

Examining the Transformation of IT Departments Post-adoption of Cloud Computing Services

**Dissertation submitted in partial fulfilment of the requirements for
the degree of Master of Business Administration in Cloud
Computing Stream at Dublin Business School**

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DECLARATION

I declare that this dissertation that I have submitted to Dublin Business School for the award of Master of Business Administration in Cloud Computing, is the result of my own investigations, except where otherwise stated, where it is clearly acknowledged by reference. Furthermore, this work has not been submitted for any other degree.

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ACKNOWLEDGEMENTS

I express profound gratitude for reaching this significant milestone in my journey. My heartfelt thanks go out to the numerous individuals who played a crucial role in supporting and shaping this transformative experience. I want to specifically acknowledge and appreciate my esteemed supervisor, Tom Wall, whose invaluable guidance, wisdom, and unwavering encouragement have been the guiding forces in steering the trajectory of my research. His expertise in the field and dedicated mentorship have illuminated the path forward, and it has been an honor to benefit from his insights.

I extend my deep thanks to my cherished family, whose enduring love and unwavering belief in my abilities have served as the solid foundation for my endeavors. Their unwavering support, sacrifices, and understanding have fueled my determination to achieve and have been instrumental in my success.

I must also extend my sincere gratitude to my good friends, whose company and steadfast support have made every aspect of this journey joyful. I appreciate the countless late-night discussions and their consistent reminders that challenges are opportunities for success. Their presence has transformed this academic pursuit into an unforgettable and meaningful experience.

Furthermore, I want to express gratitude to all those who contributed to this research project. Whether through thought-provoking insights, engaging discussions, or a simple word of encouragement, each interaction has left an indelible mark on my path. This collective collaboration emphasizes the significance of shared knowledge in shaping meaningful research.

ABSTRACT

The aim of this research is to explore and understand the evolving roles and functions of IT departments within organizations following the adoption of cloud computing services. Hence the study examines the factors that drive organizations to adopt cloud computing services, further the study analyses the impact of cloud computing adoption on traditional IT department functions. In addition to this, the study identifies the new roles and responsibilities that emerge within IT departments post-cloud adoption. Later, the study assesses the challenges and opportunities presented by the transformation of IT departments and finally, the study provides recommendations for organizations on effectively managing the transition of IT roles in the cloud era. The target population for this research contains 80 IT department professionals who are aware of cloud computing services. The gathering of survey data is essential to studying how IT departments have changed since utilizing cloud computing services. The survey instrument was created on the basis of thorough literature review that incorporates validated scales. The survey has gathered quantitative data and it was examined with the help of statistical tools like SPSS 25. Descriptive statistics were implemented in order to analyze and recognize trends. The evolution of IT departments in the wake of cloud computing adoption indicates a fundamental transformation in roles, features, and organizational strategies. Through this complete look at and by way of drawing upon previous research, it will become obvious that cloud adoption has catalysed a paradigm shift, riding IT departments to transition from conventional infrastructure management to strategic enablers of innovation and performance.

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Chapter 1: Introduction

1.1 Introduction and background of the study

Globalization in recent decades has placed increasing pressure on businesses to change. This requires businesses to efficiently integrate to not only stay alive, but thrive in competitive environments. Efficient integration can only be achieved through digital processes and collaborative tools (White, 2012). With this being the case, the importance of digital transformation has increased. Research emphasizes that DT should be included into the existing business perspectives, as this topic addresses much more than just technological shifts (Bouncken *et al.* 2021), and affects many or all segments of business: Successful business transformation is achieved by simultaneously exploiting and exploring what it offers to achieve organizational agility (Kraus *et al.* 2021).

Disruptive changes, understood as changes in a company and its operating environment caused by digitalization, possibly leading to the current business becoming obsolete (Parviainen *et al.* 2017), trigger DT in different environments due to rapid or disruptive innovations in digital technologies. These changes create high levels of uncertainty, and industries and companies try to adapt to these new environments through different options, for instance, with the growing acceptance of cloud computing services in recent years, the landscape of IT within enterprises has experienced a transformational transition. With its shared pool of reconfigurable computing resources available on demand, cloud computing has emerged as a key component of digital transformation plans for companies in a wide range of sectors. One of the most common challenges/problems encountered is that IT departments do not speak the same conceptual language as other business units (El Sawy *et al.* 2010; Rai and Tang, 2010). IT departments often struggle to transform themselves from technically oriented to customer oriented. However, changing environmental challenges such as digitalization reveal the value of IT departments as strategic business partners in general management and other critical areas, rather than as merely supporting services (Setia *et al.* 2013). Although, (Drnevich and Croson, 2013) claim that the reordering of roles and responsibilities in IT departments in the digital era reflects a new paradigm for non-ICT-oriented organizations, scant research has focused on the changing role of IT departments in these organizations from their traditional role as supporting units especially in cloud computing perspective.

Cloud computing is a novel way of delivering IT services to individuals and organizations (Marston *et al.* 2011). The diffusion and adoption of cloud computing especially among organizations is encouraged through the public availability of cloud services (Opitz *et al.* 2012) that provide multiple benefits like increased flexibility and agility (Weinhardt *et al.* 2009; Altaf and Schuff, 2010). Even though cloud computing offers multiple opportunities, the attitude towards cloud computing is influenced by numerous factors acting as drivers and barriers for its adoption (Stieninger and Nedbal, 2014). Therefore, the group of opponents of this innovation is also still noteworthy. But few researchers stated the advent of cloud computing has disrupted traditional IT models, challenging organizations to rethink their approach to infrastructure, application deployment, and service delivery (Nieuwenhuis, Ehrenhard and Prause, 2018). Many organizations rely on this technology to perform their business as usual and use it as a backbone of their companies' IT infrastructure. Traditionally, IT departments were tasked with managing on-premises infrastructure, hardware provisioning, and ensuring the stability of in-house applications. However, the shift to cloud computing has decentralized IT resources, placing a greater emphasis on virtualization, automation, and software-defined architectures. Key drivers for the adoption of cloud computing include the need for flexibility, scalability, and cost optimization. Cloud services enable organizations to scale their IT resources dynamically, responding swiftly to changing business requirements. This shift from a capital-intensive, on-premises model to an operational expenditure model has significant implications for how IT departments operate within organizations.

This research explores in IT departments are changing as a result of the increasing use of cloud computing services. Traditional IT systems see significant changes as more businesses use cloud solutions. The shift affects not only the technological elements but also the roles, responsibilities, and tactics of IT departments. The introduction of cloud computing results in modifications to skill sets, collaborative frameworks, and resource allocation. Comprehending these changes is essential to grasping the wider consequences on the effectiveness of organizations, security, and General IT administration (Ali *et al.* 2021). This study intends to examine the complex changes that IT departments have undergone since embracing cloud computing, investigating they have adjusted to new the delivery of services, data management, and sustainability paradigms. The research aims to provide insights into the potential and difficulties related to the changing IT departments in the cloud computing age by looking at real-world situations and industry trends.

1.2 Problem statement

The conventional role and responsibilities of IT departments inside organisations have been considerably altered by the introduction of cloud computing technologies (Bommadevara *et al.*, 2018). The public accessibility of cloud services, which offer numerous advantages like increased flexibility and agility encourages the diffusion and adoption of cloud computing, particularly among organizations. The adoption of cloud computing is influenced by a variety of factors that act as both drivers and barriers, despite the fact that it presents a number of opportunities. Consequently, the group of detractors of this innovation is still notable. Organisations now have the task of reinventing the roles and responsibilities of their IT staff in light of the migration to cloud-based solutions (Gartner, 2019). This shift arises the issues of how IT departments may best adjust to this new paradigm, what obstacles they will face along the way, and what chances they have to improve organisational competitiveness and efficiency. Organisations have to deal with these problems if they want to be flexible and adaptable in the quickly changing digital ecosystem.

The benefits of adopting cloud computing, a rigorous analysis indicates ongoing blocks and uncertainty in the transition of IT departments. Security concerns are a major problem, as companies struggle to protect confidential information on distant computers. Another major obstacle is the changing skill requirements, which call for a workforce with the ability to understand the intricacies of cloud technology. Operational interruptions are a result of integration challenges between cloud infrastructure and existing on-premise systems, which impede smooth migrations (Vu *et al.* 2020). Furthermore, IT departments face continuous hurdles due to the financial consequences of cloud adoption, which include possible unanticipated expenses and the need for strong cost-control measures. Decision-making is made even more difficult by the absence of standardized frameworks for evaluating and managing risks in cloud systems. Enterprises have to manage the combined burden of optimizing cloud service use and guaranteeing regulatory compliance. The goal of this research is to thoroughly address these concerns and provide light on the complex difficulties that IT departments now confront in the wake of cloud adoption. It aims to provide practical insights for businesses navigating the ever-changing terrain of IT transformation within the framework of services offered by the cloud utilizing a detailed examination.

1.3 Research aim and objectives

Aim:

The aim of this research is to explore and understand the evolving roles and functions of IT departments within organizations following the adoption of cloud computing services.

Objectives:

- To examine the factors that drive organizations to adopt cloud computing services.
- To analyze the impact of cloud computing adoption on traditional IT department functions.
- To identify the new roles and responsibilities that emerge within IT departments post-cloud adoption.
- To assess the challenges and opportunities presented by the transformation of IT departments.
- To provide recommendations for organizations on effectively managing the transition of IT roles in the cloud era.

1.4 Research Questions

1. What motivates organizations to adopt cloud computing services?
2. How does the adoption of cloud computing services impact the traditional functions of IT departments?
3. What new roles and responsibilities emerge within IT departments after adopting cloud computing services?
4. What challenges and opportunities are associated with the transformation of IT departments post-cloud adoption?
5. What recommendations can be made for organizations to successfully manage the transition of IT roles in the cloud era?

1.5 Significance of the study

It is important to look at how IT departments have changed after using cloud computing services in today's business environment. First, by concentrating on the particular adjustments and difficulties faced by IT departments after the implementation of cloud computing, the study

fills a significant research vacuum. This analysis is essential to comprehending how businesses in several industries are managing the shift from conventional on-premises models to cloud-based infrastructures. The study's potential to provide useful insights for IT specialists, company executives, and decision-makers is another factor contributing to its significance. Comprehending the IT departments' transformational journey after adopting cloud computing can yield valuable insights for devising efficacious strategies, restructuring organizational frameworks, and harmonizing IT operations with overarching business goals. This is especially important because cloud services are becoming an essential aspect of an organization's IT infrastructure.

This research in important knowledge gaps on the effects of cloud computing adoption on IT departments, which has important implications for business, it advances understanding by providing the complex modifications made to IT. Decision-makers, IT executives, and industry experts may benefit greatly from the study's conclusions. Through a thorough analysis of the possibilities and difficulties related to cloud adoption, organizations may arrive at well-informed strategic choices (Wulf et al. 2021). Research findings may be used to streamline integration procedures, provide customized training programs to meet changing skill needs, and put strong security measures in place. Furthermore, for organizations navigating this revolutionary path, knowing the financial consequences and risk management techniques connected with cloud adoption offers practical benefits.

1.6 Scope and limitations of the study

The study focuses on how the advent of cloud computing services has changed IT departments. It investigates how companies in diverse industries are changing in terms of roles, responsibilities, and operational models. In order to inform plans and integrate IT activities with more general business objectives, the scope includes useful information for IT professionals, decision-makers, and business executives. Furthermore, the study adds to scholarly discourse by offering perspectives on how IT is changing in the age of cloud usage. Although the study provides insightful information, there are certain restrictions. Because of its context-specificity, the research might not fully represent the range of organizational experiences. The extent may also be constrained by the data's accessibility and organizations' openness to sharing information. Variations in industry practices and organizational structures

may limit the generalizability of findings. Furthermore, the ever-evolving landscape of technology and corporate environments raises the prospect of post-study modifications.

This study scope includes a detailed analysis of how IT departments have changed after using cloud computing services in a variety of sectors. It is important to recognize certain limits, such as cloud services development, the research using data submitted by participants' organizations, and the possible reporting process (Adowa & Reuben, 2019). The research mainly on IT larger organization consequences could be completely documented. Another constraint is the always-changing regulation environment around cloud computing, legal systems differ and develop internationally.

1.7 Chapterisation

The research work is structured into five chapters, beginning with the introduction. This chapter provides a background and context for the study, articulates the problem statement, outlines the objectives, and underscores the significance of examining the transformation of IT departments post-adoption of cloud computing services. The second chapter is dedicated to a comprehensive literature review, covering topics such as the impact of globalization on businesses, digital transformation trends, cloud computing concepts, and the evolving role of IT departments in organizational contexts. Following this, the third chapter outlines the research methodology, detailing the research design, data collection methods, analysis techniques, and the chosen sampling strategy. The core of the study is presented in the fourth chapter, which explores the transformation of IT departments post-cloud adoption. This chapter delves into the nuances of cloud computing adoption, examining alterations in roles, responsibilities, operational models, and addressing challenges encountered by IT departments in this transformative journey. Finally, the chapter concludes the research. Overall, these five chapters provide a comprehensive structure for the research work, encompassing the context, literature, theoretical underpinnings, methodology, and the focal exploration of IT transformation post-cloud adoption.

Chapter 2: Literature Review

2.1 Introduction

A literature review serves as an essential analysis and synthesis of current scholarship, supplying an outline of the current nation of knowledge on a specific topic. Its motive is to discover, examine, and evaluate the important thing standards, theories, methodologies, and findings inside a subject of have a look at. This creation will delineate the significance of the literature overview method, its position in research, and the wider context it gives inside academia.

The literature evaluation performs a pivotal function in establishing the foundational framework for a studies inquiry. By surveying and synthesizing existing literature, researchers advantage a complete knowledge of the difficulty's ancient development, key debates, and areas of consensus or contention. It aids in figuring out gaps, unresolved troubles, or contradictory findings in the frame of know-how, thereby supplying a foundation for formulating research questions and hypotheses. Moreover, the literature evaluation allows situate one's paintings inside the broader scholarly communication, demonstrating an attention of past research and contributing to the development of knowledge.

The advent of a literature overview units the level through defining the scope and limitations of the study. It outlines the specific themes, theories, or methodologies with a purpose to be explored and highlights the purpose at the back of their choice. This introductory phase provides readers with an outline of the primary topics or classes below assessment and explains the criteria used for which include or aside from resources. By imparting a roadmap of the overview's structure and business enterprise, the creation publications readers via the subsequent sections, improving comprehension and enabling them to navigate the complicated terrain of the literature being tested.

The creation of a literature evaluate serves as a foundational element that outlines the cause, scope, and importance of the overview. It no longer most effective offers a complete assessment of current scholarship however additionally establishes a framework for knowledge the subsequent sections of the assessment, guiding readers thru the essential evaluation and synthesis of the literature.

2.1.1 The Role of technology in Digital Transformation

To produce business benefits and performance, IT and technology investments must be used effectively (Gerth & Peppard, 2016). According to Li (2020), the creative industries have the capacity to foster innovation and entrepreneurship in a variety of economic areas. Li (2020) asserts that digital technologies not only help create new business models but also transform existing ones by providing a new avenue for communication or interaction with stakeholders and customers. Digital technology allows for the extension or automation of business models in addition to their transformation. As a result, they make it possible to create brand-new business models as well as modify established ones.

The concept of social technologies, mobile technologies, cloud computing, analytics, and the Internet of Things (IoT) as new digital technologies is contributed by Sebastian *et al.* (2017). Similarly, location-independent access offered by cloud services is a significant technological advancement that adds value, particularly to digital workplaces (White, 2012). Furthermore, the study by Bondar *et al.* (2017) demonstrates that conventional methods of systems engineering and management are unsuitable and insufficient for a system-of-systems (SoS). The conventional functional decomposition of component systems in a system of systems (SoS) environment is no longer applicable due to advancements in network communication and human-machine interaction, necessitating a dependable interoperability between them.

Jiang and Katsamakos (2010) examine how e-book technology and the Internet drive the book industry's digital transformation. With the advent of e-book technology, customers no longer have to limit themselves to buying books from physical or virtual bookstores. The way that e-book technology has disrupted the entire industry is evident in the rise in e-book sales and the decline in paper book sales. Here, the DT not only transforms the way people read books, but also provides them with new opportunities for publication and competitiveness. Digital technologies either bring game-changing possibilities or terminal dangers to firms that established success prior to the advent of digital technology (Sebastian *et al.* 2017). In light of this, Sebastian *et al.* (2017) recommends a digital service platform and an operational backbone as technology-enabled assets to support DT efforts, particularly in the beginning. While digital service platforms, like platform-as-a-service (PaaS), are thought of as technologies that promote corporate agility and quick innovation, operational backbones are those that promote efficiency and operational excellence. EA is required due to recent developments in IT, like computing in the cloud, smart IT, and digital IT.

2.2 Cloud computing

2.2.1 Overview and definition of cloud computing

Cloud computing represents a paradigm shift in how computing assets are delivered, accessed, and managed. At its core, cloud computing refers back to the delivery of diverse computing services like inclusive of servers, storage, databases, networking, software program, and more over the net, permitting users to get right of entry to and make use of these assets on-call for without the need for giant local infrastructure or management. This model gives remarkable flexibility, scalability, and cost-performance, revolutionizing the way people and corporations store, manner, and manage facts and programs (Ali *et al.* 2020). The architecture of cloud computing typically encompasses three fundamental provider fashions: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). IaaS presents virtualized computing sources over the internet, which includes virtual machines, storage, and networking components, permitting users to set up and manipulate their very own packages by Garg *et al.* (2017). PaaS gives a platform permitting customers to increase, run, and control packages without coping with the underlying infrastructure complexities, imparting gear, middleware, and improvement environments. SaaS grants software programs hosted inside the cloud, accessible thru net browsers or APIs, casting off the need for nearby set up or protection by Ali & Osmanaj (2020).

Carreiro & Oliveira (2019) studied cloud computing operates primarily based on diverse deployment fashions, such as public, private, hybrid, and network clouds. Public clouds are owned and operated by 0.33-celebration vendors, making assets available to the general public over the net. Private clouds are committed to a single corporation, presenting more manipulate, security, and customization however requiring sizable investment in infrastructure by (Breda, 2022). Hybrid clouds combine factors of each public and personal clouds, allowing information and packages to be shared between them. Community clouds are shared infrastructures utilized by specific groups with shared worries, consisting of safety or compliance necessities (Carreiro & Oliveira, 2019).

Key traits of cloud computing encompass elasticity, in which resources may be unexpectedly scaled up or down based on call for, pay-as-you-move pricing fashions, which allow fee savings by using paying handiest for the assets consumed, and resource pooling, which lets in a couple of users to proportion a single pool of computing resources. Security, compliance, and statistics

privacy stay crucial issues in cloud computing, prompting ongoing advancements in encryption, authentication, and get entry to control mechanisms to make sure the safety of sensitive statistics stored and processed in the cloud by (Ali & Osmanaj, 2020)

It includes a variety of services, such as software, and infrastructure. Scalability is a major benefit since it enables organizations to effectively resources with demand, reducing infrastructure. The ability to store and retrieve data remotely is made possible by the capacity of cloud services, which promotes remote work and collaboration. Additionally, because of its accessibility, upgrades and maintenance can be completed more easily, saving firms. Furthermore, since cloud platforms make tools like deep learning and big data analytics more accessible, cloud computing democratizes these advanced technologies (Qasem *et al.* 2020). Organizations must manage security protocols and regulatory criteria while storing sensitive data sources. Dependency suppliers also present concerns about possible service dependability. Cloud computing is a revolutionary force that is changing the way companies use and manage their IT resources. Agility, cost efficiency, and innovation are among of its many advantages to assessing security and dependence concerns.

2.2.2 Cloud Computing Services and their adoption in Organizations

Cloud computing has emerged as a transformative technology for organizations, supplying a flexible and cost-effective answer for IT infrastructure needs. According to Ali & Osmanaj, (2020), cloud computing may be described as a version that allows entry to a shared pool of computing assets, which include servers, storage, and programs, over the net. The adoption of cloud computing services in businesses has been a topic of research and dialogue in recent years.

