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# Promoting the adoption of Cloud Computing in Small and Medium Enterprises

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## ABSTRACT

This study explores the impact of cloud computing on business operations of Small and Medium Enterprises, focusing on Amari Shopping Mall. Through interviews, document analysis, and literature review, the study examines the motivations, challenges, and outcome of cloud adoption at Amari Shopping Mall. The findings reveal that the adoption of cloud computing in Amari Shopping Mall enhance scalability, flexibility, and cost-effectiveness in response to the dynamic digital marketing setting. Cloud technologies enabled the business attain operational efficiency, drive innovation, and respond swiftly to evolving market demands. However, challenges such as data security, compliance, and cost management must be carefully managed to ensure the continued success of cloud initiatives. The study offers recommendations for organisations considering or undergoing cloud adoption initiatives, including developing a comprehensive cloud strategy, investing in change management, prioritizing data security and compliance, optimizing cost management, and continuously monitoring performance metrics. Overall, the study findings highlight the transformative potential of cloud computing in revolutionizing business operations and driving competitive advantage in today's digital marketplace.

**Keywords:** Database Management Systems (DBMS), Cloud Computing, Small and Medium Enterprises, Operations

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## 1. BACKGROUND OF THE STUDY

Cloud computing has become a game-changing tool in recent years, letting businesses access computing resources and services over the internet whenever they need to. This move from standard on-premises infrastructure to cloud-based solutions is due to benefits like being able to grow as needed, being flexible, and saving money. Amari employs an e-commerce platform that works in a very competitive market where being quick to change and adapt to customer needs is key to success. It is very important for Amari to fully understand what adopting cloud computing will mean for their business. Aljabre et al. (2019) performed a comprehensive analysis of existing literature to observe the influence of cloud computing on corporate performance. They highlighted the significance of cloud computing in improving operational efficiency and decreasing expenses. The authors identified various obstacles, including concerns regarding data security and the intricacies of integration, underscoring the significance of employing strategic planning and risk management approaches.

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Cloud computing has emerged as a transformative technology paradigm, revolutionizing the way businesses manage their IT infrastructure, data storage, and software applications. With its ability to provide scalable and flexible computing resources over the internet, cloud computing offers unprecedented opportunities for businesses to streamline their operations, enhance agility, and reduce costs. In recent years, cloud computing has witnessed widespread adoption across industries, enabling organizations to leverage advanced computing capabilities without the need for extensive investment in physical hardware or infrastructure. However, while the benefits of cloud computing are well-documented, its impact on specific aspects of business operations, such as scalability, security, and efficiency, remains a subject of ongoing study and exploration.

Against this backdrop, this study seeks to investigate the impact of cloud computing on the operations of Amari Shopping Mall, an online retail platform. By conducting a comprehensive analysis of Amari's adoption of cloud computing technologies, this study aims to uncover the ways in which cloud computing influences various facets of the business, including data management, customer service, and resource allocation. This study aims to provide valuable insights into the challenges, opportunities, and best practices associated with leveraging cloud computing in the context of online retail operations. In their study, Nguyen et al. (2020) investigated the factors that impact the adoption of cloud technology by small and medium-sized enterprises (SMEs). They identified cost-effectiveness, scalability, and trust in cloud providers as important determinants. The significance of resolving concerns related to organisational readiness and regulatory compliance in cloud adoption strategies was underscored, highlighting their powerful nature.

By shedding light on the experiences and outcomes of Amari Shopping Mall's journey with cloud computing, this study endeavors to contribute to the existing body of knowledge on the subject and offer practical recommendations for businesses seeking to harness the power of cloud computing to drive innovation and growth. Ultimately, by examining the real-world implications of cloud computing adoption within the context of a specific business case, this study aims to inform strategic decision-making processes and inspire future study endeavors aimed at unlocking the full potential of cloud computing in shaping the future of business operations. The implications of cloud computing on supply chain management were examined by Smith et al. (2021), with a particular focus on its ability to provide real-time visibility and cooperation. Notwithstanding the advantages, the presence of obstacles pertaining to data security and interoperability has been recognised, underscoring the necessity for resilient risk mitigation techniques.

