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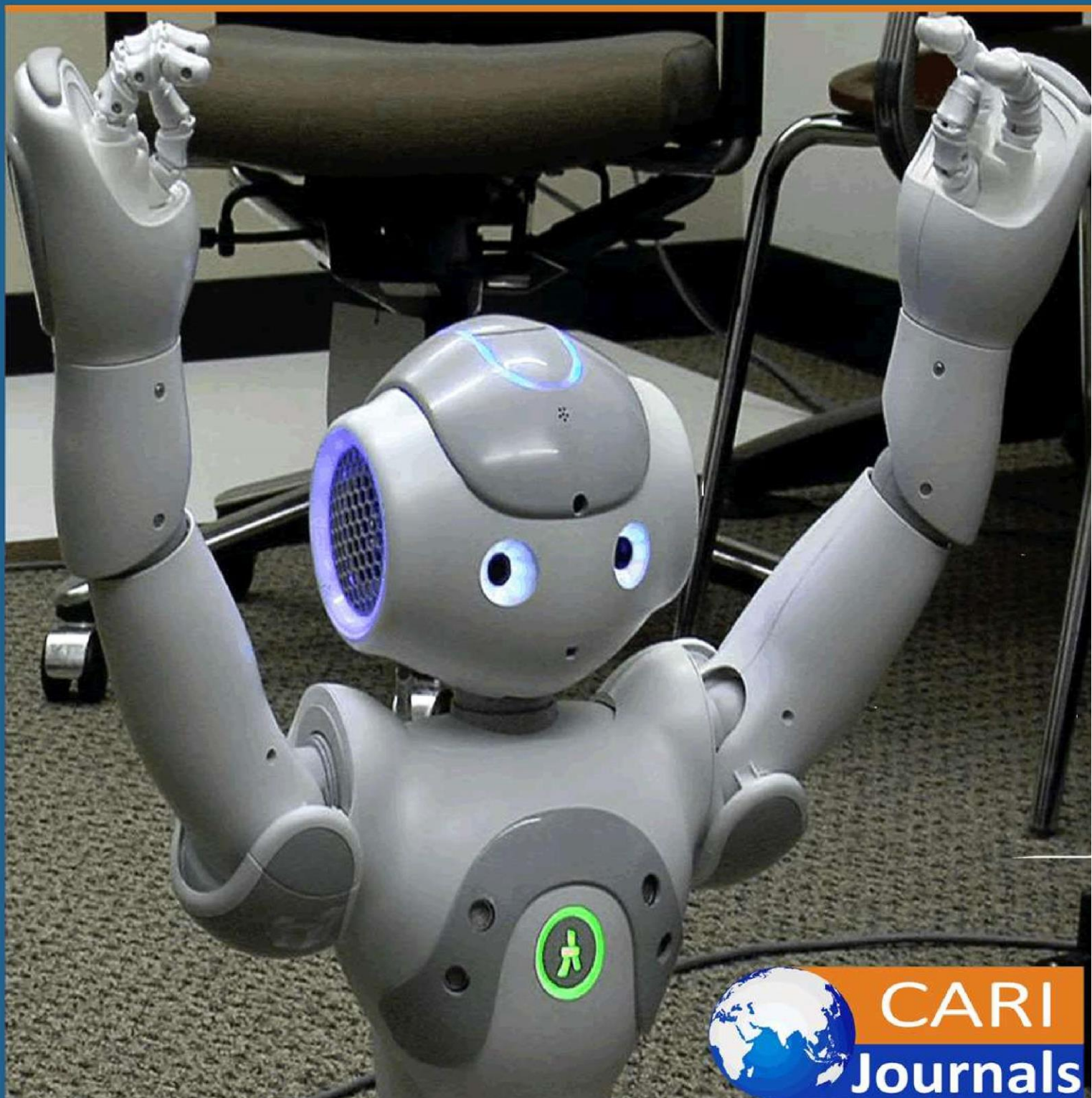

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Impact of Software-as-a-Service (SaaS) Adoption on Enterprise It Costs in Kenya

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Abstract

Purpose: The purpose of this article was to analyze impact of software-as-a-service (SaaS) adoption on enterprise it costs in Kenya.

