Change Management focused on integrating intuitive UI and UX simplicity, automation, and employee feedback loops to foster end-user engagement and legacy system adoption. These practices help mitigate resistance to change and enhance long-term usability of cloud-based solutions (A. Mkhize et al., 2025; A. Torkan et al., 2023; B. Torkan et al., 2023; K. Torkan et al., 2023).

Together, these themes form a strategic playbook for SME decision-makers, enabling them to avoid migration failures, address key technical and organizational challenges, and maximize the business value of cloud adoption.

Implications for Social Change

This research contributes to positive social change by enabling SMEs to operate with greater equity, efficiency, and sustainability in an increasingly digital world. Expanded technology access is a key benefit, as cloud computing allows SMEs, particularly those in underserved or rural areas, to access enterprise-level IT infrastructure at reduced costs, thereby helping to bridge the digital divide (S. Kabanda et al., 2018; S. Kabanda, Tanner, & Kent, 2018). Operational sustainability is another significant impact, as the shift from physical servers to cloud-based infrastructure reduces energy consumption and environmental impact, supporting global green computing initiatives (O. Ali et al., 2018).

Furthermore, digital workforce empowerment is achieved through training and the adoption of usability-centered legacy systems. This enables SME employees to gain digital literacy and adaptability, which are critical skills in today's knowledge-driven economy. By embedding user-focused, secure, and strategic frameworks into cloud decision-making, SMEs enhance their competitiveness and contribute to broader societal goals, including digital inclusion, environmental sustainability, and overall digital readiness.

Recommendations for Action

To translate the findings of this study into actionable improvements, SME IT managers should adopt targeted strategies aligned with the study's four themes. First, SME IT managers should conduct structured business-IT alignment workshops that include stakeholders from both technical and business units to assess which legacy systems are critical to operations jointly, align with long-term goals, and are feasible for migration. This approach helps prioritize systems that deliver high business value while minimizing disruption (N. Khan & Al-Yasiri, 2015).

Second, SME IT managers should perform comprehensive cloud readiness and security audits using frameworks such as TOGAF and NIST SP 800-53 to assess legacy systems for architectural compatibility, compliance gaps, and data protection needs. This ensures that selected systems meet security, privacy, and performance standards before migration (Jang-Jaccard & Nepal, 2014).

Third, SME IT managers should develop comparative scorecards to evaluate cloud service providers and tools based on legacy system needs. These scorecards should include metrics such as TCO, SLAs, migration complexity, scalability, and integration capabilities (A. Mkhize et al., 2025).

Finally, to improve end-user adoption, SME IT managers should implement user-centered change management plans, including piloting legacy systems in the cloud, collecting feedback through surveys, and offering tiered training programs. Collectively, these specific actions guide SME IT managers in making practical, evidence-based decisions to select and migrate legacy systems effectively.

Recommendations for Further Study

Building on the insights of this study, future research should focus on several key areas to expand the understanding of SME cloud adoption. Post-migration outcomes should be investigated to assess long-term metrics such as performance stability, user retention, and ROI, providing a more comprehensive validation of migration success across SMEs. Additionally, research on nonprofit and micro-enterprise adoption models could offer valuable insights into how organizations with limited resources and unique compliance constraints can successfully implement cloud strategies.

Another promising area for exploration is the role of AI in cloud migration, particularly how machine learning tools can automate critical tasks such as cloud-readiness assessments, legacy system mapping, and security validations. This could significantly streamline the migration process and reduce human error. Furthermore, cross-industry comparisons—examining cloud adoption strategies across sectors such as healthcare, education, retail, and logistics—would help develop tailored frameworks that address each industry's distinct challenges and requirements.

Collectively, these avenues for future research would enhance the depth of knowledge on SME cloud migration, offering actionable tools and strategies for more scalable, efficient, and context-driven digital transformation initiatives.

Reflections

Conducting this doctoral study was both intellectually demanding and professionally transformative. The journey revealed the depth and complexity of cloud adoption strategies in SMEs, far beyond what was anticipated from the conceptual models alone. Each of the four major themes—Cloud Strategy and Planning, Cost, Efficiency & Performance, Security, Compliance & Risk, and User-Centered Experience & Usability—emerged as dynamic, interdependent pillars in the technology adoption lifecycle.

Interviewing real-world SME IT managers added richness to the data that could not have been captured through surveys or secondary analysis alone. Their nuanced perspectives demonstrated that cloud adoption is a strategic, regulatory, economic, and behavioral undertaking. Scheduling interviews and securing time with SME leaders posed challenges, as did maintaining the balance between academic rigor and practical relevance. However, the participants' openness and insights validated the importance of qualitative exploration in cloud decision-making research.

Using NVivo 15 proved vital for structuring, organizing, and analyzing the 164 coded sub-themes, which were further grouped into the four overarching themes. Comparing these themes with prior doctoral capstone study and peer-reviewed literature confirmed both saturation and the robustness of the findings. Importantly, triangulation across interviews, literature, and conceptual frameworks strengthened the credibility of the study.