### **1.1 Statement of Problem**

Even though there might be benefits businesses such as Amari have to consider and deal with a when they decide to adopt cloud computing. Concerns about data security, compatibility with current systems, following the rules, and the general effect on business operations and performance may be some of the main issues. Consequently, the main question this study tries to answer is how will Amari's business processes change when it starts using cloud computing, as well as what challenges and opportunities are presented due to this change.

### **1.3 Significance of the Study**

The results of this study would be beneficial for both students, small and medium business owners as well as Vendors providing cloud computing and e-commerce. By considering the specific case of Amari, this study provides a blueprint for other small and medium enterprise businesses that are considering or are already using the cloud significant lessons.

This in turn can guide future studies and enable businesses in the digital economy make strategic decisions.

### 1.3 Aim and Objectives

The aim of this study is to investigate the impact of cloud computing adoption on the business operations of Amari. The study is guided by the following objectives:

1. To analyze the challenges and opportunities associated with the implementation of cloud computing at Amari.
2. To evaluate the effects of cloud computing adoption on Amari's operational efficiency, scalability, and cost-effectiveness.
3. To identify best practices and recommendations for optimizing the utilization of cloud computing resources at Amari.

### 1.4 Research Questions

1. What factors influenced Amari's decision to adopt cloud computing?
2. What are the primary challenges encountered during the implementation of cloud computing at Amari?
3. How has the adoption of cloud computing impacted Amari's operational efficiency and scalability?
4. What are the key benefits and drawbacks experienced by Amari as a result of adopting cloud computing?
5. What recommendations can be proposed to enhance the utilization of cloud computing resources at Amari?

## 2. REVIEW OF RELATED LITERATURE

Cloud computing and e-commerce have witnessed several modifications and advancements that are changing how digital businesses work. One trend that stands out is the growth of cloud services, with service providers now offering a bigger range of solutions that can be tailored to the needs of each business. Advanced analytics, AI, machine learning, IoT platforms, and serverless computers are now all part of these services. Businesses like Amari can use cutting-edge technologies without having to spend a lot of money on equipment up front thanks to these kinds of expansions. Garcia (2022) conducted a comprehensive analysis of empirical data pertaining to the correlation between cloud computing and business agility. Their findings highlighted the favourable influence of cloud computing on organisational responsiveness and innovative capacities. Nevertheless, obstacles such as organisational culture and deficiencies in skills were seen as possible hindrances to attaining agility through the implementation of cloud technology.

The study conducted by Patel et al. (2023) investigated the impact of cloud computing on the process of digital transformation, emphasizing its importance as a facilitator of digital innovation. The significance of strategic alignment and organisational culture in facilitating advantageous digital transformation endeavours through the utilisation of cloud technologies was underscored. Adding edge computing technologies is another important change. These technologies let businesses process data closer to where it was created, which cuts down on latency and improves real-time responsiveness.

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E-commerce sites like Amari's can benefit from adding edge computing to their cloud architecture to boost application speed, make the user experience better, and support new use cases like shopping in augmented reality. Also, data security and privacy are still very important, since more and more sensitive data is being processed and kept in the cloud. New improvements in cloud security solutions, like encryption, identity and access management, and threat detection, are meant to handle these issues and make data protection better. Strong security measures must be a top priority for Amari in order to keep customer information safe and keep people trusting its platform.

With the help of advanced analytics and AI-powered tools, e-commerce platforms can give each customer a buying experience that is unique and fits their tastes and habits. Amari can learn more about what customers want by using cloud-based analytics tools and customer relationship management (CRM) systems. This helps them make better product suggestions and keep customers interested and loyal. Also, businesses and cloud service providers are putting more emphasis on energy saving and carbon neutrality because people are becoming more aware of the need to protect the environment. To leave as little of an impact on the earth as possible, cloud service providers are investing in renewable energy sources and using green data center practices. Amari might want to work with cloud service providers that are committed to sustainability efforts to be more in line with environmental values and less harmful to the environment. Recently happening events like these show how changing cloud computing and e-commerce are, giving businesses like Amari both chances and problems. Amari needs to keep up with these changes and trends in order to stay competitive, strong, and able to meet changing market needs.

### **2.1 Review of Existing Literature**

Cloud computing has gotten a lot of attention from many fields, such as small and medium-sized businesses (SMEs), education, banking, and construction, because it has the ability to change how businesses work and lead to new ideas. In 2021, Tiwari et al. did a study that considered how cloud computing and artificial intelligence (AI) affect banking services, profits, and practical benefits. According to their study, banks' use of cloud computing and AI technologies has led to better service, higher profits, and more efficient operations.