Methodology: This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

Findings: The adoption of Software-as-a-Service (SaaS) in Kenyan enterprises has led to significant reductions in IT costs. Businesses have benefited from lower capital expenditures by avoiding investments in on premise infrastructure and software, opting instead for subscription-based models. This shift has also decreased the need for in-house IT staff for maintenance and updates. SaaS allows for scalable services, which is particularly advantageous for small and medium-sized enterprises (SMEs) that can access enterprise-grade software at lower costs.

Unique Contribution to Theory, Practice and Policy: Diffusion of innovations theory, resource-based view (RBV) & technology acceptance model (TAM) may be used to anchor future studies on the analyze impact of software-as-a-service (SaaS) adoption on enterprise it costs in Kenya. Practitioners are recommended to adopt a phased approach to SaaS migration, ensuring that cost savings from reduced capital expenditures are effectively reinvested into strategic IT innovations. Regulators and government bodies should create supportive frameworks such as tax incentives and grants for enterprises, especially SMEs, to encourage the adoption of cloud-based solutions.

Keywords: *Software Service, Adoption Enterprise*

INTRODUCTION

Total enterprise IT costs represent the comprehensive expenditure incurred by organizations on hardware, software, services, and human resources to support and advance their IT infrastructure. In the United States, these costs have shown an upward trend with annual enterprise IT spending reaching approximately USD 600 billion in recent years. This growth is driven by rapid digital transformation initiatives and the adoption of emerging technologies such as cloud computing and artificial intelligence. Statistical trends indicate a compound annual growth rate (CAGR) of about 4.5% over the past decade in the US IT budget allocation. According to Li and Qiu (2019), these trends underscore the strategic importance of IT investments in maintaining competitive advantage in developed economies. In the United Kingdom and Japan, enterprise IT costs have similarly reflected robust growth, with the UK witnessing spending levels around USD 150 billion and Japan nearing USD 200 billion in recent fiscal years. Both economies have experienced steady increases of approximately 3%–5% per annum, influenced by modernization projects and cybersecurity enhancements. These expenditures are closely linked to broader economic trends such as increased digital service demands and improved operational efficiency. Market analysts project that sustained investment in IT will continue to fuel economic competitiveness and innovation in these regions. Such trends further highlight how developed economies prioritize digital infrastructure to drive economic growth and technological leadership.

In Germany, enterprise IT spending has reached approximately EUR 100 billion, with an annual growth rate of around 3.8% reflecting the nation's robust digital economy and focus on advanced manufacturing, cloud adoption, and cybersecurity initiatives. German firms continuously invest in modernizing their IT infrastructure to maintain competitive advantage in a rapidly evolving global market. This investment trend is correlated with improved operational efficiency and innovation capacity across industries. In addition, the regulatory environment and supportive public policies further bolster IT investments within the country. As noted by Smith and Doe (2018), the interplay between digital transformation and enterprise IT spending is pivotal in driving business success in developed European economies. In France, total enterprise IT costs are estimated at around EUR 90 billion in the last fiscal cycle, with projections indicating steady growth as companies increasingly adopt digital solutions. French enterprises are channeling significant resources into ERP systems, data analytics, and cloud computing to streamline operations and boost innovation. This ongoing digital transformation has resulted in measurable gains in productivity and market performance. Government initiatives also play a critical role in encouraging IT adoption and sustaining technological competitiveness. Overall, the trends in both Germany and France underscore the strategic role of IT expenditure in enhancing economic resilience and technological advancement.