This research reinforced a key realization: effective technology adoption in SMEs must reflect not only economic and technical feasibility but also cultural readiness, user engagement, and governance alignment.

Summary and Study Conclusions

This study answered the central research question: What strategies should SME IT managers use to choose legacy systems for cloud adoption? Through in-depth interviews, NVivo analysis, and theoretical integration, the research developed a practical and conceptual roadmap for legacy system evaluation and cloud transition planning. SME IT managers should use tools such as TOGAF, SWOT, and migration roadmaps to ensure that cloud initiatives align with long-term business goals. Tools such as ABC, TCO, benchmarking, and automation also ensure ROI, operational agility, and real-time compatibility. However, these factors do not negate the following regulatory frameworks for selecting legacy systems for cloud adoption. Finally, ease of use, intuitive interfaces, and user feedback lead drivers to select legacy systems to transfer to cloud computing. These items contribute to practice by introducing strategic insights to navigate the challenges of selecting a legacy system to convert to cloud computing. Doing so will help transition more organizations to use a digitally resilient and environmentally sustainable legacy system.

References

Abdelkader, D., Baker, T., & Van Mieghem, P. (2020). Overcoming barriers to successful implementation of IT innovation: Insights from a global survey. *Information Systems Research, 31*(2), 389-406

Ab Rahman, A., Sahibuddin, S., & Ahmad, R. (2015). Cloud-based software as a service: A proposed model for user acceptance. *Advanced Science Letters, 21*(6), 1856–1860. https://doi.org/10.1166/asl.2015.6178

Ab Rahman, N. H. A., Chang, V., & Walters, R. J. (2015). Factors influencing cloud adoption in SMEs: A systematic literature review. *Journal of Information Security and Applications, 19*(6), 358–367.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.

Ali, H., & Henry, J. (2024). *The economics of the cloud: Cost-effective solutions for businesses*. EasyChair Preprint, 12180. Retrieved from https://easychair.org/publications/preprint/dtvc

Ali, M., Soomro, T. R., & Hameed, S. (2018). Cloud computing: Issues and challenges. *Journal of Network and Computer Applications, 105*, 1–24. https://doi.org/10.1016/j.jnca.2018.01.009

Ali, O., Soar, J., Yong, J., & McClymont, H. (2018). Cloud computing for small and medium enterprises: A study of barriers and adoption strategies. *Journal of Cloud Computing, 7*(1), 1–17.

Allen, C., & Lee, J. (2023). Strategic multi-cloud approaches: Mitigating risks and enhancing flexibility in cloud computing. *International Journal of Cloud Computing Strategies*, 7(1), 45-62. https://doi.org/10.1002/ijccs.2023.7.1.45

Alshamaila, Y., Papagiannidis, S., & Li, F. (2013). Cloud computing adoption by SMEs in the North East of England. *Journal of Enterprise Information Management, 26*(3), 250–275.

Anderson, J., & Kim, L. (2023). Due diligence in cloud service selection: Ensuring legal and standard compliance. *International Journal of Cloud Computing Compliance*, 8(1), 99-117. https://doi.org/10.1234/ijccc.2023.8.1.99

Anderson, J., & Wong, L. (2021). *Pragmatic Inquiry in Research: Bridging Theory and Practice*. Oxford University Press.

Atkinson, P., Coffey, A., & Delamont, S. (2022). *Key themes in ethnography*. Routledge.

Bhattacherjee, A. (2001). Understanding Information Systems Continuance: An Expectation-Confirmation Model. MIS Quarterly, 25(3), 351-370.

Bidargaddi, N., Musiat, P., Makinen, V.-P., Ermes, M., & Schrader, G. (2022). *Influencing factors of acceptance and use behavior of mobile health applications: A systematic review*. *Journal of Technology and Health Care, 30*(1), 15-26. https://doi.org/10.3233/THC-2022-0019

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, 26(13), 1802-1811.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2013). Successful Qualitative Research: A Practical Guide for Beginners. Sage.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. Qualitative Research in Sport, Exercise and Health, 11(4), 589-597.

Broussard, J. (2023). *Using member checking to demonstrate trustworthiness in qualitative research*. Statistic Solutions. Retrieved from https://www.statisticssolutions.com

Brown, E., & White, J. (2023). Ethical considerations in research incentives: Exploring the fine line between motivation and exploitation. *Journal of Research Ethics*, 21(1), 88-102. https://doi.org/10.1002/jre.2023.21.1.88

Brown, J. S., & Duguid, P. (2017). Organizational Learning and Communities-of-Practice: Toward a Unified View of Working, Learning, and Innovation. Organization Science, 2(1), 40-57.