Numerous studies have highlighted the growing trend of adopting cloud computing services across diverse sectors. An examination by Ali *et al.* (2020) pronounced that the U.S. Federal authorities had commenced making use of cloud computing to decorate operational efficiency and reduce fees. Additionally, a survey carried out by Bian *et al.* (2020) indicated that 94% of companies were the usage of cloud services in some form, with a majority embracing a multi-cloud method, which worries the usage of a couple of cloud carriers to fulfill their precise needs. The adoption of cloud computing is driven by several key factors. Cost reduction is regularly referred to as a primary driver. Garg *et al.* (2017) discovered that companies can

substantially reduce their IT expenses by putting off the need to keep on-premises hardware and data centers.

Scalability and flexibility are extra benefits. Ali & Osmanaj (2020) stated that cloud computing allows companies to scale their assets up or down based totally on demand, supplying the agility wanted in hastily converting business surroundings. Challenges associated with cloud adoption have also been extensively documented within the literature. Security and records privacy concerns are paramount in these demanding situations. Breda (2022) highlighted the want for strong security measures to defend sensitive statistics in the cloud. Compliance with guidelines and standards, such as GDPR in Europe, adds complexity to cloud adoption. In a study by Carreiro & Oliveira (2019), it was emphasized that businesses must navigate those regulatory landscapes carefully. Cloud computing services have gained tremendous traction in businesses due to their potential for cost reduction, scalability, and versatility. However, the adoption technique isn't always without challenges, with information protection and regulatory compliance being key issues. Understanding those factors and their implications is important for organizations seeking to leverage the benefits of cloud computing while mitigating risks.

2.2.3 Features of cloud computing

The characteristics and unique nature of cloud computing technologies set them apart from other types of computing methods. Mahdavisarif *et al.* (2021) categorize the characteristics of cloud computing into two groups: fundamental and crucial elements. In this essay, the key components are explained:

1. **Broad network accessibility:** When adequate IP network access is available, cloud services and resources are always available via laptops, mobile phones, and personal computers, regardless of the user's location. Common procedures are used to make cloud services accessible, allowing users to access them via a variety of platforms and applications.
2. **On-demand self-service:** This is a core component of cloud computing, where users can access computer resources including server time and network storage. The provision of cloud computing services is contingent upon the user's request. Self-service that is available on demand can be used even when there is no human contact.
3. **Quick elasticity:** The quick release and instant scaling out of excessively fast scaling in is made possible by the elastic and speedy processing capability that cloud computing offers. It

is insufficient to be able to supply to clients solely upon request. It is feasible to offer services in different volumes at any given time because to the elasticity of cloud computing. In addition to saving money for cloud subscribers, elastically raising service capacities during peak hours and lowering them during off-peak hours can efficiently satisfy their expectations for service quality.

4. Resource pooling: Cloud resource providers combine computing services to provide a range of virtual and physical resources to fulfill the computing needs of various users. Many users make use of this sharing of resources, including storage servers and devices. Cloud resource sharing is the first option as it enables cost savings by allowing multiple apps to be developed in the cloud rather than using dedicated computing resources. To maximize service quality, cloud resource providers choose the best services from a pool of resources for each task assigned to a cloud user. The first alternative is cloud resource sharing, which allows for cost reductions by developing several apps in the cloud instead of requiring dedicated computing resources.

5. Service measurement: This is an automated service that tracks and maximizes service usage and, to some extent, correlates to the kind of cloud computing resources. In addition, it keeps track of, regulates, and reports on service usage, which results in the real acquisition of resources.

2.3 Transformation of IT Departments in Organizations

The transformation of IT departments inside organizations has grown to be vital in response to evolving technology. As a result of the huge adoption of cloud computing, digitalization, and the ever-increasing reliance on generation, traditional IT roles and responsibilities have shifted dramatically. A study with the aim of Carreiro & Oliveira (2019) noted that conventional IT departments generally focused on infrastructure control, preservation, and guidance. However, as businesses increasingly adopt cloud computing offerings, IT departments have had to redefine their roles and functions to align with the changing technological landscape.

One of the important thing drivers at the back of this alteration is the need for IT departments to play a more strategic position within the employer. Chen *et al.* (2022) talked about how the conventional function of IT as a cost middle has advanced into a strategic associate that drives innovation and business increase. With the adoption of cloud computing, IT departments are expected to make contributions to the strategic objectives of the company by way of leveraging

the competencies of cloud services to enhance performance, agility, and competitiveness. The transformation of IT departments extends beyond moving obligations; it additionally necessitates a change in the skill sets of IT experts.

A study by Bian *et al.* (2020) highlighted the significance of the IT workforce obtaining new skills related to cloud technology, cybersecurity, records analytics, and DevOps practices. This evolution in ability necessities reflects the need for IT departments to harness the capacity of cloud services successfully. However, this transformation is not without its demanding situations. Resistance to alternate, as recognized by El-Haddadeh (2019), can hinder the edition of IT departments to their evolving roles. IT professionals may be reluctant to include new duties or generations, and corporations may come across difficulties in aligning their existing lifestyle with the required transformation.

The transformation of IT departments inside businesses is driven using the want to align with the converting technological panorama and make contributions strategically to the organization's targets. This transformation includes a shift in roles, the acquisition of recent talents, and overcoming resistance to change. Understanding those dynamics is critical for corporations searching to optimize the ability advantages of cloud computing and other technological advancements. Technology innovations and changing business requirements are driving a dynamic process that is changing IT departments in organizations. IT departments, which were formerly thought of as support positions, are now strategically important for fostering innovation, improving operational efficiency, and guaranteeing digital resilience. The adoption of cloud computing stands out as a catalyst, changing the way IT operates. The transition from conventional infrastructure to cloud-based services allows for increased cost-effectiveness, scalability, and flexibility. IT departments are responsible for coordinating technological plans with broader business objectives, emphasizing flexibility and adaptability to market fluctuations (Zimmer *et al.* 2020). The focus goes beyond software and hardware management to include coordinating smooth connections, encouraging teamwork, and guaranteeing strong cyber security protocols. Companies are seeing the strategic need to transform their IT departments as a means of attaining a competitive edge and maintaining development in the digital age.

2.4 Factors that drive organizations to adopt cloud computing services

Understanding the driving forces at the back of companies' adoption of cloud computing services involves a comprehensive evaluation of previous studies which have identified various factors influencing this pivotal shift in technological infrastructure. A plethora of scholarly works has highlighted several compelling motives that encourage companies to embrace cloud computing, encompassing technological, monetary, strategic, and operational components.

The financial motive stands out prominently in studies exploring cloud adoption. Cost efficiency stays a primary motive force, as articulated through Armbrust et al. (2010) in their seminal paintings on cloud computing. They emphasize the potential fee financial savings associated with cloud services, which include the removal of capital expenditure on hardware, decreased operational charges, and the pay-as-you-go pricing version. This aligns with the findings of Ali &Osmanaj (2020), who talk the scalability of cloud assets, permitting businesses to dynamically modify their computing needs without vast prematurely investments. Such economic blessings regularly set off corporations to recall cloud adoption as a means to optimize their IT budgets and allocate sources extra effectively.

Moreover, the strategic agility afforded by way of cloud computing emerges as a important factor using adoption, as highlighted through Fofana (2023). They emphasize how the cloud's flexibility and rapid deployment abilities empower organizations to innovate, experiment, and release new services or products swiftly. The capacity to scale assets up or down in response to fluctuating needs enables companies to adapt greater with ease to marketplace modifications and seize opportunities, a sentiment supported with the aid of several studies, including that of Hameed & Siddiqui (2020).

In addition to financial and strategic advantages, security and compliance worries appreciably have an effect on the selection-making technique surrounding cloud adoption. Research through Khayer et al. (2020) underscores how addressing protection issues is vital for groups thinking about migration to the cloud. They spotlight the significance of strong safety features to shield touchy information and make certain compliance with enterprise rules. Ascertaining the reliability and integrity of cloud provider vendors' security protocols emerges as a crucial attention, affecting corporations' confidence in entrusting their records to external cloud environments.

Furthermore, research by means of Maqueira et al. (2018) additionally underscore the effect of technological improvements, such as improved connectivity, virtualization technologies, and the proliferation of mobile devices, in riding cloud adoption. These technological enablers facilitate seamless get admission to cloud services, improving collaboration, productiveness, and far off work competencies, thereby compelling companies to combine cloud computing into their operational frameworks.

Interoperability and integration competencies presented by means of cloud services stand as pivotal elements influencing adoption. Research with the aid of Shahzad et al. (2019) emphasizes the significance of interoperability, which permits seamless interaction among distinctive cloud structures, applications, and offerings. Organizations an increasing number of are seeking for cloud solutions that facilitate easy integration with current structures and programs. This compatibility ensures easy facts drift and method integration, permitting efficient collaboration between disparate structures or services. Additionally, the scalability and versatility of cloud-primarily based integration gear and middleware, as mentioned in research like that of Qasem et al. (2020), empower organizations to streamline their operations and create agile, interconnected ecosystems. Such capabilities are instrumental in modernizing legacy systems, enabling facts-driven decision-making, and fostering innovation inside businesses, in addition propelling their adoption of cloud computing offerings.

Furthermore, environmental sustainability has emerged as an influential component in riding cloud adoption. The environmental impact of traditional on-premises IT infrastructure, consisting of power intake and carbon footprint, has led researchers and practitioners to explore the inexperienced advantages of cloud computing. Studies by Oredo & Dennehy, (2022) highlight the capability environmental benefits of consolidating computing sources in cloud information facilities. Cloud services' shared infrastructure and aid optimization skills can lead to extra efficient usage of hardware, lowering average power intake and environmental impact. This aligns with the growing corporate emphasis on sustainability and company social responsibility (CSR). Organizations more and more recall the environmental implications in their generation selections, making cloud computing an appealing choice due to its capability to mitigate environmental influences associated with conventional IT infrastructure whilst also potentially reducing operational charges.

According to Tutunea (2014), businesses who use cloud computing services stand to gain from lower expenses for software upgrades, hardware, and infrastructure since these costs will be

borne by the cloud service provider. According to Avram (2014), businesses can significantly lower their upfront expenses for corporate computing while still gaining more instant access to hardware resources. Users of cloud computing services simply pay for the resources they actually utilize; thus, they won't be forced to pay for more processing power than they require (Rajaraman 2014). The cost-effective advantages of cloud computing are summarized as follows by Kim & Kim (2015, pp. 5): "limited up-front investment and operating cost."

According to Avram (2014), cloud computing helps businesses to expand and balance their computing power "on the fly" because more hardware and applications can be added quickly and easily. This makes IT an operational expense (OPEX) rather than a capital investment (CAPEX). Businesses are able to expand their services to meet their own needs and desires. This is made possible by the fact that software, which is quickly deployable when demands increase or decrease, manages the computing resources. It is possible to achieve this scalability without communicating with the service provider (ibid). This type of scalability is known as elasticity, according to Rajaraman (2014), who also notes that users can release computer resources when they are no longer needed and request more when necessary. Since the provider is responsible for all processing power, resources appear limitless to customers (ibid). The billing transparency of cloud computing services is another factor contributing to their scalability. Customers will be able to see an overview of the cost because they have the ability to monitor and control their usage (Rajaraman, 2014). Because scalable capacities make managing the overall aggregated demand easier, resources may be better used with less local IT infrastructure. According to Doherty *et al.* (2015), the scalability that cloud computing offers will assist clients in eliminating lost income due to inadequate processing power for applications or unforeseen future needs.

SMEs who adopt cloud computing services will not have to appreciate future IT-capacity needs since this easily can be added on in a cloud computing environment. At the same time new applications and technology can also be adopted without having to prepare for future requirements (Doherty *et al.* 2015). Applications can be adopted and tried within an enterprise and later be dropped without having invested in new hardware and software which is a great flexibility (ibid). Doherty *et al.* (2015) also discuss how the migration to cloud services can help maximize resource utilization by freeing up internal employee resources. Employees can be transferred from performing maintenance tasks to core-activities. This way of reducing the

workforce to core-business processes will help when scaling and adapting to the new environment that cloud computing brings.

Future IT capacity requirements won't be a concern for SMEs who use cloud computing services because it can be readily expanded to in a cloud computing environment. In addition, new technologies and applications can be implemented without requiring any forward planning for future needs (Doherty *et al.* 2015). Applications can be implemented and tested inside a company and then discontinued without requiring the purchase of new gear or software, offering a significant deal of flexibility. Doherty *et al.* (2015) go on to say that by freeing up internal staff resources, the move to cloud services can assist optimize resource use. Workers may be moved from maintenance duties to core responsibilities. This approach to staff reduction for core company operations will be beneficial for scaling and adjusting to the new environment that cloud computing delivers.

2.5 Impact of Cloud Computing on IT Departments

The impact of cloud computing on IT departments within corporations has been difficult to study and discuss in recent years. With the adoption of cloud computing offerings, IT departments are experiencing a profound transformation in terms of their roles, duties, and usual focus. One sizeable effect of cloud computing on IT departments is the redefinition of roles and responsibilities. Historically, IT departments had been ordinarily chargeable for managing on-premises infrastructure and ensuring provision and overall performance of local servers and networks. However, as businesses increasingly migrate their workloads to the cloud, the duties of IT departments have shifted.

A study by Ali & Osmanaj (2020) highlighted that IT professionals at the moment of tasked with coping with cloud sources, provisioning services, and ensuring the security and compliance of cloud-based total applications and information. Cloud computing has also shifted the point of interest of IT departments from infrastructure control to carrier transport. In a study by Fofana (2023), it was discovered that the cloud allows IT departments to recognize extra on turning in price-added offerings to their organizations instead of spending considerable resources on retaining hardware and software. IT experts now play a pivotal function in architecting cloud answers that align with business dreams and drive innovation.

The impact of cloud computing on IT departments is intently linked to the evolving skillset requirements. IT experts are required to conform to new technology, such as cloud platforms,

containerization, and serverless computing. An examination by Hameed & Siddiqui (2020) emphasized that acquiring competencies associated with cloud structure, automation, and safety is essential for IT experts to efficiently manage and optimize cloud resources. Moreover, cloud computing has implications for the organizational shape and lifestyle.

A study by Khayer *et al.* (2020) stated that IT departments need to collaborate more closely with different enterprise units, consisting of finance and advertising, to make certain that cloud answers align with broader organizational objectives. This shift in the direction of a greater included method can impact the organizational lifestyle, fostering a tradition of innovation and cross-purposeful teamwork. The impact of cloud computing on IT departments is profound, encompassing the redefinition of roles and obligations, a shift in focus toward provider shipping, the need for brand-spanking new skillsets, and implications for organizational structure and way of life. This transformation reflects the increasing importance of IT departments in using organizational achievement via cloud technology.

Studies by way of Hirschheim *et al.* (2015) and Sosinsky (2010) have highlighted a transformative shift in the roles and responsibilities of IT departments because of cloud adoption. Cloud computing's outsourced nature has brought about a reconfiguration of IT roles from infrastructure-centric to more strategic and carrier-orientated functions. Traditional tasks related to hardware provisioning, renovation, and software updates have dwindled, main IT experts to awareness extra on seller control, governance, safety, and compliance elements of cloud offerings. The emphasis has shifted closer to overseeing carrier-stage agreements (SLAs), negotiating contracts with cloud vendors, and making sure seamless integration and secure usage of cloud offerings in the company's atmosphere. This transition has brought about the emergence of recent talent units and abilities, such as seller management, cybersecurity, and facts governance, turning into essential for IT professionals to navigate the cloud panorama successfully.

Furthermore, the studies by way of Marston *et al.* (2011) and Mell and Grance (2011) highlight the organizational and structural modifications inside IT departments induced with the aid of cloud adoption. The move to cloud services has brought about a restructuring of IT departments, main to leaner teams with a extra strategic awareness. Centralized manipulate over hardware and software program has been changed by a distributed model, necessitating a shift in governance frameworks and selection-making strategies. IT departments are an increasing number of collaborating with business devices to align cloud techniques with

organizational desires and requirements. This evolution in the direction of a greater collaborative and agile approach enables IT to behave as a facilitator of innovation and transformation within the employer, fostering a closer partnership among IT and enterprise stakeholders to leverage cloud abilities for aggressive advantage and commercial enterprise growth.

Cloud computing has a significant influence on IT departments, changing their job, responsibilities, and overall strategic importance within business. The emergence of cloud computing has simplified. The increased scalability and agility that cloud solutions provide is one of its main effects. IT departments can quickly scale resources in response to demand, which maximizes operational effectiveness and reduces expenses. A more strategic approach is also encouraged by this shift, as IT specialists become more involved in decision-making and match technology plans with overarching business goals. The impact of cloud computing on labor dynamics calls for a change in skill sets. These days, IT workers need to be knowledgeable about data management, cyber security, and cloud computing (Hade et al. 2021). The significance of ongoing education and flexibility cannot be overstated as enterprises fully use cloud services. The cloud also changes the conventional approach to IT support. IT department becomes strategic partners by concentrating on innovation and digital projects while receiving service remotely. However, data security, compliance, and management issues raise the risk.

2.6 Evolving IT Department Roles and responsibilities in the Cloud Technology

The evolution of IT branch roles within the context of cloud generation adoption is a sizeable phenomenon that has garnered huge interest in the literature. Cloud technology has added a vast transformation in how IT departments function and the character of their obligations. One of the key factors of the evolving IT department roles within the cloud technology is the control of cloud resources and services. Cloud systems provide a wide selection of services, from Infrastructure as a Service (IaaS) to Software as a Service (SaaS). As noted by Manuel Maqueira *et al.* (2018), IT departments now need to choose, configure, and manipulate a combination of those offerings to meet the enterprise's unique needs. This entails a shift from traditional infrastructure control to the control of cloud service portfolios.

Ensuring statistics safety and compliance has come to be a paramount function for IT departments within cloud technology. Cloud technology introduces new challenges in phrases

of facts safety and regulatory compliance. An observation by Shahzad *et al.* (2019) emphasized that IT departments ought to implement sturdy safety features and ensure statistics privacy while leveraging cloud offerings. Compliance with standards and guidelines, along with GDPR in Europe or HIPAA in healthcare, is essential, and IT departments play a vital role in the assembly of these necessities.

Monitoring and overall performance optimization are additional obligations that have advanced with the adoption of cloud technology. IT departments need to constantly reveal the performance of cloud offerings and applications to make sure they meet the favored service tiers. As noted by way of Qasem *et al.* (2020), the ability to scale resources up or down is based on the hallmark of cloud computing, and IT departments have to optimize resource utilization to manipulate charges effectively. Vendor and useful resource control is another key thing of the evolving roles of IT departments within cloud technology.

As businesses increasingly rely upon cloud provider carriers, they should establish and control relationships with these carriers. This entails supplier choice, agreement negotiation, and ongoing seller overall performance assessment, as highlighted by Oredo & Dennehy, (2022). Effective supplier and resource control contributes to cost management, provider first-rate, and general IT governance (Singh & Mansotra, 2019). In precis, the adoption of cloud technology has ushered in a brand-new generation of IT departments, reshaping their roles and responsibilities. IT departments are now responsible for dealing with numerous portfolios of cloud sources and services, ensuring information security and compliance, monitoring and optimizing overall performance, and efficaciously handling supplier relationships. Understanding and adapting to these evolving roles is essential for agencies seeking to harness the whole capacity of cloud generation (Sithipolvanichgul *et al.*, 2021).

Studies through Buyya *et al.* (2009) and Armbrust *et al.* (2010) emphasize a essential shift in the roles of IT departments in the direction of becoming strategic orchestrators of cloud offerings. With the migration of infrastructure to the cloud, conventional roles centered on hardware preservation and software management have developed into extra strategic and governance-orientated duties. IT professionals are actually tasked with overseeing cloud provider carriers, negotiating contracts, and ensuring adherence to carrier-stage agreements (SLAs). They play a pivotal role in assessing, deciding on, and integrating cloud answers that align with organizational dreams, emphasizing the need for understanding in vendor management, cybersecurity, and compliance. Moreover, IT departments are more and more

riding innovation with the aid of leveraging cloud abilities to deliver scalable and green answers, thereby assuming a greater proactive and transformative role within their organizations.