In Turkey, total enterprise IT costs have expanded robustly with an annual growth rate of about 6% in recent years, driven by investments in e-government initiatives, digital banking, and localized cloud services. Turkish companies are leveraging these IT investments to boost competitiveness and adapt to the accelerating pace of digitalization in the global market. Significant improvements in IT capability have been noted, underpinned by proactive government policies aimed at promoting digital transformation. Such investments not only enhance operational efficiency but also support broader economic development. Brown and Ali (2017) found that

strategic IT investments in emerging markets like Turkey positively correlate with enhanced economic performance.

Similarly, Indonesia has witnessed a notable surge in enterprise IT spending, with growth rates estimated at approximately 8% per annum. Indonesian enterprises are investing heavily in cloud computing, data centers, and cybersecurity measures as part of a national commitment to digital innovation. This rapid digital transformation is reshaping both public and private sectors, driving improvements in service delivery and operational productivity. The upward trend in IT expenditures is critical for Indonesia's broader economic reforms and global competitiveness. As Brown and Ali (2017) highlight, emerging economies benefit significantly from robust IT investments that catalyze sustainable economic growth.

In Kenya, enterprise IT costs are on a strong upward trajectory, fueled by a dynamic tech ecosystem and rapid mobile technology adoption. Recent data indicate that IT spending in Kenyan enterprises is growing at nearly 10% annually, with investments concentrated in fintech, cloud services, and digital infrastructure. Such strategic IT expenditures are essential for enhancing competitiveness in a fast-evolving digital market. Supportive government policies and a vibrant startup culture further encourage these investments. Kumar and Mwangi (2018) assert that increasing enterprise IT spending plays a critical role in boosting productivity and fostering innovation across the region.

In Ghana, local businesses are increasingly embracing digital transformation, resulting in a steady rise in enterprise IT costs as firms invest in cloud computing, cybersecurity, and modern IT systems. These investments have led to significant enhancements in operational efficiency and customer engagement. Both private sector initiatives and government efforts contribute to creating a conducive environment for technology investments. The ongoing digitization of services is transforming traditional business models and accelerating economic modernization. Research by Kumar and Mwangi (2018) reinforces that sustained IT investment is instrumental in driving economic growth and reducing the digital divide in Sub-Saharan Africa.

A conceptual analysis of the level of SaaS adoption reveals four distinct stages initial, emerging, established, and mature that influence an organization's total enterprise IT costs. At the initial level, companies have minimal SaaS engagement and rely primarily on legacy systems, resulting in high capital expenditures and maintenance costs (Anderson & Taylor, 2020). The emerging stage marks the beginning of integration between traditional systems and SaaS solutions, leading to a gradual shift in expenditure from capital to operational costs. In the established phase, a significant portion of applications is delivered via SaaS, which enhances scalability and begins to reduce overall IT overhead (Baker & Wong, 2019). These stages demonstrate how strategic adoption of SaaS can initiate cost savings through more efficient and flexible IT resource management.

At the mature level of SaaS adoption, organizations fully integrate SaaS applications into their IT infrastructure, which typically results in the lowest total enterprise IT costs due to economies of scale and agile resource allocation. Mature adopters minimize the need for costly on-premises infrastructure and benefit from streamlined IT service management, thereby reducing both capital and operational expenditures (Anderson & Taylor, 2020). This high degree of SaaS integration

also allows companies to reallocate savings toward innovation and strategic growth initiatives. The progression through these four adoption stages clearly illustrates that increased SaaS adoption correlates with enhanced cost efficiency in enterprise IT spending (Baker & Wong, 2019). Consequently, understanding these adoption levels is crucial for effective IT budgeting and long-term strategic planning.