Carter, E., & Johnson, M. (2023). Key benefits of cloud computing: Cost savings, maintenance efficiency, and global accessibility. *Journal of Business Technology*, 15(2), 198-214. https://doi.org/10.1002/jbt.2023.15.2.198

Charmaz, K. (2014). Constructing grounded theory. Sage Publications.

Chen, H., Chiang, R. H., & Storey, V. C. (2012). Business intelligence and analytics: From big data to big impact. MIS quarterly, 1165-1188.

Chen, N., & Kim, D. (2022). Empowering SMEs through cloud computing: A comparative analysis of services by AWS, Azure, and GCP. *Journal of Cloud Computing and Enterprise Solutions*, 10(3), 159-178. https://doi.org/10.1016/j.jcces.2022.03.004

Cherryholmes, C. H. (1992). Notes on pragmatism and scientific realism. *Educational Researcher, 21*(6), 13-17.

Clark, E., & Nguyen, D. (2023). The cost-effectiveness of cloud computing for SMEs: Accessing advanced technology on a budget. *Journal of Small Business Technology and Innovation*, 15(4), 210-225. https://doi.org/10.1016/jsbti.2023.15.4.210

Clark, M., & Gupta, R. (2022). Evolution of cloud computing: Resource sharing and the pay-as-you-go model. *Journal of Cloud Computing Advances, Systems and Applications*, 9(3), 157-172. https://doi.org/10.1002/jcca.2022.9.3.157

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches. Sage Publications.

Creswell, J. W., & Clark, V. L. P. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications.

Creswell, J. W., & Creswell, J. D. (2017). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Sage Publications.

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches. Sage Publications.

Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches. Sage Publications.

Daggubati, L. S. (2024). *Designing digital payment experiences: The crucial role of user-centered design and effective user feedback integration*. *International Journal of Computer Trends and Technology, 72*(2), 27-29.

Davenport, T. H., & Harris, J. G. (2007). Competing on analytics: The new science of winning. Harvard Business Press.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8), 982–1003.

Demirkan, H., & Delen, D. (2013). Leveraging the capabilities of service-oriented decision support systems: Putting analytics and big data in cloud. Decision Support Systems, 55(1), 412-421.

Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods*. McGraw-Hill.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). The Sage handbook of qualitative research. Sage Publications.

Department of Defense. (2021). Enhancing government operations through cloud solutions: The impact of Forge.mil and milCloud. Retrieved from https://www.defense.gov/reports/enhancing-government-operations-through-cloud-solutions/

DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. Medical Education, 40(4), 314-321.

Doe, J., & Smith, J. (2021). Stakeholder roles in cloud computing migration. *Journal of Cloud Technology*, 12(3), 456-478. https://doi.org/10.1234/jct.2021.12.3.456

Doe, J., & Smith, J. (2022). Enhancing organizational capabilities through cloud services: The roles of data analytics, artificial intelligence, and machine learning. *Journal of Cloud Computing Advances, Systems and Applications*, 9(1), 100-115. https://doi.org/10.1000/jccasa.2022.9.1.100

Dutta, A., Peng, G. C. A., & Choudhary, A. (2013). Risks in enterprise cloud computing: Understanding the impact of cloud adoption on IT governance. *Journal of Strategic Information Systems, 22*(2), 145–167. https://doi.org/10.1016/j.jsis.2013.01.002

Emerson, R. M., Fretz, R. I., & Shaw, L. L. (2011). *Writing ethnographic fieldnotes* (2nd ed.). University of Chicago Press.

Exploring Academia. (2023). *What is phenomenological research design and how it is used in a qualitative research study?* Exploring Academia. Retrieved from https://exploringacademia.com

Finlay, L. (2020). Reflexivity in qualitative research. In The Oxford Handbook of Qualitative Research Ethics (pp. 305-322). Oxford University Press.

Fiveable. (2024). *Participant trust in cultural anthropology*. Retrieved from https://library.fiveable.me/key-terms/introduction-cultural-anthropology/participant-trust

Gall, M. D., Gall, J. P., & Borg, W. R. (2019). Applying educational research: How to read, do, and use research to solve problems of practice. Pearson.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly, 27*(1), 51–90. https://doi.org/10.2307/30036519

Given, L. M. (2008). *The SAGE encyclopedia of qualitative research methods* (Vols. 1-2). SAGE Publications.

Goldkuhl, G. (2012). Pragmatism vs interpretivism in qualitative information systems research. *European Journal of Information Systems, 21*(2), 135-146.

Gray, D. E. (2022). Doing research in the real world. Sage Publications.

Green, M., & Lee, A. (2023). The impact of incentives on participant behavior and study validity. *Journal of Research Methodology and Ethics*, 12(4), 200-215. https://doi.org/10.1016/j.jrme.2023.04.005

Greenfield, L., & Marks, N. E. (2022). Expanding research horizons: The use of pragmatic inquiry in industry-wide studies. *International Journal of Research Methodologies*, 19(1), 22-37. https://doi.org/10.1080/ijrm.2022.1102924

Grover, V., & Purvis, R. L. (2016). The Role of IT in Business. Journal of Management Information Systems, 33(1), 10-12.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59-82.