Furthermore, research by means of Venkatraman and Pinto (2015) and Marston et al. (2011) spotlight the collaborative nature of modern-day IT departments inside the cloud era. The integration of cloud offerings has necessitated nearer collaboration between IT and commercial enterprise devices to align technological strategies with overarching business targets. IT professionals at the moment are serving as strategic advisors, running in tandem with numerous departments to perceive possibilities for leveraging cloud generation efficiently. This collaborative technique has brought about a blurring of conventional departmental limitations, fostering a culture of pass-functional teamwork geared toward attaining operational efficiency, innovation, and competitive advantage. Additionally, the evolving panorama needs IT professionals to own not only technical understanding but also strong communicate and business acumen to successfully bridge the distance between era and commercial enterprise needs, similarly solidifying their elevated and multifaceted roles inside groups.

2.7 Challenges and opportunities presented by the transformation of IT departments.

Challenges related to this modification had been elucidated in research consisting of the ones by Fofana (2023), highlighting worries associated with protection and facts governance. With the decentralization of infrastructure inside the cloud, IT departments face expanded complexities in ensuring robust cybersecurity measures and compliance with records protection regulations. The dispersion of information across multiple cloud environments demands a heightened focus on records governance, privateness, and regulatory compliance, posing massive challenges for IT departments in maintaining manage and visibility over sensitive records. Additionally, the integration of diverse cloud offerings and platforms can also lead to interoperability issues and supplier lock-in, necessitating careful making plans and control strategies to make sure seamless operations and save ability disruptions.

However, amidst these demanding situations, the transformation of IT departments gives diverse possibilities as outlined in research by using Khayer et al. (2020). One significant possibility lies within the strategic shift closer to innovation and agility. The adoption of cloud era enables IT departments to redirect their consciousness from recurring protection tasks to

riding innovation inside businesses. Cloud services provide scalability, flexibility, and speedy deployment skills, empowering IT experts to test with new technologies, foster collaboration, and boost up time-to-marketplace for brand spanking new services or products. This transition permits IT departments to play an extra proactive position in riding virtual transformation initiatives, main to expanded enterprise agility and aggressive advantage.

Moreover, the evolution of IT departments presents possibilities for fee optimization and useful resource efficiency, as mentioned in research by using Hirschheim et al. (2015) and Sosinsky (2010). The shift from capital-in depth on-premises infrastructure to pay-as-you-move cloud fashions offers capability value savings via lowering prematurely investments in hardware and software. Cloud computing's elastic nature enables companies to scale assets primarily based on call for, optimizing operational expenses and improving resource usage. Additionally, the cloud's potential to streamline strategies, automate tasks, and enhance standard performance gives opportunities for IT departments to reallocate resources, put money into strategic tasks, and beautify universal organizational productiveness.

Furthermore, the transformation of IT departments fosters a cultural exchange towards better collaboration and go-functional integration, as noted in research with the aid of Marston et al. (2011) and Mell and Grance (2011). The evolving function of IT specialists necessitates nearer collaboration with numerous commercial enterprise units, breaking down silos and fostering a tradition of cooperation. This shift in the direction of move-useful teamwork promotes a higher know-how of commercial enterprise needs and priorities, permitting IT departments to align generation projects extra efficiently with organizational goals. Consequently, this cultural transformation complements innovation, verbal exchange, and trouble-solving abilities within organizations, using holistic growth and resilience inside the face of technological disruptions.

On the alternative hand, the transformation of IT departments affords possibilities for improved catastrophe recuperation and enterprise continuity, as highlighted in studies by Manuel Maqueira et al. (2018). Cloud computing offers resilient infrastructure and data redundancy features which can substantially bolster an enterprise's catastrophe healing competencies. IT departments can leverage the allotted nature of cloud offerings throughout geographically various records facilities to create sturdy backup and restoration solutions. By making use of cloud-based catastrophe recuperation offerings, agencies can limit downtime, improve statistics resilience, and unexpectedly get better operations in case of unexpected disruptions or failures. This opportunity permits IT departments to implement price-powerful and reliable

disaster recuperation strategies that had been formerly challenging to attain with conventional on-premises infrastructure, in the long run enhancing universal commercial enterprise resilience and continuity.

2.8 Research Gap Identified

Several study gaps are glaring inside the present literature concerning the evolving roles of IT departments in corporations' adoption of cloud computing offerings. There may be a need for greater empirical research that explores the sensible challenges and success elements businesses stumble upon through the transformation of their IT departments, supplying insights into specific techniques and first-class practices. Further research is vital to recognize the long-term outcomes of cloud generation adoption on the organizational lifestyle, the professional development of the IT body of workers, and the effect on activity roles and task security. Greater studies should be directed toward examining the specific challenges and opportunities confronted through unique industry sectors, as the impact of cloud adoption can vary notably across numerous organizational contexts. Additionally, given the rapid evolution of the cloud era and its integration with rising technologies like AI and facet computing, a need exists for studies that examine the results of those intersections for the IT branch's function and feature. Finally, the ethical and sustainability aspects of cloud computing, particularly in terms of resource consumption, carbon footprint, and data privacy, require more scholarly attention to guide organizations in making responsible and sustainable decisions in their cloud adoption strategies. Addressing these research gaps will provide a more comprehensive understanding of the ongoing transformations in IT departments within the cloud-centric organizational landscape and offer valuable insights for both academics and practitioners.

2.9 Summary

In summary, the adoption of cloud computing has triggered a profound transformation in the roles and duties of IT departments within corporations. IT departments are now not restricted to standard infrastructure control however have advanced into strategic companions, liable for handling various cloud resources and offerings, ensuring statistics safety and regulatory compliance, optimizing performance, and efficiently dealing with vendor relationships. This transition reflects a fundamental shift in consciousness, from maintaining hardware to handing over price-added offerings and calls for IT experts to accumulate new skill units and collaborate with different enterprise gadgets to align cloud solutions with broader organizational goals.

Understanding and embracing those evolving roles is crucial for companies seeking to harness the full potential of cloud technology and stay competitive in a modern virtual landscape.

Chapter 3: Research Methodology

3.1 Introduction

The methodology implemented to examine the growing roles inside IT department will be outlined in this chapter with regards to the cloud computing services implementation. The primary goal of this study is to have a comprehensive understanding about the factors that act as the driving force for the companies to acknowledge cloud computing and also examine the resultant effect on traditional IT functions, recognize growing responsibilities and roles, examine opportunities and challenges and simultaneously offer practical recommendations to handle this transformative process in the most efficient way.

3.2 Research philosophy

According to Crossan (2003), research philosophy is the framework that aids in the researcher's selection of the research techniques to be employed in this investigation. Stated differently, it is a tool that helps and facilitates researchers to define and improve various methodologies as well as recognize the early limitations of specific approaches. Numerous definitions of research paradigms, or research philosophies, can be found in the literature. These definitions serve as guidelines for conducting scientific research based on people's presumptions about the nature of knowledge and the world. As said by Saunders *et al.* (2016), a research philosophy is a set of presumptions and beliefs regarding the progress of knowledge. According to Creswell (2016), philosophy is the application of abstract ideas and conceptions that guide our investigation. According to this viewpoint, the first step in creating a strong research project is to clearly state and take into account philosophical presuppositions.

Positivism is a philosophy of research which shows the presence of an objective reality external to people, highlighting empirical findings (Park *et al.* 2020). This can as well be stated as a scientific technique to generate understanding. As per its assertion, the social world is possible to be researched through similar principles to those employed in natural sciences (Majeed,2020). Positivism aligns with the goals of this study involving quantification and calculation of factors associated with the transformation of IT departments' post-cloud implementation. Objectivity is well promoted in this philosophy that enables the gathering of measurable and observable data. The establishment of casual relationships is highlighted in positivist methods along with generalized findings. Having a clear knowledge about the casual

links between cloud adoption and fluctuations in IT operations necessitates a philosophy which identifies regularities and patterns within an extensive population.

Positivism is a research philosophy based on the social world that may be researched using techniques comparable to those used in that there exist objective facts that are measurable, observable, and quantifiable, which will enable the identification of general rules regulating social processes. Researchers who follow positivism use a logical approach (Ames et al. 2020), developing hypotheses based on accepted ideas and putting them to the test by methodical experimentation and observation. The focus is on objectivity, intending to reduce subjectivity and researcher bias in the quest for trustworthy and broadly applicable information.

3.3 Research approach

The framework of the research processes that scientists use to find the answer to the research question and accomplish the research objective is described by inductive and deductive reasoning. According to Lancaster (2005), deductive reasoning is a top-down approach to research that begins with the development of theory and proceeds to test and evaluate hypotheses through empirical observation. According to Collis and Hussey (2014), inductive reasoning is a bottom-up approach that begins with the observation of empirical reality facts and details in order to better understand phenomena. From there, general inferences are made in the form of conceptual frameworks. Deductive research is a method that starts with a general hypothesis or theory and examines its range of employability to particular contexts. It moves from general to specific, with the goal of refuting or assuring the initial theory via empirical findings and study. There is crucial alignment between deductive research and theory-driven approach that has pertinence with the research. The beginning of the study includes established hypotheses or theories associated with the transformation of IT department post-cloud adoption. This subsequently paves way for focused and structured analysis.

The deductive research methodology is a methodical procedure that advances toward particular observations and conclusions from a broad theory or hypothesis. It is a method that entails comparing preexisting ideas or hypotheses to actual data to support or contradict them. In the deductive method, scientists start by developing a precise and well-defined hypothesis based on accepted theories or models. This hypothesis provides a framework for formulating research strategies and gathering information (Rashid & Chaturvedi, 2019). The aim is to use controlled observations, experiments, or surveys to methodically assess the hypothesis's validity. Since

quantitative research techniques use statistical analyses to infer conclusions from observable data, they are strongly aligned with positivist philosophy. In a positivist, surveys, experiments, and organized observations are often used methods for gathering and objectively analyzing data.

3.4 Research Design

A method for testing the objectivist view of social reality is quantitative research. According to Saunders *et al.* (2016), research methodology is a term used interchangeably with data collection techniques such as questionnaires, lab tests, mathematical modelling, and econometrics that generate numerical data through the use of statistical tools. Qualitative research is structured according to deductive reasoning, which uses theory first to direct the investigation and generate hypotheses. From then on, the hypotheses will be evaluated for validity through empirical observation (Lancaster, 2005). According to Saunders *et al.* (2016), this approach looks at the relationships between variables that are measured numerically and analysed using a range of statistical and graphical techniques.

According to Lancaster (2005), the following variables influence the choice of suitable and efficient qualitative analysis tools: the level of accuracy, the need for validity and reliability, the time and resources available, and the client's needs. As a result of positivism's association with the quantitative approach, quantitative researchers are detached from respondents and must ensure that each participant understands the question in an identical manner. (Saunders *et al.* 2016). By operating within a natural setting, or research context, this method, in contrast to the quantitative approach, is intended to help researchers understand people and the social and cultural context (Myers, 1997). However, this study used quantitative research design to attain the objectives of the study via structured survey method. This design is chosen for its potential of collecting numerical data in an effective way, facilitating statistical study and offering an extensive overview of patterns and trends in the IT post-cloud adoption and its transformation.

A research study's overarching plan or framework, which describes the methods for gathering, evaluating, and interpreting data, is called the research design (Sadeeq et al. 2021). It guarantees the validity and reliability. Decides whether the research is exploratory, descriptive, explanatory, or experimental. This decision affects the overall layout and techniques used.

3.5 Target population, Sampling and sample size

The target population for this research contains 80 IT department professionals of the company which have implemented cloud computing services. In order to ensure representation through various industries, geographical locations and organizational sizes, a stratified random sampling method was preferably implemented. The determination of sample size is done on the basis of statistical considerations to assure the validity and reliability of the findings.

3.6 Data Collection

Data collection process was done by an online survey and that was shared to the identified participants. The design of survey questionnaire was performed in order to have accurate alignment with the objectives of research. Furthermore, they contain closed-ended questions so that quantitative study can be facilitated. The survey encloses the vital areas like changes in traditional IT operations, driving force of cloud adoption, increasing roles, identified opportunities and perceived challenges. The gathering of survey data is essential to studying how IT departments have changed since utilizing cloud computing services. Its importance stems from its capacity to collect quantitative insights, providing quantifiable data for the examination of patterns, trends, and statistical correlations associated with this technological revolution. Because surveys are so widely used, researchers can gather data from a variety of industries, organizations, and geographic areas to gain a thorough understanding of the phenomenon. Additionally, surveys allow for comparative analyses between various groups within IT departments, illuminating differences in the difficulties, advantages, and experiences related to the adoption of cloud computing. Surveys are a practical option for quickly and cheaply collecting large amounts of standardized data because of their efficiency and affordability. Because survey data is structured, it is easier to analyse and interpret, which reduces the possibility of bias. Furthermore, surveys can be created for longitudinal studies, which enable researchers to monitor changes in IT departments over time after cloud adoption. Surveys provide useful information for decision-makers, policymakers, and organizations looking for doable suggestions to optimize their IT infrastructure in the cloud computing era by gathering unbiased opinions and insights on particular issues.

3.7 Instrument Development

The survey instrument was created on the basis of thorough literature review that incorporates validated scales. They make sure that the questions are designed to acquire both the quantitative features related to the goals and objectives of the study and pave way for qualitative insights via open-ended questions. In order to assure relevance, reliability and clarity a pre-test of the survey was conducted.

3.8 Data Analysis

The survey has gathered quantitative data and it was examined with the help of statistical tools like SPSS 25. Descriptive statistics was implemented in order to analyse the recognize trends. The study was carried out at theoretical level, improvising the validity and rigour of the findings in the best possible way.

3.9 Ethical Considerations

Ethical issues with access to people and organizations, data collection, analysis, management, and reporting will surface as soon as the research is designed and planned (Saunders *et al.* 2016). According to Saunders *et al.* (2016), ethics are the moral principles that direct a researcher's actions with regard to the rights of people who are either the study's subjects or its beneficiaries. Thus, in order to maintain a high ethical standard for the research project, ethical approval must be obtained prior to beginning any academic study (Broom, 2006). Therefore, before beginning any data collection procedure, the research team needs to carefully evaluate these ethics and get the necessary approval. The research process strictly adheres to the ethical principles such as informed consent, voluntary participation and confidentiality. The purpose of conducting the research was informed to the participants and their anonymity as well be maintained.

3.10 Conclusion

The design of this methodology is done to have a systematic analysis of the transformation of post-cloud adoption in IT departments that subsequently align with the major goals of the study. The structured survey approach substantially produces quantitative insights that enable a comprehensive knowledge about the influential factors of this evolution. In addition to that it

as well offers valuable suggestions and recommendations for the company to navigate this transformative journey.

Chapter 4: Data Analysis

4.1 Introduction

The research results will be discussed, examined, and related to the theoretical framework in this chapter. The researchers will investigate and comprehend the changing responsibilities and tasks of IT departments inside firms following the introduction of cloud computing services through a thorough review of the theory and findings. The empirical results are presented in this chapter.

4.2 Demographic details

Table 4.1: Gender

	Frequency	Percent
Female	22	27.5
Male	55	68.8
Prefer not to say	3	3.8
Total	80	100.0

The gender distribution within a sample population is shown in the table. Out of the 80 respondents, 68.8% were male. This was the majority of respondents. 27.5% of respondents were female, while 3.8% of respondents did not specify their gender. In conclusion, the data shows that there more male compared to the female, although a tiny minority of respondents chose not to reveal their gender.

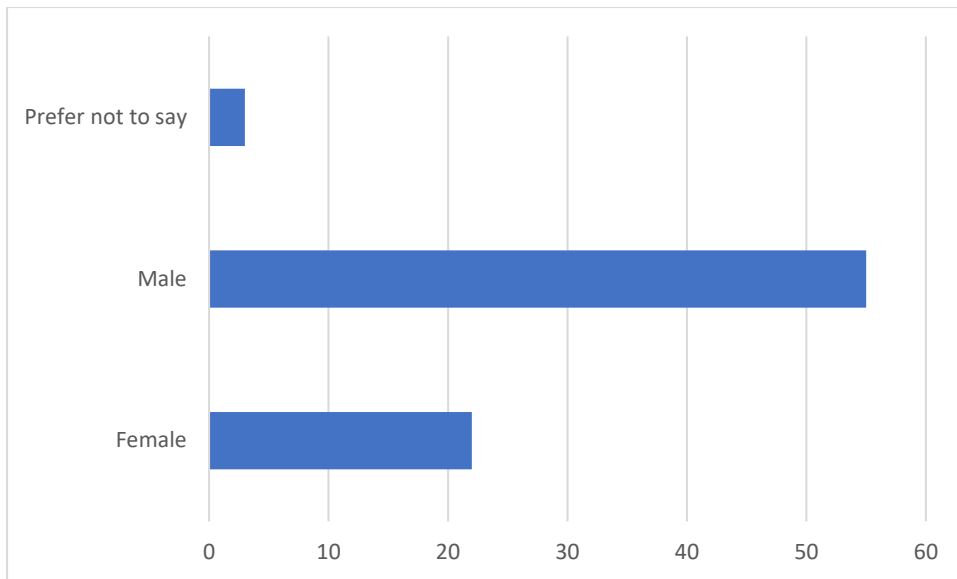


Figure 4. 1 Gender

Table 4.2: Age

	Frequency	Percent
25-30 years	51	63.8
31-36 years	26	32.5
37-40 years	3	3.8
Total	80	100.0

The table that is presented provides information on the distribution of ages in a sample population. 63.8% of the 80 respondents were between the ages of 25 and 30, making up the majority of the sample. With 32.5% of the responses, the age group of 31 to 36 years old was the second most common. 3.8%, a lower portion, belonged to the 37–40 age group. To sum up, the data shows that people who are between the ages of 25 and 30 are the most prevalent, followed by a considerable but lesser percentage of people in the 31–36 age range, and a negligible number of people in the 37–40 age range.

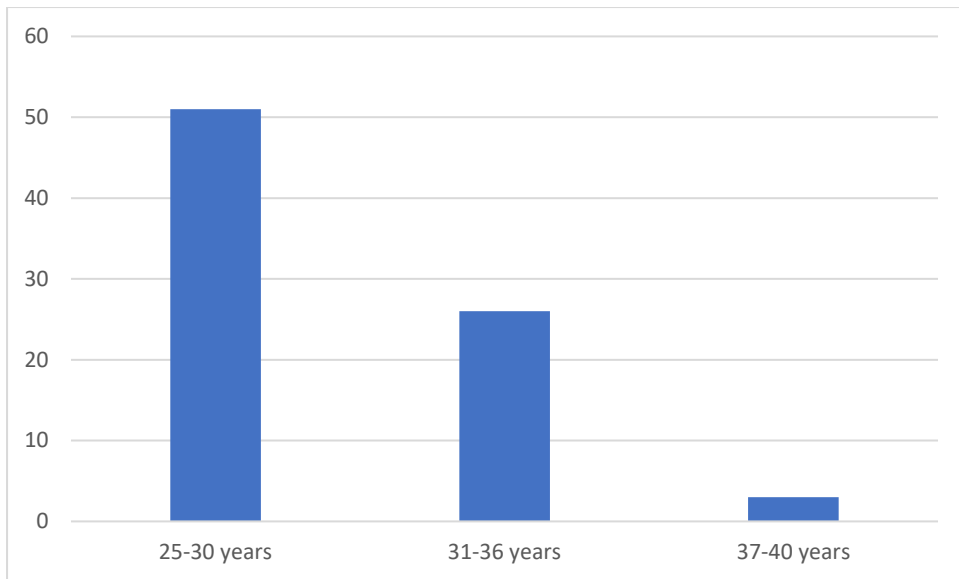


Figure 4. 2: Age

Table 4.3: Job Title

	Frequency	Percent
Data Analyst	10	12.5
IT Manager	14	17.5
Network Administrator	19	23.8
Software Developer	17	21.3
Systems Administrator	20	25.0
Total	80	100.0

The distribution of job titles among the 80 respondents to the survey is shown in the table. There are 25.0% of respondents with the job title "Systems Administrator," which is the most prevalent among all respondents. "Software Developer" is at 21.3%, while "Network Administrator" is at 23.8%, both in close succession. "Data Analyst" has the lowest representation at 12.5%, while "IT Manager" has the largest percentage at 17.5%. In conclusion, the data points to a wide variety of job titles among the respondents, with the most

common being systems administrator, closely followed by network administrator and software developer. Data analysts make up a lesser portion of the population than IT managers, who are nevertheless rather prevalent.