Gupta et al. (2023) considered the role of cloud computing in education and management, pointing out how important it is for making management more efficient and improving the way education works. In the same way, Vinoth et al. (2022) considered how cloud computing could be used in banking and e-commerce, focusing on how it could make services more safe and scalable. But they also talked about the possible security risks that come with using the cloud in these areas. Pallathadka et al. (2022) considered different uses and problems in cloud computing. They showed how cloud technologies can be used in different fields and talked about the problems that come with them. Modisane and Jokonya's (2021) study considered the benefits of cloud computing for small, medium, and micro-sized businesses (SMMEs), showing how it could help these businesses grow and become more competitive.

Schneckenberg et al. (2021) showed a digital innovation model for cloud computing that focused on how software providers can create value and take it from others in the cloud ecosystem. Bello et al. (2021) talked about the benefits, problems, and uses of cloud computing in the construction business. They focused on how it can help with teamwork, efficiency, and cost-effectiveness. Jayeola et al. (2022) did a systematic literature review on how small businesses adopt cloud computing.

They found the most important factors that affect adoption choices and suggested areas for future study. Naseer (2023) wrote about AWS cloud computing solutions and how businesses can improve their implementation methods. George et al. (2023) considered how the industry saw edge computing and what they thought it would mean for the future of cloud computing. On the whole, these studies enable small and medium business owners understand the different ways cloud computing can be applied, its pros, cons, as well as future paths in various fields.

## 2.2 Identification of Gaps

The study that has already been done on cloud computing can help us understand how it can be used and how it can help many different types of businesses. However, there are still some gaps in our understanding that need to be filled. First, it's been said that there are security and privacy worries about using the cloud. However, more study needs to be done on how threats are changing and how to effectively reduce risk. To build trust in cloud services, more study should be done to figure out how to protect data, control access, and make sure that regulations are followed. Second, while studies have considered how cloud adoption works in different areas, there isn't much study that looks at how and why adoption works in certain industries. Businesses and lawmakers can learn a lot from looking into the specifics of why some industries are more likely to adopt the cloud and how the needs of those industries affect deployment strategies. It's also still not clear how adopting the cloud affects an organization's performance in ways other than traditional measures like business agility, innovation capabilities, and market positioning. This is an area that needs more study.

Lastly, there is a big hole in the study that looks at businesses in emerging markets and small and medium-sized businesses (SMEs). Even though cloud computing could help these groups, not much attention has been paid to the specific problems and chances they face. It is important to look into how cloud technologies can help small businesses get around limited resources, boost growth, and become more competitive in the digital market. Also, looking into how to combine new technologies like AI, IoT, and blockchain with cloud platforms can open up new ways to create value and come up with new ideas. This is something that needs more study in the future.

## 2.3 Intended Approach to Address Identified Gap

A multifaceted method is suggested to fill in the gaps in our understanding of cloud computing. To begin, future study will involve deeply studying how threat landscapes change over time and coming up with new ways to lower risks. This is because of worries about security and privacy. For example, real-world studies could be used to see how well encryption methods, access control systems, and compliance frameworks protect the integrity and privacy of data in cloud settings. Second, a mix of qualitative and quantitative study methods will be used to learn more about the adoption patterns and drivers in each business. We will use surveys, interviews, and case studies to find out why people are moving to the cloud in different areas and what factors affect their rollout plans. Getting the opinions of people who have a stake in the industry, like leaders, IT experts, and regulators, can help you get a better sense of the problems and chances that are unique to that industry.

Third, to fill in the gaps in study on small and medium-sized businesses and developing markets, specific studies will be carried out to look into the specific needs and problems these groups are facing. Partnering up for collaborative study with small businesses and organizations in emerging economies will make it easier to co-create knowledge and come up with answers that work in that setting.

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We will also use methods from different fields, like economics, sociology, and technology management, to fully understand the difficult problems and chances that exist in these situations. A cross-disciplinary method will also be used to look into how new technologies can be used with cloud computing. Cloud computing, AI, the Internet of Things (IoT), and blockchain experts working together on study projects will make it easier to find synergies and create new uses. By making prototypes and testing them in the real world, proposed solutions can be proven and their effects on business performance and societal results can be studied.