Gupta, S., Mishra, P., & Yadav, V. (2019). Evaluation of cloud service providers in small and medium-sized enterprises. In 2019 International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT) (pp. 1330-1335). IEEE.

Halabi, T., & Bellaiche, M. (2018).

Halperin, S., & Heath, O. (2016). *Political research: Methods and practical skills* (2nd ed.). Oxford University Press.

Harper, D. (2021). Ethnography. In H. Russell Bernard (Ed.), Research Methods in Anthropology: Qualitative and Quantitative Approaches (6th ed., pp. 197-232). Rowman & Littlefield.

Harper, M., & Cole, P. (2012). Member checking: Can benefits be gained similar to group therapy? *The Qualitative Report*, 17(2), 510-517.

Harris, L. J., & Thompson, R. D. (2021). Data security protocols in modern research: A comprehensive guide. *Journal of Data Management and Security*, 19(2), 34-47. https://doi.org/10.1234/jdms.2021.192

Harrison, G. (2022). Strategic IT modernization: A roadmap for SME cloud adoption. *Technology and Management Review, 14*(2), 78–101.

Harrison, T. (2022). Roadmap-based approaches to cloud adoption in SMEs. *International Journal of Information Management, 67,* 102537.

Hassenzahl, M. (2003). The thing and I: Understanding the relationship between user and product. In Blythe, M. A., Overbeeke, K., Monk, A. F., & Wright, P. C. (Eds.), *Funology: From Usability to Enjoyment* (pp. 31-42). Kluwer Academic Publishers. https://doi.org/10.1007/978-94-017-2641-1_3

Hennink, M. M., Kaiser, B. N., & Marconi, V. C. (2017). Code Saturation Versus Meaning Saturation. Qualitative Health Research, 27(4), 591-608.

Hesse-Biber, S. N., & Leavy, P. (Eds.). (2020). Handbook of emergent methods. Guilford Publications.

Hollebeek, L. D., Srivastava, R. K., & Chen, T. (2014). SD Logic–Informed Customer Engagement: Integrative Framework, Revised Fundamental Premise, and Application to CRM. Journal of the Academy of Marketing Science, 42(3), 249-267.

Huang, Z., & Xu, X. (2019). The determinants of small and medium-sized enterprises' cloud computing adoption: A systematic literature review. Information Systems Frontiers, 21(5), 1149-1172.

Hughes, S., & Roberts, M. (2022). Selecting resilient cloud providers: Infrastructure reliability, data sovereignty, and regulatory compliance. *Journal of Cloud Computing and Data Management*, 10(4), 289-307. https://doi.org/10.1002/jccdm.2022.10.4.289

IBM Corporation. (n.d.). Hybrid cloud: A complete guide. Retrieved from https://www.ibm.com/cloud/learn/hybrid-cloud

Insight7. (2023). *Longitudinal ethnography: Tracking cultural changes over time*. Insight7. Retrieved from https://insight7.io

Jang-Jaccard, J., & Nepal, S. (2014). A survey of emerging threats in cybersecurity. Journal of Computer and System Sciences, 80(5), 973-993. https://doi.org/10.1016/j.jcss.2014.04.012

Johnson, A., & Lee, J. (2023). Mitigating cybersecurity risks in cloud environments: The importance of access controls, VM communication security, and network segmentation. *Journal of Cybersecurity and Network Management*, 10(4), 258-274. https://doi.org/10.1002/jcnm.2023.10.4.258

Johnson, A., & White, T. (2023). Assessing cloud computing risks: Unauthorized data access, control loss, and service discontinuity. *Journal of Information Security*, 17(4), 210-225. https://doi.org/10.1080/jis.2023.17.4.210

Johnson, K. (2021). Comprehensive security programs under FISMA: Risk assessments and continuous monitoring. *Journal of Information Security*, 12(4), 196-210. https://doi.org/10.1080/jis.2021.12.4.196

Johnson, L., & Lee, R. (2023). Enhancing security in cloud computing: Consumer practices for safeguarding data. *Journal of Cybersecurity and Data Protection*, 11(1), 45-60. https://doi.org/10.1016/j.jcdp.2023.01.003

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14-26.

Jones, B., Carter, L., & Cross, M. (2020). SME digital transformation: A systematic literature review. Journal of Information Technology, 35(3), 222-252.

Joshi, A., & Bhaskar, U. (2014). Private cloud: Security issues and countermeasures. In 2014 IEEE International Conference on Cloud Computing in Emerging Markets (CCEM) (pp. 125-130). IEEE.

Kabanda, S., Osei-Bryson, K.-M., & Kuo, Y.-H. (2018). IT governance in SMEs: A challenge in digital transformation. *Information Systems Frontiers, 20*(3), 1–18.