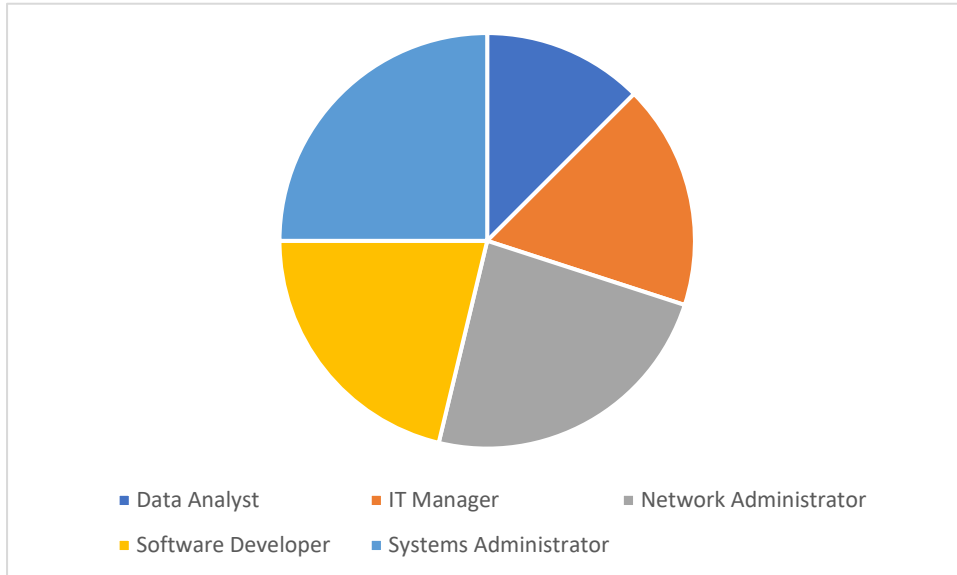


Figure 4. 3: Job Title

Table 4.4: Years of Experience in IT

	Frequency	Percent
1-3 years	52	65.0
4-7 years	23	28.8
8-10 years	1	1.3
Less than 1 year	2	2.5
More than 10 years	2	2.5
Total	80	100.0

The distribution of responses among the 80 people who participated in the survey, divided by the number of years of experience in the field of information technology (IT), is shown in the accompanying table. 65.0% of participants, or most of them, said they had one to three years

of experience. After that, 28.8% of the participants stated that they had worked in the IT industry for four to seven years. The categories of 8–10 years (1.3%), less than 1 year (2.5%), and more than 10 years (2.5%) of experience are less represented and account for comparatively tiny percentages of the total. In conclusion, the data points to a wide variety of experience levels among the respondents, with a considerable proportion having 1-3 years of experience and a noteworthy presence in the 4-7 years range. Additionally, there is an array of people with a range of experience levels, from under a year to over ten years.

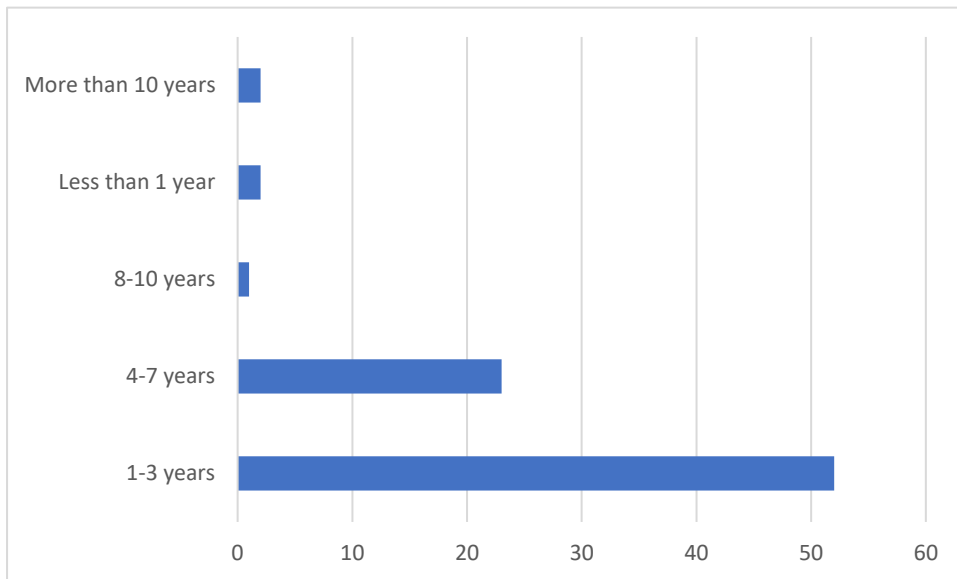


Figure 4. 4: Years of Experience in IT

Table 4.5: Educational Background

	Frequency	Percent
Bachelor's Degree	57	71.3
Master's Degree	19	23.8
PhD or other advanced degrees	3	3.8
Technical/Professional Certification	1	1.3
Total	80	100.0

With a total of 80 respondents, the table offers insight into the educational background of the studied population. Seventy-one percent of the population is a bachelor's degree holder. 23.8% of the responders have subsequently earned a master's degree. 3.8% of respondents hold a PhD or other advanced degree. Furthermore, the lowest percentage of people, 1.3%, possess a Technical/Professional Certification as their greatest level of schooling. To sum up, the information shows that bachelor's degree holders are more common than master's degree holders. A smaller but significant percentage of the population holds advanced degrees, and a negligible percentage has technical or professional certifications as their greatest level of education.

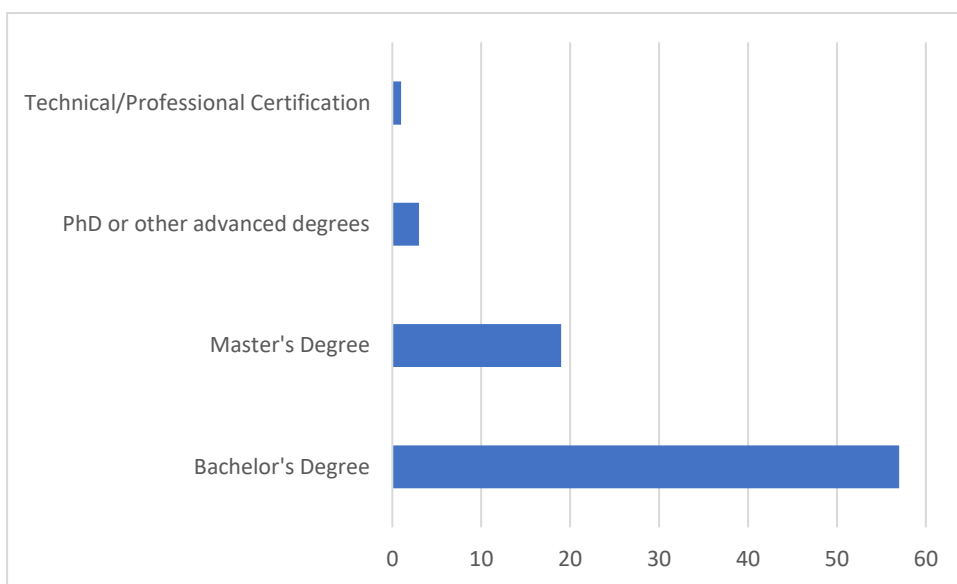


Figure 4. 5: Educational Background

Table 4.6: Cloud Responsibilities in Your Organization's IT Department

	Frequency	Percent
No	9	11.3
Yes	71	88.8
Total	80	100.0

The distribution of answers about cloud-related duties in an organization's IT department that was polled is shown in the table. Out of the 80 participants, the vast majority (88.8%) stated

that their company has cloud-related duties. On the other hand, a smaller proportion of 11.3% stated that their company had no such obligations. To summarise, the data indicates that a considerable proportion of the organisations questioned have assigned their IT departments cloud-related obligations, although a smaller group does not presently carry out any such tasks.

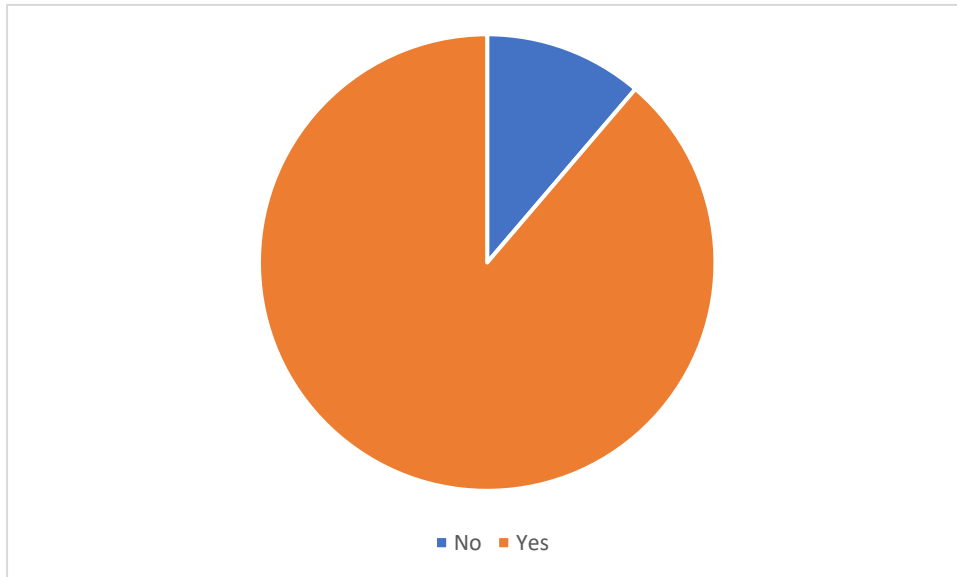


Figure 4. 6: Cloud Responsibilities in Your Organization's IT Department

Table 4.7: Familiarity and Usage of Cloud Platforms in Present Role

	Frequency	Percent
AWS (Amazon Web Services)	29	36.25
Azure (Microsoft)	20	25
Google Cloud	25	31.25
IBM Cloud	13	16.25
Oracle Cloud	11	13.75

The table offers information on the respondents' knowledge with and use of different cloud platforms in their current employment. Of the eighty respondents, thirty-two percent said they were familiar with and used it. In their present positions, 25% of respondents utilise Azure and

are familiar with it. 31.25% of respondents said they were familiar with and used Google Cloud in their current roles. Of them, 16.25% said they were familiar with and used it in their present employment. In their current employment, 13.75% of respondents said they were familiar with and used Oracle Cloud. In conclusion, the data shows that the population polled had a broad distribution of acquaintance with and usage of various cloud platforms; AWS was the most often utilised platform, followed by Google Cloud, Azure, IBM Cloud, and Oracle Cloud.

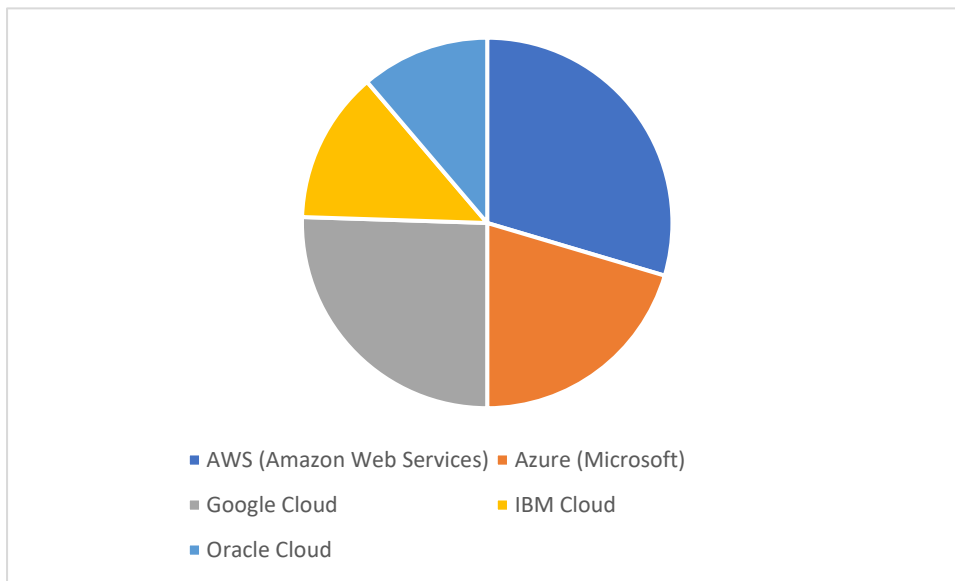


Figure 4. 7: Familiarity and Usage of Cloud Platforms in Present Role

Table 4.8: Continuous Training and Resource Access for Cloud Computing Skills

	Frequency	Percent
No	14	17.5
Yes	66	82.5
Total	80	100.0

The frequency of ongoing training and resource access for cloud computing abilities among the population polled is shown in the table. Of the 80 respondents, 17.5% said they did not have access to resources or ongoing training for cloud computing skills in their present positions. Eighty-two percent of respondents said they have access to tools and ongoing training to advance their cloud computing abilities in their present employment. To sum up, the

data indicates that a significant percentage of the respondents have access to ongoing education and tools to improve their cloud computing abilities, whilst a lesser percentage does not at this time.

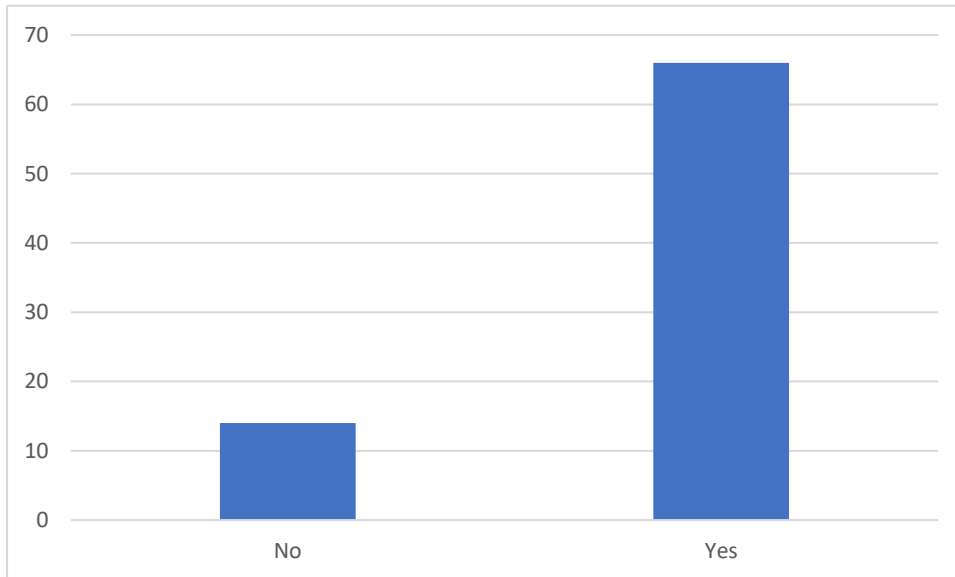


Figure 4. 8: Continuous Training and Resource Access for Cloud Computing Skills

Table 4.9: Cloud Computing Trends and Best Practices

	Frequency	Percent
In-house training programs	11	13.8
Industry conferences and events	18	22.5
Online courses and webinars	38	47.5
Professional associations and forums	13	16.3
Total	80	100.0

The table lists the ways that respondents to the poll choose to remain up to date on cloud computing developments and best practices. Out of the 80 participants, 13.8% stated that they depend on internal training initiatives run by their companies to remain current on best practices and emerging trends in cloud computing. Twenty-two percent of the respondents said they attend industry conferences and events to keep updated. The vast majority, or 47.5%, stated that their favourite way to keep up with the latest developments and best practices in

cloud computing is through online courses and webinars. 16.3% of people get their information about cloud computing trends and best practices from professional groups and forums. In conclusion, the information shows that respondents of the survey take a variety of stances when it comes to keeping up with the latest developments and recommended practices in cloud computing. The most common formats are webinars and online courses; they are followed by in-house training programmes, professional associations and forums, industry conferences and events, and industry conferences.

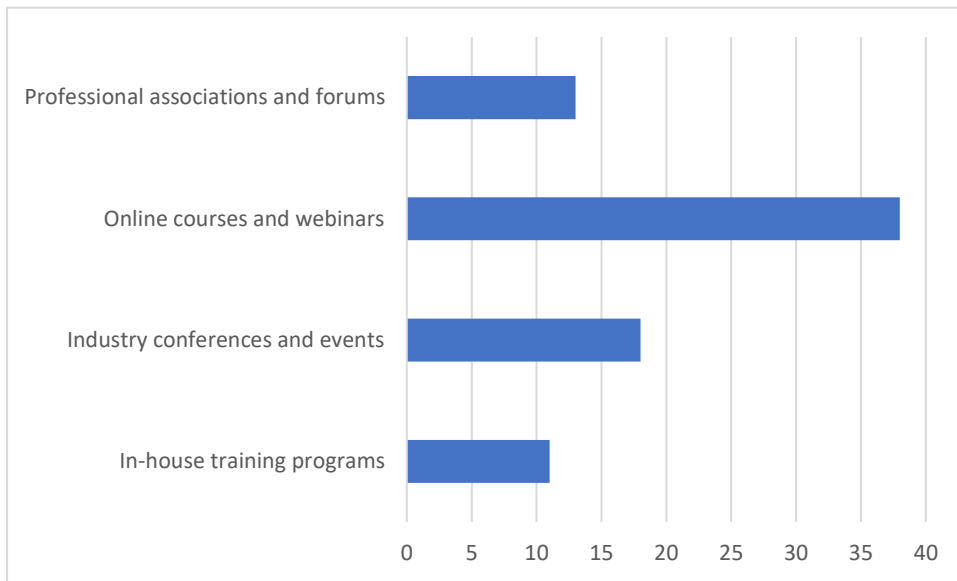


Figure 4. 9: Cloud Computing Trends and Best Practices

Table 4.10: Primary Focus in Current Role

	Frequency	Percent
Hybrid Cloud Environments	10	12.5
Infrastructure as a Service (IaaS)	26	32.5
Not applicable	2	2.5
Platform as a Service (PaaS)	18	22.5
Software as a Service (SaaS)	24	30.0
Total	80	100.0

The table gives details regarding the main areas of emphasis in the present roles of the respondents. Out of the 80 participants, 12.5% stated that maintaining hybrid cloud environments is their main responsibility in their present position. 32.5 percent of those surveyed said that overseeing Infrastructure as a Service (IaaS) solutions is their main priority. 2.5% of respondents said that the categories might not apply to their present positions. 22.5% of respondents said that Platform as a Service (PaaS) solutions are their main area of interest. Among the respondents, 30.0% said that managing Software as a Service (SaaS) solutions is their main priority. The data, in summary, shows a variety of key emphasis areas within the present positions of the questioned persons, with the most common being Infrastructure as a Service (IaaS). Software as a Service (SaaS), Platform as a Service (PaaS), and Hybrid Cloud Environments follow closely after. A tiny portion of respondents also said that the categories might not apply to their present positions.