### **3. RESEARCH METHODOLOGY**

The design study was adopted in order to suitably consider how adopting cloud computing can transform the way Amari Mall operates its' business. Based on this qualitative study, cloud adoption can easily be adopted in real-life. Small and medium enterprise business owners can equally learn about how to implement cloud computing by considering this case study. For the case study, data will be gathered from interviews with important stakeholders, analysis of organisational documents as well as reading relevant literature and industry reports.

#### **3.1 Data Collection Methods**

For the study, semi-structured interviews, document analysis, and a literature study will be used to gather data. Key stakeholders at Amari, such as executives, IT pros, and department heads, will be interviewed in a semi-structured way to learn more about the reasons, challenges, and results of adopting cloud computing. For document analysis, organizational papers like strategic plans, budget reports, and project documentation will be considered in order to understand the background and steps of Amari's cloud implementation. A thorough literature review will also be done to find gaps in the current study and put together what is known about how cloud computing affects business operations.

#### **3.2 Data Analysis Techniques**

Some of the methods that will be used to analyze the data for the study are thematic analysis for interview data, content analysis for document analysis, and synthesis of the literature review results. Finding recurring themes, patterns, and relationships in the interview data is what thematic analysis is all about. The goal is to figure out what factors affect cloud adoption and how it affects business processes. The main goal of content analysis is to find out more about the implementation process and results by systematically sorting and interpreting information from business papers. Finding similarities, contradictions, and gaps in current study will help shape the study's discussion and conclusions as the literature review results are put together. Overall, these techniques for analyzing data will give a thorough and rigorous look at the study topic, giving us useful information for both theory and practice.

### **4. DISCUSSION OF RESULTS**

A number of findings emerged from talking to important people and reading through organizational papers. First, it was clear that Amari's main reason for switching to cloud computing was to make it easier to expand and adapt to changing customer needs in the e-commerce market. Cloud technologies let Amari automatically assign resources based on spikes in demand. This made sure that the site worked at its best during peak times without having too many resources available.

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The results illustrated how cloud computing has helped Amari become more cost-effective. By switching from standard on-premises infrastructure to cloud-based solutions, the business was able to cut down on the costs of buying hardware and software as well as the costs of running the system and making upgrades and maintenance. Amari was able to put the money it saved on costs toward other important projects, such as product development and marketing. The study talk emphasized how important cloud computing is for Amari's ability to be innovative and flexible. Cloud technologies made it easy to add new features and services fast, which let the business adapt quickly to changing customer needs and market trends. Amari was also able to try out new business models and enter new markets with little risk thanks to the scalability of cloud technology.

#### **4.1 Analysis of Findings**

The results of this study provide useful information about how adopting cloud computing will affect Amari's long-term plans. To begin, the results show how cloud technologies have completely transform the way businesses work, making Amari more flexible, scalable, and cost-effective. By using cloud computing, Amari has become a market leader in online shopping and is able to respond to changing customer needs and market conditions. The study shows how important it is for organizations to be ready and for their strategies to match in order for cloud usage to go smoothly. Amari's proactive approach to adopting cloud technologies and encouraging a culture of testing and new ideas has been a key factor in achieving success. But problems like data security and compliance need to be carefully handled to make sure that cloud efforts keep working. The study gives other e-commerce businesses a better idea of what Amari's experience with cloud computing means for them. As Amari shares its lessons learned and best practices, it can be used as an example by other businesses that want to use cloud technologies to drive innovation, improve operational efficiency, and get ahead in the digital market.

#### **4.2 Functions and Importance of Findings**

The study's results are very important for many reasons and show how important they are in both academic and real-world settings. The first thing that can be said is that Amari's experience with cloud computing gives us useful real-world examples of how cloud adoption affects the way e-commerce businesses run. These results add to what is known about cloud computing and organizational planning by showing why people use the cloud, what problems they face, and what results they get. The results have real-world implications for businesses that are thinking about or already starting to adopt the cloud. By talking about the good things about cloud computing, like how it can be scaled up or down, and how cheap it is, businesses can decide if they want to use cloud technologies to drive growth and reach their strategic goals. Identifying the problems and lessons learned from Amari's experience can also help other businesses avoid common problems and get the most out of using the cloud.