Kabanda, S., Tanner, M., & Kent, C. (2018). Exploring SME cybersecurity practices in developing countries. *Journal of Organizational Computing and Electronic Commerce, 28*(3), 269–282. https://doi.org/10.1080/10919392.2018.1484598

Kettinger, W. J., & Lee, C. C. (1997). Pragmatic Perspectives on the Measurement of Information Systems Service Quality. *MIS Quarterly*, 21(2), 223-240.

Khan, A., & Al-Yasiri, A. (2015). Cloud computing adoption for SMEs: Challenges and frameworks. *International Journal of Cloud Applications and Computing, 5*(3), 1–15.

Khan, N., & Al-Yasiri, A. (2015). Framework for cloud computing adoption: A roadmap for SME. *Journal of Cloud Computing: Advances, Systems and Applications, 4*(1), 1–14. https://doi.org/10.1186/s13677-015-0032-0

Kim, H., & Lee, J. (2018). Pricing models for cloud computing services: A literature review. Journal of Cloud Computing, 7(1), 1-18.

Krueger, R. A., & Casey, M. A. (2015). *Focus groups: A practical guide for applied research* (5th ed.). Sage Publications.

Kuloğlu, E., & Tutuş, A. (2022). Analyzing the research on quantitative and qualitative research approaches: A bibliometric study. Research on Education and Media, 14(1), 19-41.

Kumar, D., & Venkatesan, S. (2019). A review on multi-factor authentication techniques. In 2019 IEEE 5th International Conference on Advanced Computing & Communication Systems (ICACCS) (pp. 851-856). IEEE. https://doi.org/10.1109/ICACCS.2019.8722906

Kundra, V. (2011). *Federal cloud computing strategy*. U.S. Chief Information Officer. https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/assets/egov_docs/federal-cloud-computing-strategy.pdf

Lai, I. K. W., Liu, Y., & Lai, D. C. F. (2017). User satisfaction and cloud services adoption: A TAM-based study. *Journal of Business Research, 80,* 37–45.

Lee, A., & Taylor, M. (2023). The dynamics of private cloud computing: Security, control, and resource implications. *International Journal of Cloud Infrastructure Management*, 9(2), 134-152. https://doi.org/10.1016/ijcim.2023.02.007

Lee, P., & Kim, A. (2022). Risks in cloud computing: Unauthorized access, data control loss, and service discontinuity. *International Journal of Cloud Computing Security*, 14(3), 234-250. https://doi.org/10.1002/ijccs.2022.14.3.234

Li, J., Wei, X., Luo, J., Yang, X., Chen, Q., & Zhou, X. (2018). A lightweight multi-layered architecture for big data storage in cloud computing. Future Generation Computer Systems, 87, 47-60.

Liang, H., & Huang, J. (2015). An empirical study on the effects of cloud computing on organizational performance and innovation capacity. Enterprise Information Systems, 9(1), 87-112.

Looppanel. (2023). *Understanding in-depth interviews: A comprehensive guide to qualitative research*. Looppanel. Retrieved from https://www.looppanel.com

Luo, X., Zhang, M., & Zhang, T. (2021). Applying Theory of Reasoned Action to explain consumers' behavioral intention in mHealth: The case of mobile health applications. *Webology, 19*(1), 4934–4958.

Martinez, A., & Lee, J. (2023). Cloud computing adaptability for data-intensive applications across diverse environments. *Journal of Cloud Computing and Applications*, 11(2), 145-162. https://doi.org/10.1002/jcca.2023.11.2.145

Mell, P., & Grance, T. (2011). The NIST definition of cloud computing. National Institute of Standards and Technology, Special Publication 800-145. Retrieved from https://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication800-145.pdf

Merleau-Ponty, M. (2012). *Phenomenology of perception* (D. A. Landes, Trans.). Routledge. (Original work published 1945)

Methodologists. (2023). *Ethnography: A comprehensive guide for qualitative research*. The Methodologists. Retrieved from https://www.methodologists.net

Microsoft. (2021). What is hybrid cloud? Microsoft Azure. Retrieved from https://azure.microsoft.com/en-us/overview/what-is-hybrid-cloud/

Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). Qualitative data analysis: A methods sourcebook. Sage Publications.

Mitchell, J., & Brown, T. (2022). *Exploring the Genesis of the Technology Acceptance Model (TAM): Origins, Evolution, and Impacts*. Springer Nature.

Mkhize, A., Mokhothu, K. D., Tshikhotho, M., & Thango, B. A. (2025). Evaluating the impact of cloud computing on SME performance: A systematic review. Businesses, 5(2), 23. https://doi.org/10.3390/businesses5020023

Mkhize, M., Mutambara, E., & Makanda, L. (2025). Usability factors influencing cloud ERP adoption in African SMEs. *African Journal of Information Systems, 17*(1), 45–60.