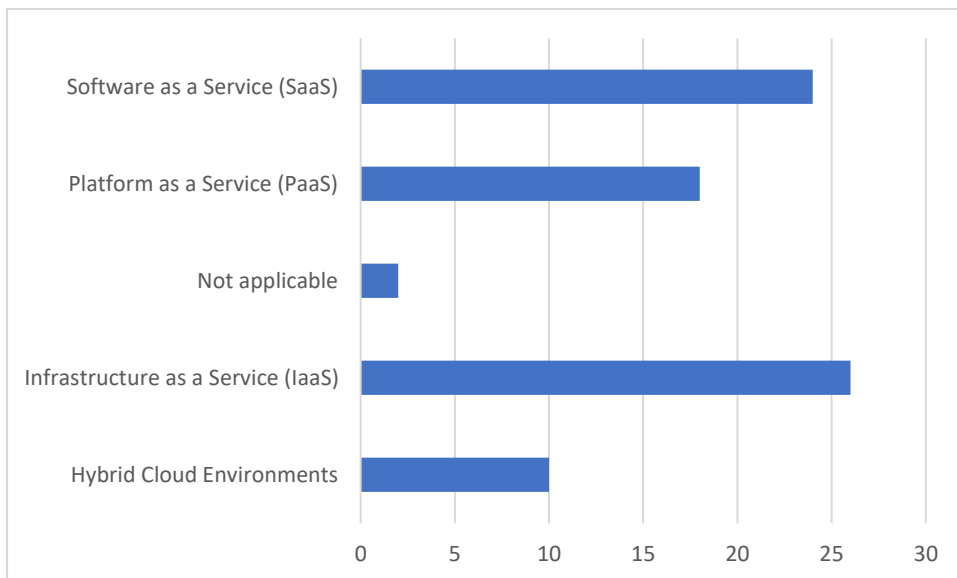


Figure 4. 10: Primary Focus in Current Role

Table 4.11: Satisfaction with IT Department's Cloud Adoption and Transformation

	Frequency	Percent
Dissatisfied	2	2.5
Neutral	5	6.3

Satisfied	34	42.5
Very Dissatisfied	1	1.3
Very Satisfied	38	47.5
Total	80	100.0

The satisfaction ratings of the respondents with respect to the cloud adoption and transformation initiatives of their IT department are displayed in the table. Of the eighty responders: Just 2.5% of respondents said they were unhappy with how their IT department was embracing and transforming cloud computing. 6.3% of respondents had an indifferent opinion on how satisfied they were with the efforts to embrace and transform the cloud. 42.5% of respondents expressed satisfaction with the adoption and transformation of cloud computing by their IT department. Only 1.3% of respondents indicated very high unhappiness. 47.5% of respondents said they were very satisfied with how their IT department had embraced and transformed cloud computing. In conclusion, the data indicates that a sizable percentage of those polled are either extremely happy or satisfied with their IT department's efforts to adopt and adapt the cloud. The number of comments that are neutral is lower, and the percentage of responses that express discontent or extreme unhappiness is quite tiny.

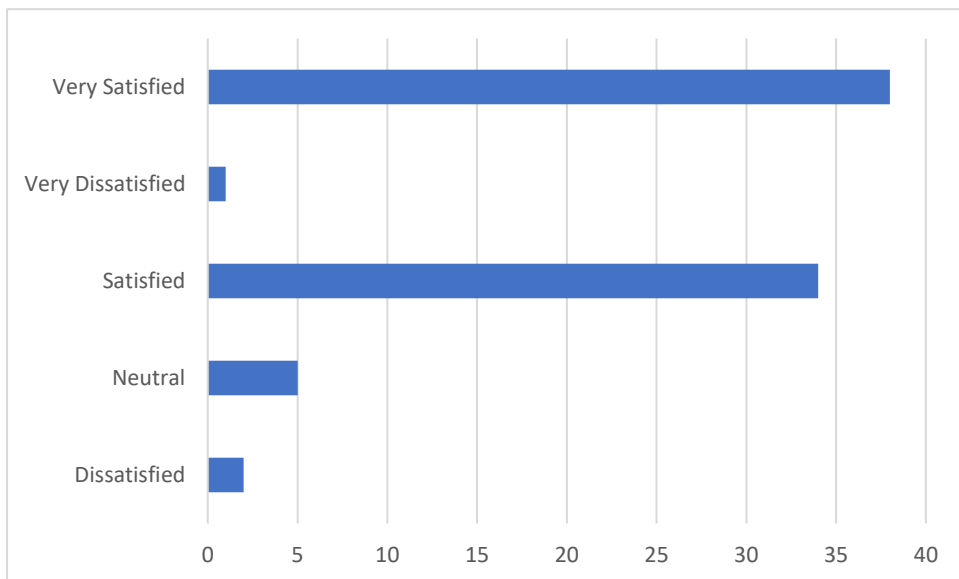


Figure 4. 11: Satisfaction with IT Department's Cloud Adoption and Transformation

Table 4.12: Motivating Factors for Organization's Adoption of Cloud Computing Services

	Frequency	Percent
Cost savings	39	48.75
Scalability and flexibility	30	37.5
Disaster recovery capabilities	7	8.75
Improved collaboration and communication	14	17.5
Enhanced data security	13	16.25
Access to advanced technologies and tools	8	10
Regulatory compliance requirements	7	8.75
Competitive pressure	5	6.25

According to the respondents of the survey, the organization's adoption of cloud computing services was motivated by the considerations listed in the table. Of the eighty responders: The potential for cost savings is the primary motivator, according to 48.75% of respondents, who stated that their organization's use of cloud computing services is motivated by this possibility. Significantly, 37.5% of respondents stated that the flexibility and scalability provided by cloud services are driving forces. Disaster recovery capabilities were cited by 8.75% of respondents as a driving force behind the company's use of cloud computing services. The use of cloud services has been influenced by enhanced cooperation and communication, according to 17.5% of respondents. Enhanced data security was cited as a motivating factor by 16.25% of respondents. Ten percent of respondents said that having access to cutting-edge tools and technology is what drives them to use cloud computing services. Meeting regulatory compliance standards was cited as a motivator by 8.75% of respondents. 6.25% of respondents said that the organization's use of cloud computing services is influenced by competitive pressure. In conclusion, the data points to a variety of reasons why cloud computing services were adopted by the organisations that were polled, the most common being cost savings and scalability/flexibility. Additional elements include the ability to recover from disasters, more

teamwork, better data security, access to cutting-edge technologies, regulatory compliance, and competitive pressure.

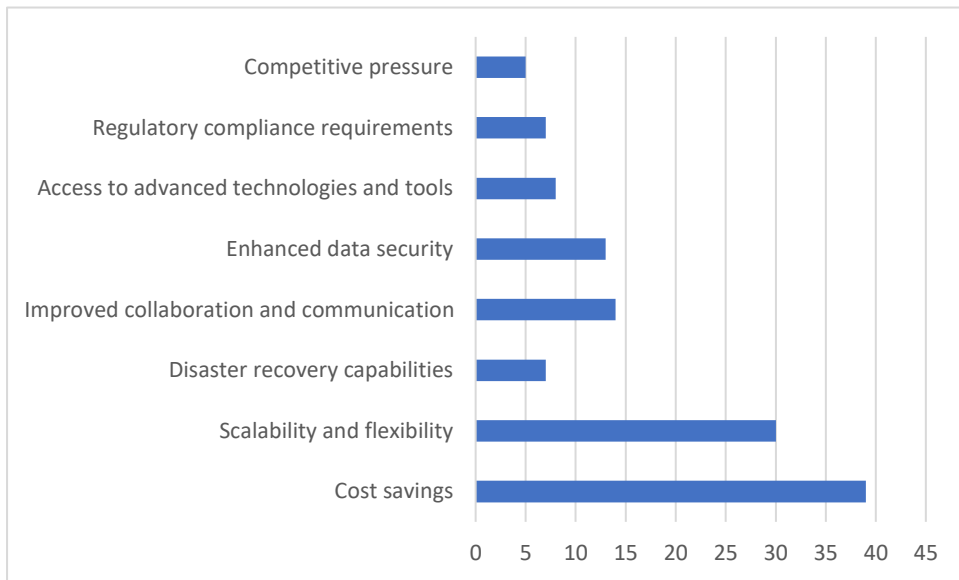


Figure 4.12: Motivating Factors for Organization's Adoption of Cloud Computing Services

Table 4.13: Challenges with On-Premises Infrastructure and Transition to Cloud Services

	Frequency	Percent
No	4	5.0
Not sure	11	13.8
Yes	65	81.3
Total	80	100.0

The table details the difficulties that businesses using on-premises technology have while switching to cloud services. Of the eighty responders: Five percent of respondents said they have no trouble switching from on-premises infrastructure to cloud services. 13.8% of respondents said they were unsure if their organisations will have difficulties during this change. Eighty-one percent of respondents said they have experienced difficulties switching from on-premises infrastructure to cloud services. To summarise, the data indicates that a considerable segment of the participants acknowledge the difficulties linked to on-premises

infrastructure and the shift towards cloud services, whilst a smaller section either fail to identify these difficulties or are unsure about them.

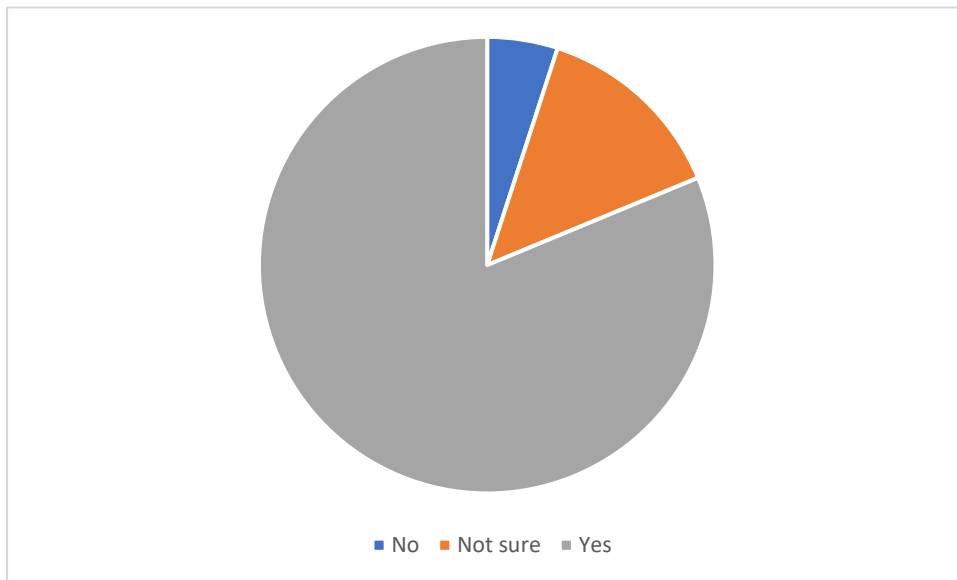


Figure 4. 13: Challenges with On-Premises Infrastructure and Transition to Cloud Services

Table 4.14: Significance of On-Demand Scalability and Flexibility in Cloud Adoption

	Frequency	Percent
Extremely important	41	51.3
Important	6	7.5
Not important at all	1	1.3
Very important	32	40.0
Total	80	100.0

The table presents the respondents' estimated importance of on-demand scalability and flexibility in relation to cloud adoption. Of the eighty responders: 51.3% of respondents said that on-demand scalability and flexibility are critical factors in the use of cloud services. Just 7.5% of respondents said these issues are significant. Just 1.3% of respondents said they didn't think on-demand flexibility and scalability were crucial at all. According to 40.0% of respondents, flexibility and scalability on demand are highly valued. In conclusion, the data indicates that the majority of those polled believe that on-demand scalability and flexibility are

extremely critical or very significant factors in the use of cloud services. A minority of respondents had the opinion that these elements hold no significance.

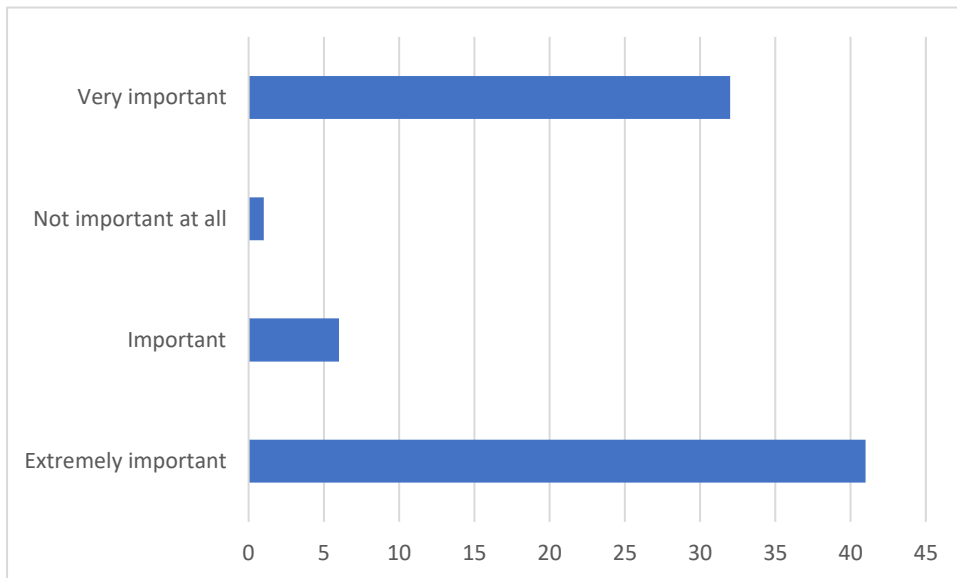


Figure 4. 14: Significance of On-Demand Scalability and Flexibility in Cloud Adoption

Table 4.15: Remote Access Considerations in Organization's Cloud Adoption Decision

	Frequency	Percent
No factor at all	1	1.3
Not a significant factor	5	6.3
Somewhat of a factor	27	33.8
Yes, a significant factor	47	58.8
Total	80	100.0

According to the responses provided by the respondents, the table sheds light on how remote access considerations are taken into account when a business decides to use cloud services. Of the eighty responders: A minimal percentage, 1.3%, indicated that remote access considerations are not a factor at all in their organization's cloud adoption decision. 6.3% of respondents said that factors related to remote access are not taken into account when their company decides

whether to embrace the cloud. The decision of their organisation to adopt cloud services is influenced, at least in part, by remote access, according to 33.8% of respondents. The majority, representing 58.8%, indicated that remote access is a significant factor in their organization's decision to adopt cloud services. To summarise, the data indicates that a considerable segment of the respondents views remote access as a crucial element when their company makes decisions about implementing cloud services. A smaller portion of respondents believes it to be an influence in some way, and still a smaller portion said it has no bearing at all or is not a big impact.

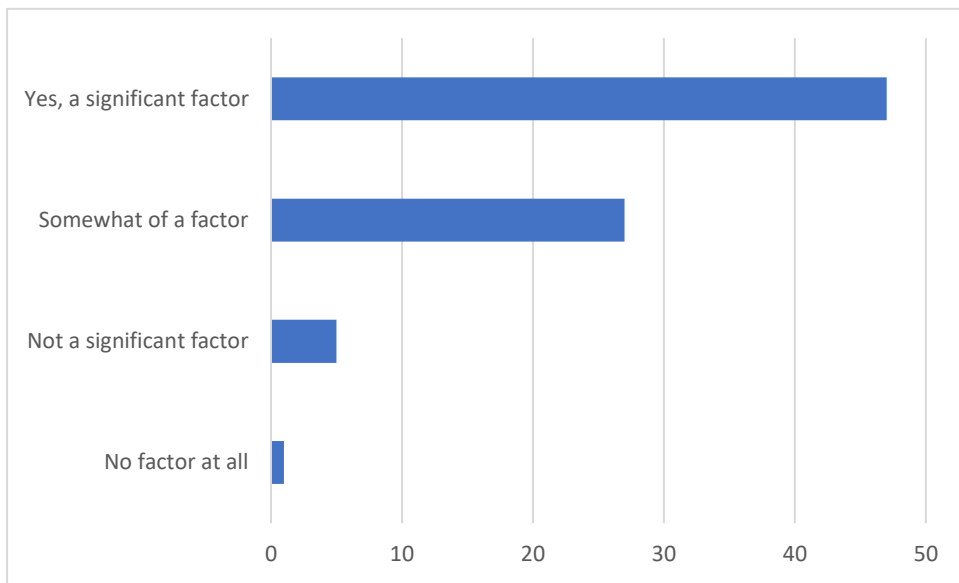


Figure 4. 15: Remote Access Considerations in Organization's Cloud Adoption Decision

Table 4.16: Impact of Disaster Recovery Needs on Cloud Adoption Decision

	Frequency	Percent
No, it did not influence the decision	5	6.3
Not sure	2	2.5
Yes, significantly	45	56.3
Yes, to some extent	28	35.0
Total	80	100.0

According to the respondents of the study, the table shows data on how disaster recovery requirements affect an organization's choice to use cloud services. Of the eighty responders: 6.3% of respondents said their organization's choice to use cloud services was not influenced by their requirement for disaster recovery. A somewhat lesser proportion, 2.5%, expressed ambiguity regarding the impact of disaster recovery requirements on their choice to utilise cloud computing. The majority, or 56.3%, stated that their organization's choice to use cloud services was heavily affected by disaster recovery requirements. 35.0% of respondents said that their choice to use cloud computing was somewhat affected by disaster recovery requirements. To sum up, the data indicates that a considerable proportion of the respondents cited disaster recovery requirements as a major factor in their choice to use cloud services. A smaller portion of people were unsure of its impact or did not think it had any affect at all.

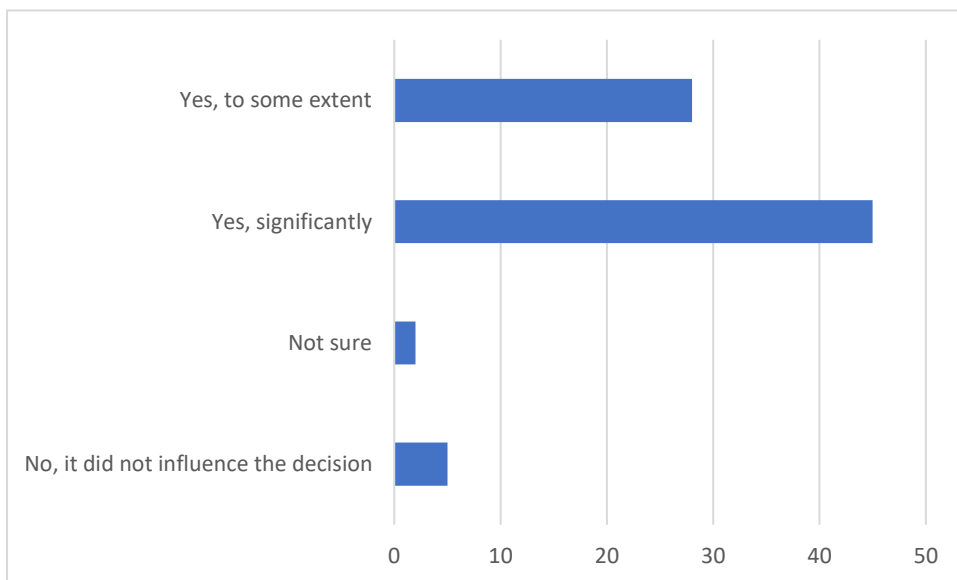


Figure 4. 16: Impact of Disaster Recovery Needs on Cloud Adoption Decision

Table 4.17: Competitive Edge and Industry Trends in Cloud Adoption Decision

	Frequency	Percent
Major impact	41	51.3
Minor impact	7	8.8
No impact	2	2.5
Some impact	30	37.5

Total	80	100.0
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The table presents data on how respondents to the survey view the influence of industry trends and competitive advantage on an organization's choice to use cloud services. Of the eighty responders: The majority, or 51.3%, said that their organization's choice to use cloud services was largely influenced by industry trends and competitive advantage. Just 8.8% of respondents said that industry trends and competitive advantage had just a little bearing on their choice to use cloud computing. Just 2.5% of respondents said that industry changes and competitive advantage had no bearing on their choice to use cloud services. A total of 37.5% of respondents stated that their choice to use cloud computing was influenced in some way by industry trends and competitive edge. To summarise, the data indicates that a considerable proportion of the respondents attributed their choice to use cloud services to factors such as industry trends and competitive advantage. A lower proportion stated that there had been no influence at all, very little impact, or some impact.