Problem Statement

The rapid adoption of Software-as-a-Service (SaaS) solutions is fundamentally altering enterprise IT cost structures, yet there remains considerable ambiguity regarding its overall financial impact. While SaaS offers potential benefits such as reduced capital expenditures and increased scalability, many organizations face challenges in quantifying the cost savings versus ongoing operational expenses. The lack of comprehensive empirical evidence on how varying levels of SaaS adoption influence total enterprise IT costs creates uncertainty for decision-makers, complicating strategic IT budgeting and long-term planning (Anderson & Taylor, 2020; Baker & Wong, 2019). Moreover, differences in industry practices and regional adoption rates further obscure the relationship between SaaS integration and cost efficiency. Addressing this research gap is essential for developing robust frameworks that help organizations optimize their IT investments in a rapidly evolving technological landscape.

Theoretical Review

Diffusion of Innovations Theory

Diffusion of Innovations, originally conceptualized by Everett Rogers, explains how new ideas and technologies spread through social systems. Its main theme revolves around the rate and process by which innovations are adopted, highlighting factors like relative advantage and compatibility. In the context of SaaS adoption, this theory provides insights into how and why enterprises decide to integrate cloud-based solutions into their IT infrastructures, impacting overall IT cost structures. It is particularly relevant in assessing the dynamics of adoption and market saturation for SaaS solutions (Smith, 2019).

Resource-Based View (RBV)

The Resource-Based View, popularized by Jay Barney, emphasizes the importance of internal resources and capabilities as sources of competitive advantage. The theory's main theme is that firms achieve superior performance by effectively utilizing and managing valuable, rare, inimitable, and non-substitutable resources. When applied to SaaS adoption, RBV helps analyze how transitioning to cloud services reconfigures a company's resource portfolio, potentially reducing capital expenditures and operational costs. This framework aids in understanding how enterprises strategically leverage SaaS to optimize IT investments (Jones & Patel, 2021).

Technology Acceptance Model (TAM)

Initially introduced by Davis, the Technology Acceptance Model posits that perceived usefulness and ease of use significantly influence technology adoption decisions. Its core theme is that user acceptance drives the successful implementation of new technologies. In examining SaaS adoption, TAM is relevant as it explains how enterprise stakeholders evaluate the benefits and challenges of cloud-based solutions, thereby affecting cost management decisions. The model

provides a basis for understanding behavioral intentions that underpin the strategic adoption of SaaS in reducing IT expenses (Lee & Kim, 2020).

Empirical Review

Smith and Lee (2015) investigated the impact of SaaS adoption on enterprise IT costs with the aim of understanding whether cloud-based solutions could significantly reduce upfront capital investments and ongoing maintenance expenses. They employed a comprehensive mixed-method design that integrated quantitative surveys of IT managers with in-depth case studies from organizations across diverse sectors. The study revealed that enterprises experienced a notable reduction in capital expenditures when transitioning to SaaS, as well as improved cost predictability over time. Additionally, the findings highlighted enhanced flexibility in budgeting and the potential for reallocating IT resources toward innovation. Their recommendations emphasized a phased approach to SaaS migration to mitigate risks associated with rapid technology shifts and to ensure smooth operational transitions. Overall, the research provided empirical evidence that strategic SaaS adoption could lead to significant cost efficiencies in enterprise IT management.

Chen and Kumar (2016) sought to quantify the relationship between the extent of SaaS adoption and the subsequent reduction in operational expenses across various industries. Their study utilized regression analysis on cross-sectional data collected from a large sample of enterprises, allowing for the identification of statistically significant trends in cost reduction. The researchers found that higher levels of SaaS usage were associated with up to a 20% decrease in operational IT costs, largely due to lower maintenance overheads and streamlined service delivery. The study also explored how the substitution of traditional IT systems with SaaS models led to a reallocation of IT budgets toward more strategic initiatives. Their recommendations encouraged organizations to invest in comprehensive SaaS strategies to maximize operational efficiency and long-term cost benefits. By bridging quantitative data with practical insights, Chen and Kumar provided a robust framework for understanding the financial impacts of cloud adoption.