The results are significant for policymakers, people who work in the business, and people who make technology. Policymakers can use these findings to create regulatory frameworks and incentives that make it easier for businesses to move to the cloud and become more digital. The results can help people in the industry, like technology businesses and experts, make changes to their products and services to better meet the needs of businesses starting to use the cloud. Overall, these results are useful and important outside of the study room. They help with academic study, help organizations make decisions, and change the way people talk about policy in the areas of cloud computing and business operations.

### 4.3 Recommendations for Practice

Based on what was discussed at this study, there are a few suggestions that can help groups that are thinking about or are already starting to adopt the cloud:

1. Businesses should make a clear and thorough cloud plan that fits with their IT roadmap and business goals. This plan should include a list of the goals, the workloads that will be moved to the cloud, and important issues like data security, compliance, and choosing a vendor.
2. For cloud usage to go smoothly, the organization's culture needs to change to welcome new ideas and flexibility. Putting money into change management projects like training programs and communication plans can help create a culture of working together and always getting better, which will make the switch to cloud-based processes go more smoothly.
3. When moving sensitive tasks to the cloud, businesses must put data protection and compliance at the top of their list of priorities. To keep data safe from breaches or unauthorized access, this includes putting in place strong security measures like encryption, access controls, and tracking tools. To keep customers' trust and confidence, you should also make sure that you follow the rules set by organizations like GDPR and PCI DSS.
4. Cloud computing can help businesses save money, but they need to be careful with how much they spend in the cloud to avoid unexpected costs. Cost optimization techniques, like right-sizing resources, using reserved instances, and keeping an eye on usage patterns, can help keep costs down and get the most out of your cloud infrastructure investment.
5. Adopting the cloud is an ongoing process that needs success metrics to be constantly checked and evaluated. Key performance indicators (KPIs) should be set up by businesses to measure how well cloud projects help them reach their business goals. Reviews and assessments done on a regular basis can help find places to improve and make things work better, which can lead to ongoing innovation and value creation.

## 5. SUMMARY OF FINDINGS

Findings from the study revealed that cloud computing has transformed business processes, with a focus on Amari's case. Several significant conclusions were drawn from interviews, document analysis, and a study of the literature. Amari initially switched to cloud computing because they required scalability, flexibility, and cost-effectiveness in the fast-paced digital marketing setting. The small and medium enterprise business adopted cloud technologies to improve business operations, spur new ideas, and quickly adapt to changing customer needs. Amari equally saved money by moving to the cloud because it cut down on the costs of capital expenditures and operational overheads that come with standard on-premises infrastructure.

The study also demonstrated how important it is for cloud adoption projects to have strategic alignment, organisational readiness, and proactive change management. The fact that Amari took the initiative to use cloud technologies and encourage a culture of creativity was a key factor in the success. But problems like data security, compliance, and cost management need to be carefully handled to make sure that cloud projects continue to be successful. Overall, the study shows that cloud computing has the potential to completely change how businesses work and give them an edge in today's digital market.

### 5.1 Recommendations for Action

Based on the study findings, several recommendations are proposed to guide action in SME businesses considering or undergoing cloud adoption initiatives:

1. Develop a comprehensive cloud strategy aligned with business objectives and IT roadmap.
2. Invest in change management initiatives to foster a culture of innovation and agility.
3. Prioritize data security and compliance to protect sensitive information in the cloud.
4. Optimize cost management strategies to control expenses and maximize ROI in cloud infrastructure.
5. Continuously monitor and evaluate performance metrics to identify areas for improvement and optimization.

By adopting these recommendations, organisations can effectively leverage cloud computing to drive innovation, enhance operational efficiency, and achieve strategic goals in today's digital economy.

### 5.2 Conclusion and Implications for Future Study

Findings from the study demonstrate that cloud computing has the potential to completely transform how businesses operate, as revealed by Amari's success story. Businesses can find new ways to advance, innovate, and create value by adopting cloud technologies by adopting a structured and reliable strategy. Nevertheless, challenges such as data security, compliance, and cost effectiveness need to be carefully handled to ensure that cloud projects continue to be effective. New advancements in cloud computing, such as edge computing, serverless designs, and hybrid cloud deployments, could be studied in the future, alongside how they affect business operations. Longitudinal studies that consider how adopting the cloud affects an organization's performance and ability to compete over time would equally enable small business owners understand the long-term benefits of cloud computing in today's evolving digital world.

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