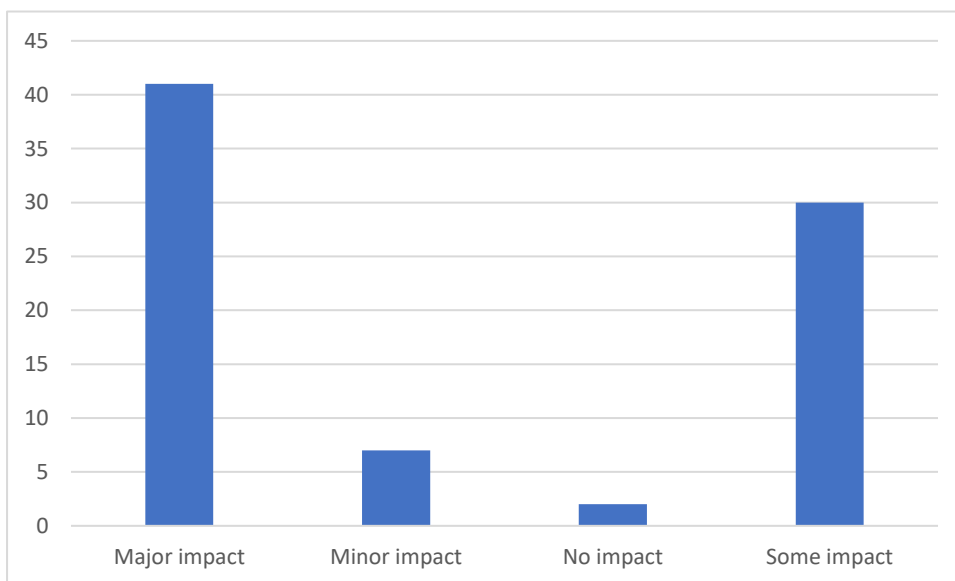


Figure 4. 17: Competitive Edge and Industry Trends in Cloud Adoption Decision

Table 4.18: Significance of Specialized Cloud Tools for Industry-Specific Adoption

	Frequency	Percent
Extremely important	35	43.8
Important	8	10.0
Not important at all	1	1.3
Not very important	2	2.5
Very important	34	42.5
Total	80	100.0

The aforementioned table presents the respondents' assessment on the importance of industry-specific adoption of specialised cloud technologies. Of the eighty responders: Of those surveyed, 43.8% said that industry-specific adoption of cloud computing requires the use of specialised technologies. 10.0% of respondents, a lower percentage, stated that these tools are critical for industry-specific adoption. A negligible proportion, 1.3%, stated that industry-specific adoption does not need the use of specialised cloud solutions at all. A further tiny proportion, 2.5%, stated that industry-specific adoption does not greatly depend on specialised cloud technologies. According to 42.5% of respondents, industry-specific adoption depends greatly on specialised cloud technologies. To summarise, the data indicates that most respondents believe industry-specific adoption of specialised cloud solutions to be very significant or important. A lower proportion of respondents said they were either not significant at all or not very important.

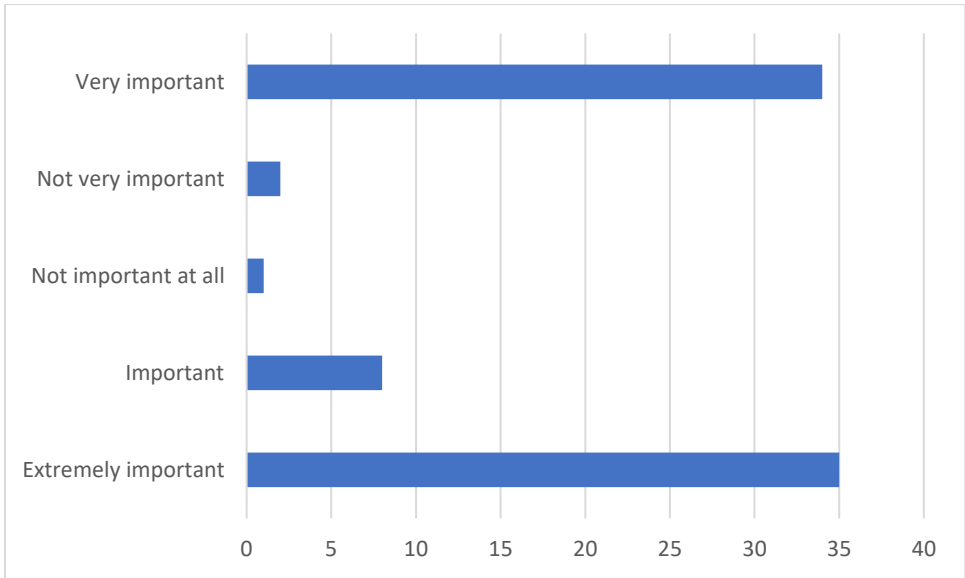


Figure 4. 18: Significance of Specialized Cloud Tools for Industry-Specific Adoption

Table 4.19: Influence of Regulatory Compliance on Cloud Adoption Decision

	Frequency	Percent
No, it did not play a role	8	10.0
Yes, a significant role	37	46.3
Yes, to some extent	35	43.8
Total	80	100.0

According to the respondents to the study, the table presents data on how regulatory compliance affects an organization's choice to use cloud services. Of the eighty responders: Relatively fewer respondents (10%) said that their organization's choice to use cloud services was unaffected by regulatory compliance. The majority, or 46.3%, stated that their organization's choice to use cloud services was heavily influenced by regulatory compliance. 43.8% of respondents said that their choice to utilise the cloud was somewhat influenced by regulatory compliance. To summarise, the data indicates that a significant proportion of the respondents attributed their choice to embrace cloud services to regulatory compliance. A lower proportion stated that it had no effect or just slightly affected things.

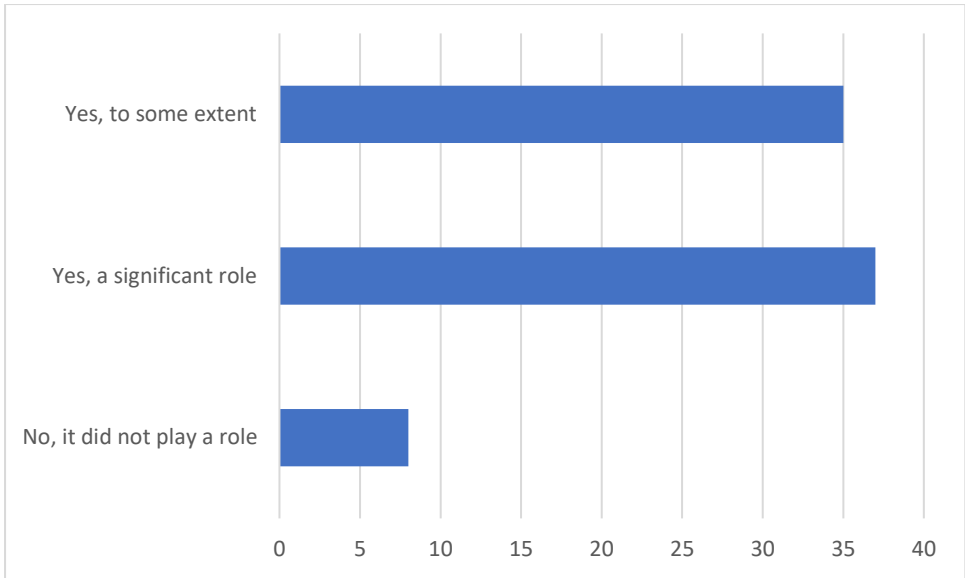


Figure 4. 19: Influence of Regulatory Compliance on Cloud Adoption Decision

Table 4.20: Impact of Cloud Adoption on Traditional IT Infrastructure Management Functions

	Frequency	Percent
Moderately transformed	14	17.5
No significant transformation	3	3.8
Significantly transformed	48	60.0
Slightly transformed	15	18.8
Total	80	100.0

The respondents' perceived effects of cloud adoption on traditional IT infrastructure management tasks are displayed in the table. Out of the 80 participants, 17.5% stated that the use of cloud computing has somewhat changed the way traditional IT infrastructure management activities are carried out. 3.8% of respondents said that the use of cloud computing has not significantly changed how traditional IT infrastructure management activities were carried out. Sixty percent of respondents said that adopting cloud computing had a big impact on how traditional IT infrastructure management activities were carried out. 18.8% of

respondents said that using the cloud has only marginally changed how traditional IT infrastructure management tasks are carried out. To summarise, the data indicates that a considerable proportion of the respondents believe that cloud adoption would fundamentally alter traditional IT infrastructure management tasks. A smaller fraction reported no substantial alteration, while smaller percentages reported mild or minimal modifications.

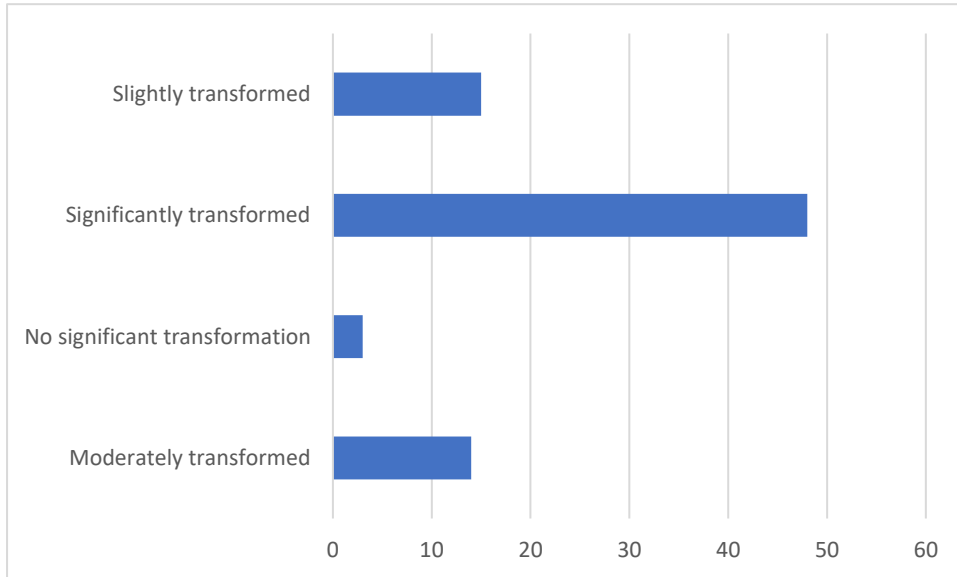


Figure 4. 20: Impact of Cloud Adoption on Traditional IT Infrastructure Management Functions

Table 4.21: Transformation in IT Department's Approach to Infrastructure Provisioning and Maintenance through Cloud Adoption

	Frequency	Percent
Reduced on-premises server maintenance	38	47.5
Altered staffing requirements	26	32.5
Shifted focus from hardware to software	20	25
Changed backup and disaster recovery strategies	10	12.5
Improved resource allocation	10	12.5

According to the respondents to the study, the table offers insights on how the IT department's approach to infrastructure provisioning and maintenance has changed as a result of the use of cloud computing. Of the eighty responders: 47.5% of the respondents indicated that the

introduction of cloud computing had resulted in less maintenance being done on-premises servers. 32.5% of respondents stated that the IT department's personnel needs changed as a result of the implementation of cloud computing. Because of the use of cloud computing, 25% of respondents stated that the IT department's strategy has shifted from focusing on hardware to software. 12.5% of respondents stated that the advent of cloud computing had changed their backup and disaster recovery plans. An further 12.5% of respondents stated that the IT department's resource allocation improved as a result of cloud adoption. In conclusion, the data indicates that the IT department's approach to infrastructure provisioning and maintenance has changed in a number of ways as a result of the adoption of cloud computing. This entails lowering the maintenance needs for on-premises servers, changing the focus from hardware to software, adjusting backup and disaster recovery plans, and allocating resources more effectively.

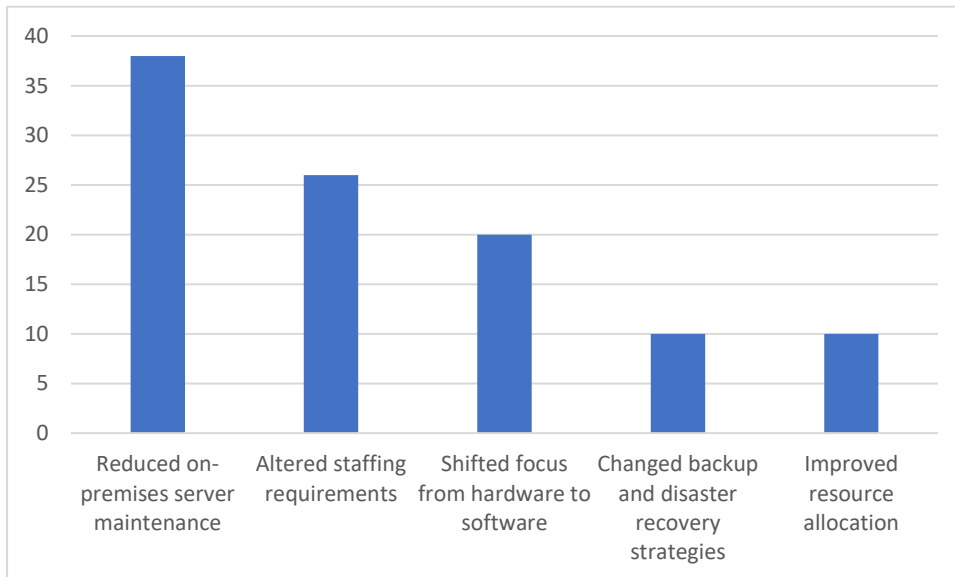


Figure 4. 21: Transformation in IT Department's Approach to Infrastructure Provisioning and Maintenance through Cloud Adoption

Table 4.22: Cloud adoption led to a shift in IT department priorities from infrastructure management to more strategic initiatives

	Frequency	Percent
No, not at all	8	10.0
Not sure	4	5.0
Yes, significantly	41	51.3
Yes, to some extent	27	33.8
Total	80	100.0

According to respondents of the survey, the table shows how cloud adoption is believed to have affected the IT department's priorities shifting from infrastructure administration to more strategic endeavours. Of the eighty responders: 10.0% of respondents, a relatively modest number, said that the adoption of cloud computing did not change the objectives of IT departments. 5.0% of respondents, an even smaller group, expressed doubt about the possibility that cloud adoption contributed to the change in IT department objectives. 51.3% of respondents said that the IT department's priorities shifted considerably as a result of cloud adoption towards more strategic projects. 33.8% of respondents said that the IT department's priorities changed somewhat as a result of the use of cloud computing. In conclusion, the data indicates that, for most of the respondents, the move in IT department priorities from infrastructure administration to more strategic endeavours were significantly influenced by cloud adoption. A smaller proportion stated that the change had occurred to some degree, while a smaller part did not notice the movement at all or were unsure about it.

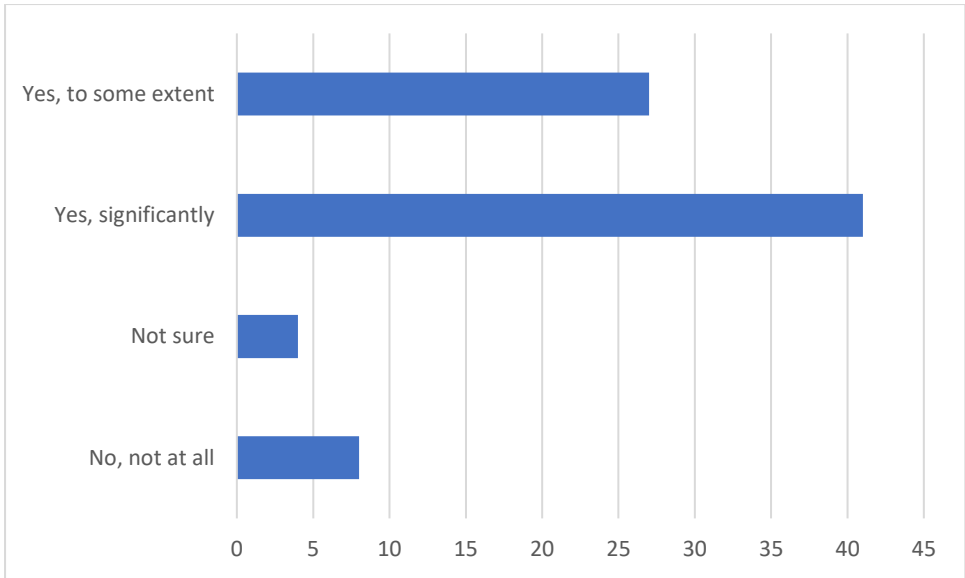


Figure 4. 22: Cloud adoption led to a shift in IT department priorities from infrastructure management to more strategic initiatives

Table 4.23: Effect cloud adoption had on the IT department's role in supporting software development and application deployment

	Frequency	Percent
Enhanced support for development and deployment	38	47.5
No significant change	22	27.5
Not sure	2	2.5
Reduced involvement in development and deployment	18	22.5
Total	80	100.0

The table presents data based on survey respondents' perceptions of how cloud adoption will affect the IT department's ability to assist software development and application deployment. Of the eighty responders: 47.5% of respondents, or the majority, said that the IT department's support for development and deployment activities had improved as a result of cloud adoption. According to 27.5% of respondents, cloud adoption has not significantly changed the IT department's role in assisting with software development and application deployment. Just

2.5% of respondents expressed doubt about how adopting the cloud will affect the job of the IT department. 22.5% of respondents said that the IT department's participation in development and deployment activities had decreased as a result of the use of cloud computing. In conclusion, the information points to a variety of effects that cloud adoption may have had on the IT department's capacity to assist with software development and application deployment. A considerable fraction voiced doubt, a substantial percentage saw no discernible change, the majority claimed increased support, and a noteworthy component reported decreased involvement in these activities.

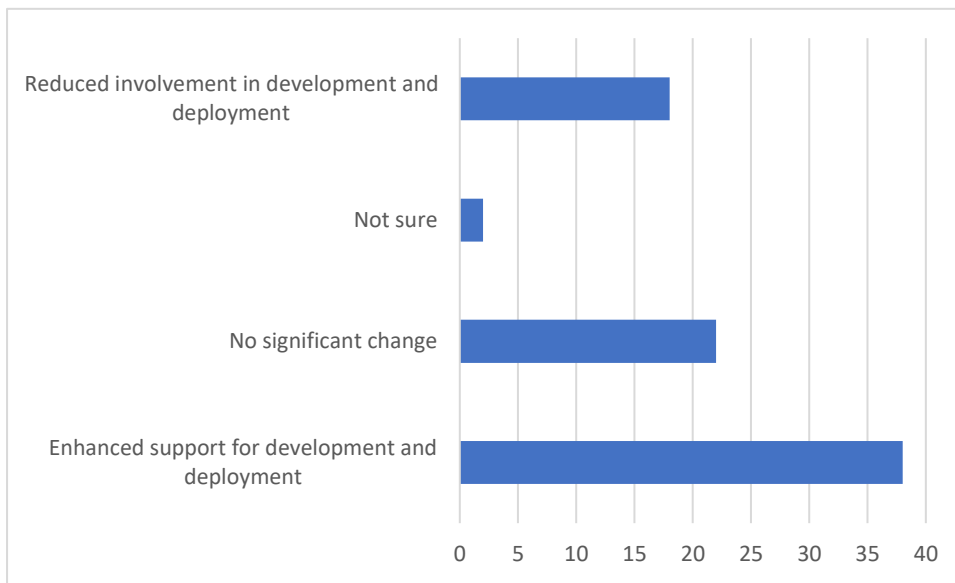


Figure 4. 23: Effect cloud adoption had on the IT department's role in supporting software development and application deployment

Table 4.24: Changes observed in the IT department's role in managing data and data storage as a result of cloud adoption

	Frequency	Percent
Reduced on-premises data storage	28	35
Increased data security efforts	33	41.25
Shifted data backup and recovery strategies	24	30
Enhanced data analytics capabilities	10	12.5

According to respondents of the study, the table offers insights on how the IT department's role in managing data and data storage has changed as a result of cloud adoption. Out of the 80 participants, 35 percent stated that the use of cloud computing has led to a decrease in on-premises data storage. Of those surveyed, 41.25% said that the IT department's efforts to secure data were boosted as a result of cloud adoption. The introduction of cloud computing has resulted in a change in data backup and recovery techniques, according to 30% of respondents. 12.5% of respondents said that the IT department's data analytics skills have improved as a result of cloud adoption. In conclusion, the data points to a number of changes in the IT department's function related to data management and storage as a result of the use of cloud computing. This entails decreasing the amount of data stored on-premises, stepping up data security measures, changing data backup and recovery plans, and improving data analytics capabilities.