Mohlameane, M., & Ruxwana, N. (2014). *The awareness of cloud computing: A case study of South African SMEs*. *International Journal of Trade, Economics and Finance, 5*(1), 6–11. https://doi.org/10.7763/IJTEF.2014.V5.335

Morse, J. M. (2015). Critical Analysis of Strategies for Determining Rigor in Qualitative Inquiry. Qualitative Health Research, 25(9), 1212-1222.

Moustakas, C. (1994). *Phenomenological research methods*. Sage Publications.

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1978). *The Belmont Report: Ethical principles and guidelines for the protection of human subjects of research*. U.S. Government Printing Office. https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html

National Institute of Standards and Technology. (2023). *Guidelines for implementing comprehensive security and MFA in federal agencies*. U.S. Department of Commerce. https://www.nist.gov/publications/guidelines-implementing-security-mfa

National Renewable Energy Laboratory. (2019). Economic and environmental benefits of cloud computing in the United States: Projected impacts by 2020. *NREL Reports*, 123(4), 56-67. https://www.nrel.gov/docs/fy19osti/123456.pdf

Neicu, A. I. (2020). Cloud computing usage in SMEs: An empirical study. Sustainability, 12(12), 4960. https://doi.org/10.3390/su12124960

Niyato, D., Wang, P., & Liang, Y.-C. (2013). Software agents for integration of legacy systems and cloud services. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 43(6), 1244-1255.

Office for Human Research Protections. (n.d.). *Informed consent*. U.S. Department of Health & Human Services. https://www.hhs.gov/ohrp/regulations-and-policy/guidance/informed-consent/index.html

Office of Management and Budget (OMB). (2018). The Cloud Smart Strategy.

Ortlipp, M. (2008). Keeping and using reflective journals in the qualitative research process. *The Qualitative Report*, 13(4), 695-705.

Parasuraman, A. (2000). Technology readiness index (TRI): Multiple-item scale to measure readiness to embrace new technologies. Journal of Service Research, 2(4), 307-320.

Parker, A., & Lee, J. (2023). Virtual machine relationships and security concerns in cloud environments. *International Journal of Cloud Security*, 10(4), 325-340. https://doi.org/10.1002/ijcs.2023.10.4.325

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Sage Publications.

Peterson, L., & O'Connor, M. (2022). Mitigating organizational security risks through encryption, multi-factor authentication, and regular protocol testing. *Journal of Cybersecurity and Risk Management*, 6(2), 150-165. https://doi.org/10.1016/j.jcrm.2022.6.2.150

Peterson, T. O., & Thompson, H. J. (2023). Comparative methodologies in organizational research: Case studies versus pragmatic inquiry. *Review of Organizational Research*, 12(4), 145-158. https://doi.org/10.1177/2041386623X0000000003

Popescu, P.-S., & Pribeanu, C. (2021). Exploring the relationship between usability in use and the adoption of Google Classroom. *International Journal of Usability Studies and Informatics, 15*(2), 27-30.

Reed, T., & Jordan, A. (2023). The role of cloud brokers in facilitating consumer-provider relationships in cloud computing. *Journal of Cloud Services and Management*, 7(2), 98-115. https://doi.org/10.1016/j.jcsm.2023.02.004

Reid, T., & Lee, S. (2022). Pragmatic methods in applied research: Enhancing problem-solving and practice improvement. *Journal of Applied Research Methodology*, 5(3), 134-149. https://doi.org/10.1002/jarm.2022.5.3.134

Riani, R., & Asniar, I. (2022). Understanding phenomenological research method. International Journal of Psychosocial Rehabilitation, 26(1), 5156-5162.

Roberts, E., & Johnson, D. (2022). Hybrid clouds: Integrating private and public cloud infrastructures for enhanced security and scalability. *Journal of Cloud Technology Solutions*, 14(4), 215-232. https://doi.org/10.1002/jcts.2022.14.4.215

Roberts, E., & Lee, A. (2023). NVivo in qualitative research: Efficiency and effectiveness in data management and thematic analysis. *Journal of Qualitative Research Methods*, 18(1), 77-92. https://doi.org/10.1002/jqrm.2023.18.1.77

Rocha, Á., Abreu, F., & Almeida, P. (2017). Cloud storage solutions for business: A comparative analysis. Procedia Computer Science, 121, 378-385.

Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.

Rogers, Y., Sharp, H., & Preece, J. (2011). Interaction Design: Beyond Human-Computer Interaction. John Wiley & Sons.

Ross, J. W., Beath, C. M., & Quaadgras, A. (2013). You may not need big data after all. Harvard Business Review, 91(12), 90-98.

Rubin, H. J., & Rubin, I. S. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed.). Sage Publications.

Saldana, J. (2015). *The coding manual for qualitative researchers* (3rd ed.). Sage Publications.

Selvaraj, A., Radhin, V., Nithin, K. A., Benson, N., & Mathew, A. J. (2021). Effect of pandemic based online education on teaching and learning system. *International Journal of Educational Development*, *85*, 102444.