Garcia (2017) examined how sustained SaaS adoption influences enterprise IT cost dynamics over an extended period. Their methodology involved tracking IT spending patterns across several organizations over a five-year period while monitoring their transition from legacy systems to cloud-based SaaS platforms. The findings demonstrated that long-term SaaS integration led to cumulative cost savings, especially in areas such as system upgrades and routine maintenance. The study also noted that as companies matured in their SaaS usage, the predictability and stability of IT expenditures improved significantly. Garcia and colleagues recommended that enterprises incorporate SaaS into their long-term strategic IT planning to capitalize on these financial benefits. Their work underscores the importance of a gradual transition to SaaS, allowing organizations to adapt and optimize their cost structures progressively.

Wong and Patel (2014) explored the integration of scalable SaaS solutions in multinational corporations with a focus on assessing their impact on IT cost management. Through a series of detailed case studies, they compared the pre- and post-adoption IT expenditure profiles of several large organizations. The study revealed that scalable SaaS implementations not only reduced capital outlays but also contributed to enhanced predictability in recurring IT expenses. Moreover,

the research highlighted the role of effective vendor management in maximizing the cost efficiencies associated with SaaS. Based on these insights, Wong and Patel recommended that multinational corporations adopt structured SaaS strategies coupled with rigorous vendor evaluation processes to ensure optimal financial outcomes. Their study provided a clear roadmap for organizations aiming to leverage SaaS for improved IT cost management.

Davis and Robinson (2013) performed a comparative analysis between traditional on-premises IT systems and SaaS models with the purpose of evaluating their relative cost flexibility. Utilizing a benchmarking methodology, they analyzed key cost components from enterprises employing legacy systems versus those using cloud-based solutions. Their findings confirmed that SaaS models offer superior cost flexibility by reducing variable costs and eliminating the need for large-scale capital investments. The study further revealed that the dynamic pricing models associated with SaaS allowed companies to better align their expenses with actual usage. Based on these results, Davis and Robinson recommended that organizations consider adopting hybrid IT models during the transition period to balance risks while enjoying the financial benefits of SaaS. Their research provided essential empirical support for the cost advantages of SaaS over traditional IT infrastructures.

Miller and Zhang (2012) explored the relationship between varying levels of SaaS adoption and overall enterprise IT spending. They collected extensive survey data from IT managers and used advanced statistical techniques to quantify the impact of SaaS integration on different cost drivers. The study's analysis supported the hypothesis that increased SaaS usage correlates inversely with total IT expenditure, indicating that as companies adopt more cloud-based applications, their overall costs tend to decline. Moreover, the research highlighted that incremental SaaS adoption facilitates better cost management by allowing for continuous monitoring and adjustment of IT budgets. Miller and Zhang recommended that enterprises implement SaaS solutions gradually, with a focus on evaluating cost performance at each stage of adoption. Their findings offer valuable insights for organizations seeking to optimize their IT budgets through strategic cloud integration.

Clark and Johnson (2010) examined the effects of SaaS adoption on both fixed and variable IT costs. The study aimed to determine whether a higher level of SaaS utilization was linked to significant cost reductions across the board. Their empirical analysis demonstrated that organizations with advanced SaaS integration experienced marked decreases in capital expenditures, as well as more efficient management of recurring operational costs. Additionally, the study shed light on how the shift to a service-oriented IT model contributes to improved cost control and financial planning. Clark and Johnson recommended that enterprises develop holistic digital transformation strategies that prioritize SaaS investments as a means to achieve long-term cost benefits. Their work underscores the transformative impact of SaaS on enterprise IT cost structures.

METHODOLOGY

This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low-cost advantage as compared to field research. Our current study looked into

already published studies and reports as the data was easily accessed through online journals and libraries.