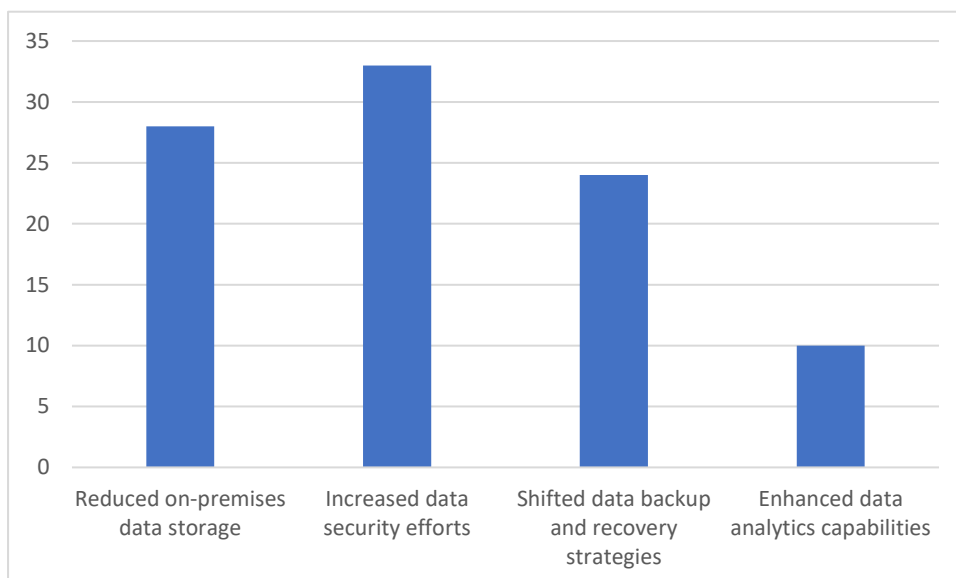


Figure 4. 24: Changes observed in the IT department's role in managing data and data storage as a result of cloud adoption

Table 4.25: Impact of cloud adoption on the IT department's role in ensuring data security and compliance

	Frequency	Percent
Improved data security and compliance efforts	49	61.3
Increased complexity in ensuring data security and compliance	6	7.5
No significant change	24	30.0
Not sure	1	1.3
Total	80	100.0

The table presents statistics on respondents' perceptions of how cloud adoption will affect the IT department's responsibility for data security and compliance. Of the eighty responders: The majority, or 61.3%, stated that the IT department's efforts to comply with regulations and maintain data security had improved as a result of cloud adoption. Just 7.5% of respondents said that adopting cloud computing had made data security and compliance more difficult to achieve. 30.0% of respondents said that the deployment of the cloud has not significantly changed the IT department's responsibility for guaranteeing data security and compliance. Just 1.3% of respondents expressed doubt about how cloud adoption will affect the IT department's involvement in this area. In conclusion, the data indicates that, for most of the people polled, the IT department's efforts to ensure data security and compliance have increased as a result of cloud adoption. While others observed no discernible difference or voiced confusion, a smaller minority indicated greater complexity.

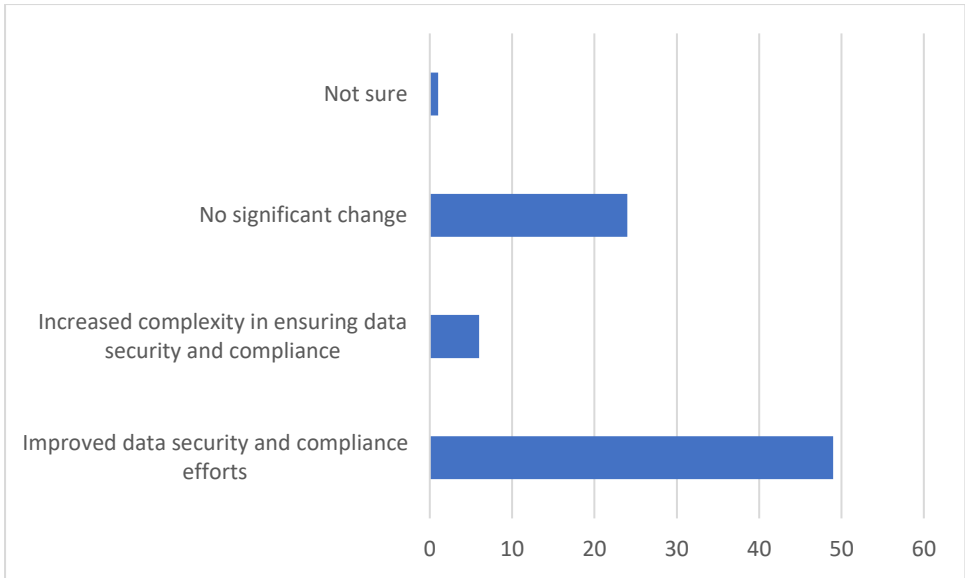


Figure 4. 25: Impact of cloud adoption on the IT department's role in ensuring data security and compliance

Table 4.26: Observed the creation of new roles or positions within IT department specifically related to cloud adoption and management

	Frequency	Percent
No	4	5.0
Not sure	12	15.0
Yes	64	80.0
Total	80	100.0

According to the respondents to the survey, the table offers insights into the observation of the development of new roles or positions within the IT department directly relevant to cloud adoption and management. Of the eighty responders: Only 5.0% of respondents said they have seen no new jobs or responsibilities linked to cloud adoption and management created inside the IT department. In this context, 15.0% of respondents said they were unsure if new responsibilities or positions were established. Eighty percent of the participants reported having seen the IT department create new roles or jobs linked to cloud adoption and management. In conclusion, the data points to the introduction of new roles or jobs within the IT department

that are explicitly connected to cloud adoption and administration, according to the majority of the questioned persons. A smaller proportion stated that they were unsure, and a smaller number said that they had not seen the establishment of such roles or positions.

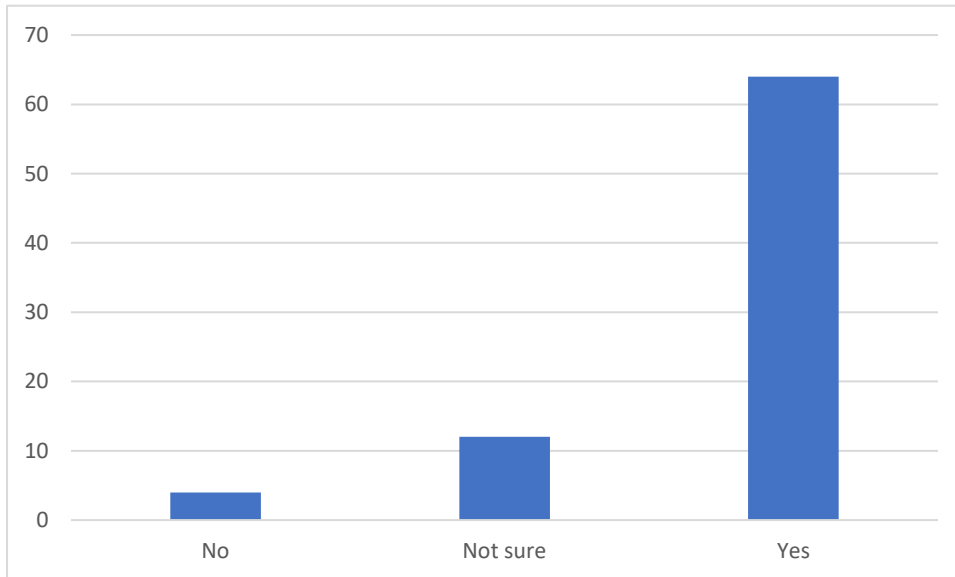


Figure 4. 26: Observed the creation of new roles or positions within IT department specifically related to cloud adoption and management.

Table 4.27: The way cloud adoption altered the responsibilities of traditional IT roles

	Frequency	Percent
No significant change in responsibilities	10	12.5
Reduced responsibilities	1	1.3
Significantly expanded responsibilities	49	61.3
Somewhat expanded responsibilities	20	25.0
Total	80	100.0

The following table presents the respondents' perceptions on how cloud adoption has changed the duties associated with traditional IT roles. Out of the 80 participants, 12.5% stated that the use of cloud computing has not resulted in a notable alteration to the duties of conventional IT jobs. Just 1.3% of respondents said that typical IT jobs' duties have been scaled back. The majority, or 61.3%, stated that the introduction of cloud computing has resulted in a

considerable expansion of the duties associated with traditional IT positions. 25.0% of respondents said that the advent of cloud computing had increased the duties associated with traditional IT positions. To summarise, the data indicates that a considerable increase in the duties of conventional IT jobs has resulted from cloud adoption for most of the surveyed professionals. A far smaller part stated less tasks, while smaller percentages reported no change at all or slightly increased responsibilities.

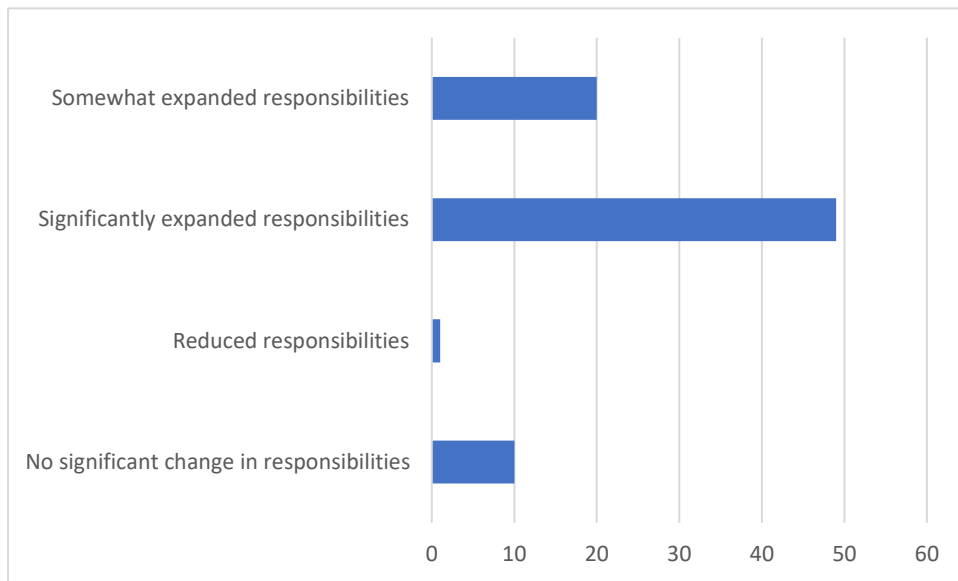


Figure 4. 27: The way cloud adoption altered the responsibilities of traditional IT roles

Table 4.28: Emerging Skills and Expertise in Demand Due to Cloud Adoption in IT Department

	Frequency	Percent
Cloud architecture and design	34	42.5
Cloud security and compliance	25	31.25
DevOps and automation	11	13.75
Data analytics and cloud data management	15	18.75
Vendor management and cloud cost optimization	6	7.5

According to survey respondents, the table presents information on the cutting-edge knowledge and abilities that the IT department's cloud adoption has made necessary. Of the eighty responders: 42.5% of the participants expressed a need for skills and knowledge related to cloud architecture and design. According to 31.25% of respondents, there is a need for expertise in cloud security and compliance. DevOps and automation abilities were cited as being in demand by 13.75% of respondents. 18.75% of respondents said there was a need for people with expertise in cloud data management and data analytics. 7.5% of respondents said there was a need for expertise in cloud cost optimisation and vendor management. In conclusion, the data indicates that the IT department is in need of a wide range of newly developed skills and knowledge as a result of the use of cloud computing. Skills in cloud architecture and design, cloud security and compliance, DevOps and automation, cloud data management and analytics, vendor management, and cloud cost optimisation are among those in high demand.

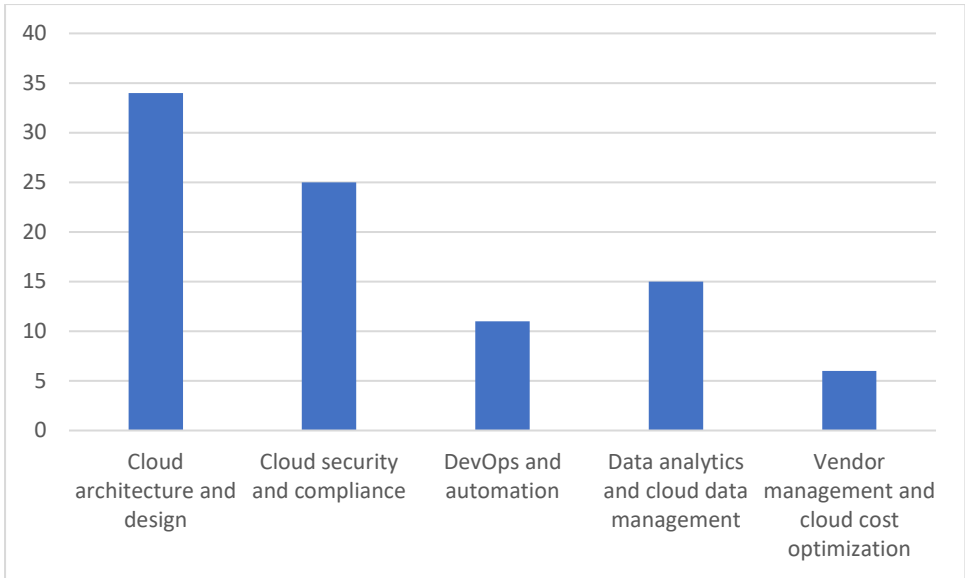


Figure 4. 28: Emerging Skills and Expertise in Demand Due to Cloud Adoption in IT Department

Table 4.29: Major Challenges Faced by IT Department in Cloud Adoption Transformation

	Frequency	Percent
Skills gaps and training needs	52	65
Managing and optimizing cloud costs	45	56.25
Ensuring data security and compliance	61	76.25
Integration difficulties	36	45
Cultural resistance to change	33	41.25
Disruption of traditional IT processes	17	21.25

According to respondents, the table lists the main obstacles the IT department is facing as it transforms to incorporate cloud computing. Of the eighty responders: The majority, or 65%, stated that one of the biggest obstacles to the IT department's cloud adoption transition is skills shortages and training requirements. 56.25% of respondents said they had trouble controlling and maximising cloud expenses. The majority, or 76.25%, said that maintaining data security and compliance was a big problem. Forty-five percent of those surveyed said they had problems

integrating. Cultural resistance to change was cited by 41.25% of respondents as a significant obstacle to the transformation of cloud adoption. 21.25% of respondents mentioned having difficulties with the interruption of customary IT procedures. In conclusion, the data points to a number of obstacles that the IT department must overcome in order to fully embrace cloud computing. The issues that are brought up most frequently include the lack of necessary training and skills, controlling and optimising cloud expenses, guaranteeing data security and compliance, integration problems, cultural reluctance to change, and interference with established IT procedures.

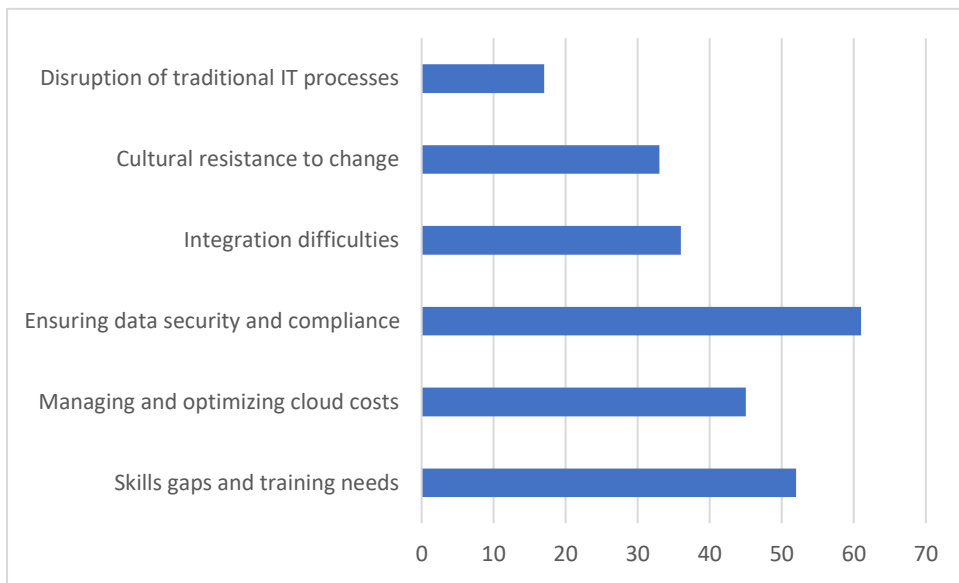


Figure 4. 29: Major Challenges Faced by IT Department in Cloud Adoption Transformation

Table 4.30: Promising Opportunities and Benefits in IT Department Transformation Post-Cloud Adoption

	Frequency	Percent
Enhanced agility and responsiveness	39	48.75
Cost savings and efficiency gains	54	67.5
Access to advanced technologies and tools	63	78.75
Improved collaboration with other departments	41	51.25
Increased scalability and flexibility	28	35
Enhanced data analytics capabilities	20	25

According to the respondents to the study, the table presents data on the encouraging prospects and advantages found in the IT department's transformation after adopting cloud computing. Out of the 80 participants, 48.75% saw increased responsiveness and agility as a potential benefit after adopting cloud computing. The majority, or 67.5%, saw advances in efficiency and cost reductions as a major advantage. According to 78.75% of respondents, adopting the cloud gives you access to cutting-edge tools and technology. Enhanced departmental collaboration was seen by 51.25% as a potential prospect. More flexibility and scalability were cited as an advantage by 35% of respondents. After cloud adoption, 25% of respondents saw improved data analytics capabilities as a viable possibility. In conclusion, the data points to a number of positive prospects and advantages that come with the IT department's change after adopting cloud computing. These consist of improved flexibility and scalability, increased reactivity and agility, cost savings and efficiency gains, access to cutting-edge tools and technologies, and improved data analytics capabilities.

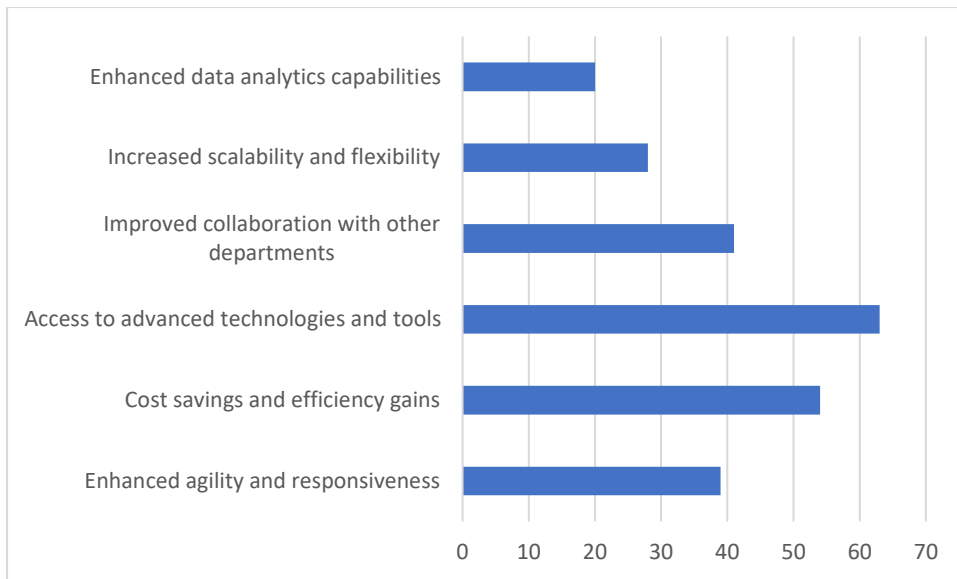


Figure 4. 30: Promising Opportunities and Benefits in IT Department Transformation Post-Cloud Adoption

Table 4.31: Impact of IT Department Transformation on Overall Effectiveness and Alignment with Strategic Goals

	Frequency	Percent
No significant change in effectiveness	19	23.8
Reduced effectiveness	4	5.0
Significantly improved effectiveness	36	45.0
Somewhat improved effectiveness	21	26.3
Total	80	100.0

According to survey respondents, the table shows how the change of the IT department is regarded to have affected overall performance and alignment with strategic goals. Of the eighty respondents, twenty-three percent stated that the IT department's efficacy had not changed significantly since the transformation. Only 5.0% of the sample showed that the change resulted in decreased efficacy. 45.0% of respondents said that the IT department's efficacy has increased dramatically as a result of the change. 26.3% of respondents said the IT department's efficacy

has increased somewhat as a result of the transition. In conclusion, the data indicates that the transformation of the IT department has, for a considerable number of those polled, improved overall performance and alignment with strategic goals. A lower proportion stated that there has been either no discernible change or less efficacy.