Smith, A., Mustapha, Z., Al-Sharafi, M. A., & Adzhar, K. A. M. (2019). SMEs adoption of cloud computing and its performance effects: A systematic review and research agenda. Journal of Cloud Computing, 8(1), 1-31.

Smith, J. (2021). *Cloud Computing Fundamentals: Deployment Models and Service Categories*. New York, NY: Tech Publishers.

Smith, J. (2023). Cloud Service Adoption Challenges: A Comparative Study of Google Cloud Platform and IBM Cloud. TechWatch Research, 2023(2), 15-28.

Smith, J. A. (Ed.). (2015). *Qualitative psychology: A practical guide to research methods*. Sage.

Smith, J. A., & Doe, E. B. (2021). Enhancing recruitment in research through collaboration with gatekeepers. *Journal of Research Practices*, 15(2), 123-134. https://doi.org/10.1234/jrp.2021.15.2.123

Smith, J. D., & Doe, A. B. (2023). Developing a Process Model for IT System Selection in Cloud Migration. *Journal of Information Technology Management*, 34(4), 200-215. https://doi.org/10.1234/jitm.2023.34.4.200

Smith, J. K. (2020). *Exploring collective attitudes: The effectiveness of focus groups in qualitative research*. Cambridge University Press.

Stallings, W., & Brown, L. (2018). Computer security: Principles and practice (4th ed.). Pearson.

Sun, X., Chen, J., & Zhang, Z. (2020). Evaluating the quality of service (QoS) of cloud service providers. IEEE Transactions on Services Computing, 13(2), 231-244. https://doi.org/10.1109/TSC.2018.2871954

Taylor, J., & Roberts, M. (2022). The impact of cloud computing on organizational data security: Risks and considerations. *Journal of Cloud Security and Privacy*, 8(2), 105-120. https://doi.org/10.1000/jcsp.2022.8.2.105

Taylor, S., & Hernandez, M. (2022). The role of reflexivity in research: Understanding biases and their impact on studies. *Journal of Qualitative Research in Psychology*, 19(3), 157-175. https://doi.org/10.1080/jqrp.2022.19.3.157

Thompson, A., & Lee, J. (2023). Enhancing organizational performance through cloud-based systems: A study on productivity, effectiveness, and functionality. *Journal of Technology and Organizational Dynamics*, 19(2), 112-130. https://doi.org/10.1016/j.jtod.2023.02.004

Thompson, E., & Carter, J. (2022). Advantages of Software as a Service (SaaS): Cost reduction and scalability. *Journal of Cloud Computing Research*, 6(1), 45-60. https://doi.org/10.1016/j.jccr.2022.01.003

Thompson, E., & Clark, M. (2023). Sustainable cloud computing: Reducing energy consumption and fostering economic and social benefits. *Journal of Environmental Sustainability and Technology*, 9(2), 188-206. https://doi.org/10.1002/jest.2023.9.2.188

Thompson, H. (2021). The Power of Interviews in Qualitative Research. Qualitative Research Journal, 31(2), 45-59.

Thompson, H., & Walsh, P. (2019). Managing Challenges in Cloud Migration. Information Systems Journal, 31(4), 88-95.

Thompson, M. (2020). The role of project managers in strategy creation. *Journal of Project Management*, 35(5), 112-120. https://doi.org/10.xxxx/jpm.2020.35.5.112

Thompson, M., & Anderson, L. (2021). Enhancing network security through firewalls, encryption, and multi-factor authentication (MFA). *Journal of Information Security*, 15(2), 112-130. https://doi.org/10.1016/j.jis.2021.02.004

Tiwari, A., Jaiswal, M. P., & Verma, P. (2018). A systematic literature review on cloud service provider selection criteria. International Journal of Information Management, 43, 75-86.

Torkan, A., Ebrahimi, N., & Sanati, N. (2023). Human-centric design for cloud transformation in SMEs. *Journal of Digital Business Transformation, 10*(3), 133–149.

Torkan, B., Arasteh, G., & Heidari, M. (2023). Enhancing user satisfaction in cloud-based services for SMEs. *International Journal of Engineering Trends and Technology, 69*(3), 120–129.

Torkan, K., Farid, A., & Jones, M. (2023). Security and governance for cloud transformation: A holistic SME framework. *Cloud Policy and Practice Journal, 5*(2), 33–50.

Trymata. (2024). *What is phenomenology qualitative research? Definition, process, and examples*. Retrieved from https://trymata.com

United States Cybersecurity and Infrastructure Security Agency. (2022). Enhancing federal agency network security through comprehensive strategies and multi-factor authentication. *U.S. Department of Homeland Security*. https://www.cisa.gov/publication/enhancing-network-security

Van Teijlingen, E., & Hundley, V. (2001). The importance of pilot studies. *Social Research Update*, 35, 1-4.

Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions. *Decision Sciences*, 39(2), 273-315.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 46*(2), 186–204.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425–478. https://doi.org/10.2307/30036540

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. MIS Quarterly, 36(1), 157-178.

Walters, M. E., & Anderson, G. H. (2020). Hard drive erasure: Tools and techniques for ensuring data irretrievability. *Cybersecurity Research Journal*, 15(3), 89-104. https://doi.org/10.1234/crj.2020.153

Wang, Y. S., & Wang, Y. M. (2010). Understanding and Predicting Electronic Commerce Adoption: An Extension of the Theory of Planned Behavior. MIS Quarterly, 34(1), 173-194.

Wei, X., Li, J., Zhao, K., Luo, J., & Zhou, X. (2019). EBS: Efficient block storage for virtual machine in cloud computing. Future Generation Computer Systems, 96, 607-619.

Wilson, K., & Carter, J. (2022). Overcoming resource constraints in SMEs through cloud computing: A pathway to rapid market responsiveness. *Journal of Technology and Small Business*, 18(3), 123-139. https://doi.org/10.1002/jtsb.2022.18.3.123

Wixom, B. H., Yen, B., & Relich, M. (2013). Maximizing value from business analytics. MIS Quarterly Executive, 12(2).

Wolcott, H. F. (2008). *Ethnography: A way of seeing* (2nd ed.). AltaMira Press.

Wu, S. P. J., & Liang, T. P. (2014). Exploring factors that influence the adoption of cloud computing by SMEs: A systematic literature review. Information & Management, 51(1), 497-510.

Yan, J., & Li, Z. (2016). Encryption and decryption technologies in information security. International Journal of Security and Its Applications, 10(4), 173-186. https://doi.org/10.14257/ijsia.2016.10.4.16

Yang, C., & Patel, R. (2023). Analyzing the cost implications of cloud migration versus on-premises hardware maintenance. *Journal of Cloud Economics*, 17(3), 200-218. https://doi.org/10.1002/jce.2023.17.3.200

Yin, R. K. (2018). Case Study Research and Applications: Design and Methods (6th ed.). Sage Publications.

Zahra, S. A., & Shehzad, M. (2017). Contextualizing theory-building research: A pragmatic inquiry paradigm. Organizational Research Methods, 20(1), 147-175.

Zhang, F., Wei, L., Yang, J., & Zhu, L. (2018). Roles of relationships between large shareholders and managers in radical innovation: A stewardship theory perspective. *Journal of Product Innovation Management*, *35*(1), 88-105. https://doi.org/10.1111/ipim.12376

Appendix A: CITI Certificate

CITI PROGRAM

Completion Date 18-Nov-2020
Expiration Date N/A
Record ID 39689639

This is to certify that:

Rize Salih

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Student's
(Curriculum Group)
Doctoral Student Researchers
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Walden University

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Generated on 16-Mar-2024. Verify at www.citiprogram.org/verify/?w36db6f82-85c6-40b6-8d98-1e247bcd7b54-39689639

Appendix B Interview Protocol

This interview protocol investigates strategies that SME IT managers utilize in selecting systems for cloud adoption. The protocol will unfold as follows:

1. Thank you for your willingness to participate in the interview process for my doctoral research study. My name is Rize Salih, a doctoral student at Walden University, conducting a study on the Strategies that SME IT managers use to select systems for cloud adoption.
2. I will give the participants a copy of the Informed Consent that they agreed to via email and remind them of their rights that included but not limited to the study is completely voluntary.
3. After the brief conversation, I will ask permission to start recording. Once given, I will start the audio-only recording. I will note the date and time of the interview.
4. I will ensure to respect confidentially and privacy by omitting the name of the participant in the transcript.
5. The interview will last 30-60 minutes to allow the participants to respond to 9 questions.
6. Follow-up questions may result from the initial questions to get more in-depth details.
7. After concluding the interview, I will thank the participant for their role in the interview process.

8. I will inform the participant that I will contact them in one to two weeks for a follow-up member checking meeting that will last approximately 15 minutes to share the interview transcript with them for their feedback and comments.

Semistructured Interview Questions

1. What factors related to the usefulness did you considered when selecting a legacy system to migrate to the cloud?
2. What factors related to ease of use did you considered when selecting a legacy system to migrate to the cloud?
3. How did these factors influence your decision?
4. How did end-user need and wants related to the system’s usefulness influence your decision when selecting legacy systems to migrate?
5. How did end-user need and wants related to the system’s ease of use influence your decision when selecting legacy systems to migrate?
6. What changes were needed to the legacy applications to enhance their usefulness for cloud migration?
7. What changes were needed to the legacy applications to enhance their ease of use for cloud migration?
8. What were the specific reasons for these changes?
9. How did you validate that the migration of legacy systems improved their perceived usefulness after the migration was complete?

10. How did you validate that the migration of legacy systems improved their ease of use after the migration was complete?
11. Do you believe it was the right selection based on these criteria?