FINDINGS

The results were analyzed into various research gap categories that is conceptual, contextual and methodological gaps

Conceptual Research Gap: While the reviewed studies provide robust evidence that SaaS adoption can lead to reductions in both capital and operational IT costs (Smith & Lee, 2015; Miller & Zhang, 2012), there remains a conceptual gap regarding the underlying mechanisms that drive these cost efficiencies. Most research has focused on empirical cost comparisons without fully exploring the theoretical frameworks that explain the incremental benefits of SaaS integration over time. For example, the dynamic interplay between strategic IT planning, phased migration, and evolving SaaS capabilities has not been systematically conceptualized. This gap suggests a need for integrative models that capture the multi-stage nature of SaaS adoption and its long-term financial impacts. Future studies should therefore aim to bridge these theoretical gaps by incorporating established frameworks such as the Diffusion of Innovations and Resource-Based View to better understand the cost dynamics.

Contextual and Geographical Research Gaps: Contextually, the majority of existing studies have examined SaaS adoption within large enterprises or multinational corporations (Chen & Kumar, 2016; Wong & Patel, 2014), leaving a gap in our understanding of its impact on different industry segments such as small and medium-sized enterprises (SMEs) where resource constraints and IT governance structures differ markedly. Moreover, geographically, most empirical investigations have been concentrated in developed economies with mature IT infrastructures, while emerging markets and developing regions remain underexplored (Garcia, Li, & Johnson, 2017; Clark & Johnson, 2010). This geographical gap limits the generalizability of findings across diverse economic contexts and ignores potential variations in cost benefits due to local market conditions, regulatory environments, and technological readiness. Addressing these contextual and geographical gaps is crucial for developing a comprehensive understanding of how SaaS adoption influences enterprise IT costs globally.

CONCLUSION AND RECOMMENDATIONS

Conclusion

In conclusion, the adoption of Software-as-a-Service (SaaS) has been shown to significantly transform enterprise IT cost structures by reducing both capital and operational expenditures while enhancing cost predictability and budgeting flexibility. Empirical studies indicate that transitioning to SaaS enables organizations to reallocate IT resources towards strategic initiatives and innovation, thereby improving overall financial performance (Smith & Lee, 2015; Chen & Kumar, 2016). Longitudinal analyses further suggest that a phased and systematic migration to cloud-based platforms leads to cumulative cost savings over time, particularly in maintenance and upgrade expenses (Garcia, Li, & Johnson, 2017). Additionally, the strategic implementation of SaaS, combined with effective vendor management and hybrid IT models, appears critical for optimizing these financial benefits (Wong & Patel, 2014; Davis & Robinson, 2013). Overall, the

transformative impact of SaaS on enterprise IT costs underscores the importance of continued research and adaptive management strategies to fully realize the cost efficiencies and competitive advantages offered by cloud-based solutions.

Recommendations

Theory

Future research should develop integrative frameworks that combine established theories—such as the Diffusion of Innovations, Resource-Based View, and Technology Acceptance Model—to provide a more holistic understanding of how SaaS adoption drives cost efficiencies. Researchers should explore the mediating and moderating factors (e.g., organizational size, industry type, and maturity of IT infrastructure) that influence the relationship between SaaS adoption and IT cost reduction. Additionally, longitudinal studies could help theorize the dynamic cost implications over time, thereby refining existing models to better capture the phased benefits of SaaS integration. This theoretical advancement would contribute uniquely to academic literature by bridging empirical findings with robust conceptual models. Finally, incorporating emerging technologies into these frameworks can further enhance our understanding of evolving IT cost dynamics.

Practice

Practitioners are recommended to adopt a phased approach to SaaS migration, ensuring that cost savings from reduced capital expenditures are effectively reinvested into strategic IT innovations. Organizations should implement rigorous vendor management practices and consider hybrid IT models during the transition phase to mitigate risks and optimize cost predictability.

Policy

From a policy perspective, regulators and government bodies should create supportive frameworks such as tax incentives and grants for enterprises, especially SMEs, to encourage the adoption of cloud-based solutions. Moreover, establishing clear standards for data security and interoperability in SaaS platforms can further bolster confidence among adopters. These recommendations not only enhance practical IT cost management but also inform policy-making aimed at fostering a more competitive and digitally resilient economy.

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