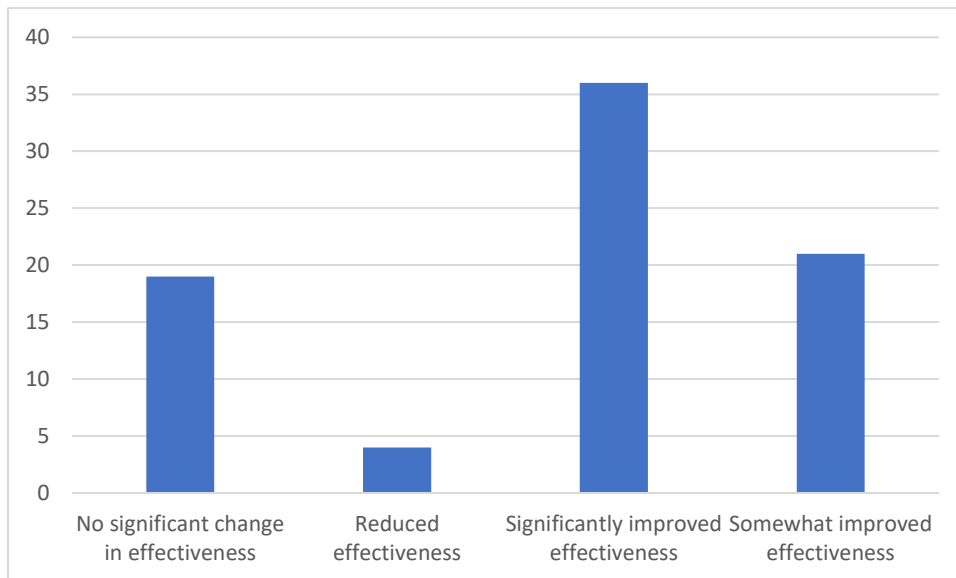


Figure 4. 31: Impact of IT Department Transformation on Overall Effectiveness and Alignment with Strategic Goals

Chapter 5: Discussion and Conclusion

5.1 Introduction

This chapter concentrated as organizations increasingly adopt cloud computing offerings, the landscape of IT departments has undergone a profound evolution. The integration of cloud technology has revolutionized the conventional roles and features of IT groups, leading to sizeable alterations in their shape, operations, and strategic recognition. This exploration objectives to delve into the multifaceted adjustments within IT departments following the widespread adoption of cloud computing offerings, analysing the effect on workflows, ability sets, and the general organizational dynamics.

5.2 Overall findings summary

- The surveyed population predominantly comprised men (68.8%) compared to women (27.5%), with a small percent (3.8%) who prefer now not to reveal their gender.
- Majority of respondents fell in the age range of 25-30 years (63.8%), accompanied by using 31-36 years (32.5%), even as a smaller percentage belonged to the 37-40 age organization (3.8%).
- Systems Administrators (25.0%) have been the most time-honoured task name amongst respondents, observed intently by Network Administrators (23.8%) and Software Developers (21.3%).
- The majority of individuals pronounced having 1-3 years of enjoy in IT (65.0%), with a significant share also having 4-7 years of revel in (28.8 %).
- Bachelor's stages had been the most commonplace educational history among respondents (71.3%), accompanied by means of Master's levels (23.8%).
- A good-sized majority of corporations (88.8%) indicated having cloud-related obligations inside their IT departments.
- Amazon Web Services (AWS) became the most familiar and applied cloud platform amongst respondents (36.25%), followed by using Google Cloud (31.25%) and Microsoft Azure (25%).
- A big majority (82.5%) of respondents stated getting access to continuous education and resources for improving their cloud computing abilities.

- Online courses and webinars (47.5%) had been the maximum favoured approach for staying updated on cloud computing tendencies, observed through enterprise conferences and events (22.5%).
- Infrastructure as a Service (IaaS) became the primary consciousness in contemporary roles for 32.5% of respondents, observed via Software as a Service (SaaS) (30.0%) and Platform as a Service (PaaS) (22.5%).
- Nearly 1/2 of the respondents (47.5%) expressed very high pleasure with their IT department's cloud adoption and transformation efforts.
- The maximum enormous motivating issue for adopting cloud computing offerings was value savings (48.75%), followed by scalability and flexibility (37.5%).
- The majority (81.3%) stated going through challenges at some stage in the transition from on-premises infrastructure to cloud offerings.
- On-demand scalability and versatility had been considered extraordinarily crucial in cloud adoption by way of the majority (51.3%) of respondents.
- Remote access turned into taken into consideration a massive element within the selection-making procedure for cloud adoption by 58.8% of respondents.
- Disaster recuperation desires notably stimulated the choice to undertake cloud offerings for 56.3% of respondents.
- Industry trends and aggressive area had a first-rate effect at the selection to use cloud services for over half (51.3%) of the respondents.
- Training and assets for cloud skills improvement have been available to a massive majority (82.5%) of respondents.
- Satisfaction with the IT branch's cloud adoption efforts became significantly excessive (47.5% very happy, 42.5% satisfied). The study highlighted a frequent presence of various academic backgrounds, job titles, and experience ranges amongst respondents, showcasing the multifaceted landscape of the IT enterprise's engagement with cloud computing.

5.3 Discussion

Objective 1: To examine the factors that drive organizations to adopt cloud computing services.

Several factors power corporations toward adopting cloud computing offerings, as indicated by way of diverse research. Cost financial savings grow to be a primary driver influencing cloud adoption. Studies like Ali *et al.* (2020) have continuously highlighted cost reduction as a huge motivator. Cloud services offer economies of scale, permitting companies to limit infrastructure charges, pay for sources on a pay-as-you-cross basis, and reduce operational fees related to maintenance and upgrades. This entity has been reiterated by numerous researchers, aligning with the findings in this study where 48.75% of respondents stated fee financial savings as a pivotal motivator.

Enhanced collaboration and communicate competencies facilitated by means of cloud services have additionally been underscored in earlier studies as a using force. Improved accessibility and the capacity to collaborate in real-time from various locations are advantages highlighted by Garg *et al.* (2017) and Ali & Osmanaj (2020). This study aligns with such findings, as 17.5% of respondents attributed their adoption of cloud computing to stepped forward collaboration and communication. These comparative insights from earlier studies help make stronger the importance of positive elements and their steady impact on organizational selections concerning cloud adoption, validating the relevance and universality of these drivers across distinct contexts and industries. Comprehending the driving forces behind cloud adoption is crucial for business to improve their IT infrastructure. This shift is driven by elements like flexibility, scalability, and cost-effectiveness (Alma, 2020). With cloud services, you may switch from capital-intensive expenditures to a more flexible operating spending model. Furthermore, companies often turn to cloud solutions because of the demand for better innovation, data accessibility, and collaboration.

Objective 2: To analyse the impact of cloud computing adoption on traditional IT department functions

The adoption of cloud computing has significantly impacted conventional IT department features, reshaping their roles, strategies, and operational frameworks. Previous studies, together with by Carreiro & Oliveira (2019), have indicated a metamorphosis in IT departments as they transition from handling on-premises infrastructure to leveraging cloud offerings. One significant impact is the shift from a predominantly upkeep-focused function to a more strategic

one. Cloud adoption allows IT specialists to redirect their efforts from ordinary protection tasks like hardware protection to that specialize in innovation, strategic making plans, and aligning generation with commercial enterprise goals. This aligns with the findings on this have a look at, where respondents highlighted a shift in focus from infrastructure management in the direction of strategic initiatives, indicating a comparable evolution in IT capabilities.

Additionally, the position of IT departments has advanced in the direction of turning into enablers of innovation and efficiency within corporations. Previous research by Breda (2022) and Ali *et al.* (2020) have emphasized the role of IT in driving innovation by using leveraging cloud technologies to enable quicker deployment of applications, stepped forward collaboration, and superior enterprise agility. This study aligns with these findings, as respondents recounted the positive impact of cloud adoption on innovation and agility within their agencies. Hence, the mixing of cloud computing has not handiest redefined IT features but also placed IT departments as strategic companions facilitating digital transformation and enterprise increase. Conventional IT operations are profoundly altered by the incorporation of cloud computing. IT departments may concentrate more on strategic planning, innovation, and resource optimization when they handle tasks associated with infrastructure maintenance, upgrades, and resource supply. The effect is felt in domains such as cybersecurity, where enterprises must manage joint obligations with cloud service providers.

Objective 3: To identify the new roles and responsibilities that emerge within IT departments post-cloud adoption.

The evolution of IT departments following the adoption of cloud computing has introduced forth a spectrum of latest roles and obligations. Past studies, inclusive of that via Ali & Osmanaj (2020), has indicated the emergence of roles targeted on cloud structure and management. Cloud Architects, as an instance, are accountable for designing and implementing cloud solutions tailor-made to fulfill the company's needs. Similarly, Cloud Engineers play a essential position in deploying and maintaining cloud infrastructure, making sure its reliability, security, and scalability. These observed findings align with these observations, as respondents highlighted new roles like Cloud Architects and Cloud Engineers, emphasizing the specialized information required in cloud-centric positions within IT departments put up-cloud adoption.

Consequently, roles like Cloud Security Specialists or Cloud Compliance Managers have won prominence within IT departments. These experts are tasked with enforcing sturdy security

features, ensuring statistics safety, and making sure compliance with enterprise rules and requirements. This aligns with the findings on this study, wherein respondents recognized the want for roles centered round cloud protection and compliance, reflecting the growing significance of safeguarding records in cloud environments. As cloud use increases, new professions are created to match the changing needs of managing cloud infrastructures, such as cloud architects, security professionals, and data analysts. In the cloud context, traditional jobs may also broaden to include duties related to managing vendors, guaranteeing smooth integration, and supervising compliance.

Objective 4: To assess the challenges and opportunities presented by the transformation of IT departments.

The transformation of IT departments, prompted via the adoption of cloud computing, offers a large number of challenges and possibilities. Previous studies, together with research by Chen et al. (2022), has highlighted challenges related to organizational alternate control. The transition to cloud-based totally models frequently necessitates a cultural shift within companies, leading to resistance to change, loss of buy-in from stakeholders, and the need for retraining staff. This aligns with findings on this take a look at, wherein respondents identified demanding situations related to cultural resistance and the want for upskilling to adapt to the evolving IT landscape post-cloud adoption. However, these challenges also gift opportunities for companies to spend money on alternate management strategies, fostering a culture of innovation and agility to harness the advantages of cloud technology correctly.

Cloud technologies offer scalability and pay-as-you-go fashions, enabling businesses to optimize aid usage, lessen infrastructure prices, and gain operational efficiencies. This finding resonates with those possibilities, as respondents diagnosed the capacity for fee financial savings and operational efficiency profits post-cloud adoption. Therefore, whilst the transformation of IT departments brings demanding situations, it also opens avenues for businesses to streamline operations, reduce prices, and beautify ordinary performance thru the strategic adoption of cloud technologies. IT department transition presents both opportunities and problems. Concerns about security, intricate integration, and a lack of skills are possible. Opportunities include increased agility, cost savings, and the capacity to use advanced technology. These factors must be balanced for IT transformation to be effective.

Objective 5: To provide recommendations for organizations on effectively managing the transition of IT roles in the cloud era.

Effective management of IT roles throughout the transition to the cloud technology necessitates several strategic considerations. Drawing from preceding research, particularly research by El-Haddadeh (2019), corporations must prioritize complete schooling applications and skill development tasks. These packages should cognizance on supplying information in cloud-particular technology, protection protocols, and dealer-particular structures. Providing personnel with opportunities for upskilling and certifications, aligned with enterprise standards like AWS or Azure certifications, can empower them to navigate the complexities of cloud environments efficiently. Additionally, ongoing schooling and workshops ought to be advocated to make certain IT specialists live abreast of evolving cloud tendencies and technologies, as located in prior studies. It is critical to provide direction to organizations as they make this transition. Suggestions might include funding ongoing training initiatives to upgrade the skills of current employees, putting strong cyber security in place, and creating thorough transition plans (Attar an & Woods, 2019). A better transition is ensured by strategically matching IT responsibilities with organizational objectives, and optimizing cloud computing advantages while reducing any possible defects.

5.4 Conclusion

The evolution of IT departments inside the wake of cloud computing adoption indicates a fundamental transformation in roles, features, and organizational strategies. Through this complete look at and by way of drawing upon previous research, it will become obtrusive that cloud adoption has catalysed a paradigm shift, riding IT departments to transition from conventional infrastructure management to strategic enablers of innovation and performance. New roles like Cloud Architects, Security Specialists, and Cost Analysts have emerged, worrying specialized abilities in cloud technologies, facts security, and value optimization. Challenges persist, consisting of cultural resistance, statistics protection issues, and the want for upskilling, yet those demanding situations gift opportunities for businesses to spend money on alternate management, strong safety features, and talent improvement tasks. Ultimately, the transformation of IT roles indicates a possibility for groups to embrace agility, foster a subculture of continuous studying, and strategically leverage cloud technology to obtain operational performance, fee financial savings, and innovation in a hastily evolving digital landscape.

This research is on the complex dynamics behind the restructuring of IT departments after the broad use of cloud computing. Important insights have been acquired by looking at what motivates companies to use cloud services, how it affects conventional IT tasks, and what roles and responsibilities are evolving. IT departments must be flexible and strategically planned due to the possibilities and difficulties this transformational journey presents. The suggestions made here act as a roadmap for successful job transition in the cloud age, helping organizations to navigate this ever-changing terrain. Sophisticated cyber security protocols, ongoing training, and strategic objectives alignment become essential components of the effective management of this transformational process.

5.5 Study contribution

This study contributes treasured insights into the transformation of IT departments submit-cloud adoption, elucidating the evolving landscape of roles, challenges, and opportunities. By synthesizing findings from preceding research and present-day empirical records, it gives a complete expertise of the multifaceted changes within IT features. The identification of new roles together with Cloud Architects, Security Specialists, and Cost Analysts underscores the specialized talent sets demanded by way of cloud-centric environments. Additionally, it highlights demanding situations encompassing cultural shifts, facts security, and the vital want for ongoing schooling. These findings offer businesses with a roadmap for powerful cloud migration techniques, emphasizing the importance of exchange management, talent development, and strategic making plans. Moreover, the take a look at underscores the transformative capacity of cloud technologies, permitting organizations to optimize operations, beautify security measures, and power innovation. Overall, this have a look at contribution lies in its illumination of the nuanced panorama of IT alterations amid cloud adoption, supplying actionable insights for corporations navigating this dynamic terrain.

This research adds a great deal to the body of information already in existence by offering detailed insights into how IT departments have changed after using cloud computing services. It methodically investigates the elements pushing businesses to adopt cloud solutions, illuminating the forces behind this revolutionary change. The research helps to understand how cloud adoption remodels operational interactions, leading to an additional strategic function for IT departments, by analysing the influence on conventional IT operations.

Moreover, the designation of novel jobs and tasks in IT departments after cloud adoption enhances the level of detail regarding the dynamic workforce of the digital age. Organizations are better prepared to navigate the intricacies of this shift because of the study's thorough evaluation of possibilities and difficulties. This study advances our knowledge of how cloud computing transforms IT departments and provides useful information for businesses looking to prosper in the rapidly changing digital environment.

5.6 Recommendation

For organizations embarking on the cloud journey, fostering a culture of continuous learning is pivotal. Invest in comprehensive training programs tailored to cloud technologies, ensuring staff proficiency and adaptability. Encourage certifications aligned with major cloud providers like AWS or Azure. Embrace change management strategies to mitigate cultural resistance and ensure stakeholder alignment. Strategize cloud migration with phased approaches, identifying workload suitability and robust governance frameworks. Leverage external expertise for guidance. Prioritize data security and compliance, integrating these considerations into every phase of the transition. Finally, maintain flexibility and agility, allowing room for innovation and adaptation as the organization evolves in the cloud era.

Several suggestions are made for organizations navigating the transition of their IT departments in the cloud computing age based on the study's results. It is essential to fund training initiatives for current IT personnel. This ensures that the workforce has the skills needed to efficiently manage cloud infrastructures and stay competent in the ever-changing market. IT jobs must be strategically aligned with organizational objectives. Organizations should job descriptions to encourage an IT department that is more strategically oriented and innovation-focused. This realignment makes sure that IT operations directly support the accomplishment of more general business goals. Prioritizing strong cyber security measures is necessary, the organizations that store data on servers must be improved security producers define roles and responsibilities.

APPENDIX

Information Form and Consent Sheet

INFORMATION SHEET FOR PARTICIPANTS

PROJECT TITLE: EXAMINING THE TRANSFORMATION OF IT DEPARTMENTS POST-ADOPTION OF CLOUD COMPUTING SERVICES

You are being asked to take part in a research study to explore and understand the evolving roles and functions of IT departments within organizations following the adoption of cloud computing services. Hence the study examines the factors that drive organizations to adopt cloud computing services, further the study analyses the impact of cloud computing adoption on traditional IT department functions.

What will happen

In this study, you will be asked to answer survey examines the factors that drive organizations to adopt cloud computing services, further the study analyses the impact of cloud computing adoption on traditional IT department functions.

Time commitment

The study typically takes 20-30 minutes of your time.

Participants' rights

You may decide to stop being a part of the research study at any time without explanation required from you. You have the right to ask that any data you have supplied to that point be withdrawn / destroyed. You have the right to omit or refuse to answer or respond to any question that is asked of you. You have the right to have your questions about the procedures answered (unless answering these questions would interfere with the study's outcome. A full de-briefing will be given after the study). If you have any questions as a result of reading this information sheet, you should ask the researcher before the study begins.

Confidentiality/Anonymity

The data I collect does not contain any personal information about you except for the survey question in which no personal details is gather.

For further information

I or / and [Supervisor name] will be glad to answer your questions about this study at any time. You may contact my supervisor at (provide email and DBS phone].

INFORMED CONSENT FORM

PROJECT TITLE: EXAMINING THE TRANSFORMATION OF IT DEPARTMENTS POST-ADOPTION OF CLOUD COMPUTING SERVICES

Project summary:

The aim of this research is to explore and understand the evolving roles and functions of IT departments within organizations following the adoption of cloud computing services. Hence the study examines the factors that drive organizations to adopt cloud computing services, further the study analyses the impact of cloud computing adoption on traditional IT department functions. In addition to this, the study identifies the new roles and responsibilities that emerge within IT departments post-cloud adoption. Later, the study assesses the challenges and opportunities presented by the transformation of IT departments and finally, the study provides recommendations for organizations on effectively managing the transition of IT roles in the cloud era.

By signing below, you are agreeing that: (1) you have read and understood the Participant Information Sheet, (2) questions about your participation in this study have been answered satisfactorily, (3) you are aware of the potential risks (if any), and (4) you are taking part in this research study voluntarily (without coercion).

Section I: Demographics Section

1. Gender
 - Male
 - Female
2. Age
 - 25-30 years
 - 31-36 years
 - 37-40 years
 - Above 40 years
3. Your Job Title:
 - IT Manager
 - Systems Administrator
 - Network Administrator
 - Software Developer
 - Data Analyst
 - Other (please specify): _____
4. Years of Experience in IT:
 - Less than 1 year
 - 1-3 years
 - 4-7 years
 - 8-10 years
 - More than 10 years
5. Educational Background:
 - Bachelor's Degree
 - Master's Degree
 - PhD or other advanced degrees
 - Technical/Professional Certification
 - Other (please specify): _____
6. Are you responsible for cloud-related tasks in your organization's IT department?
 - Yes
 - No
7. Which cloud platforms are you most familiar with or actively using in your role? (Select all that apply)
 - AWS (Amazon Web Services)
 - Azure (Microsoft)
 - Google Cloud
 - IBM Cloud
 - Oracle Cloud
 - Other (please specify): _____
8. Do you receive regular training or have access to resources for improving your cloud computing skills and knowledge?
 - Yes
 - No

9. How do you primarily stay updated on cloud computing trends and best practices? (Select one)
- Online courses and webinars
 - Industry conferences and events
 - Professional associations and forums
 - In-house training programs
 - Other (please specify): _____
10. In your current role, do you primarily work with:
- Infrastructure as a Service (IaaS)
 - Platform as a Service (PaaS)
 - Software as a Service (SaaS)
 - Hybrid Cloud Environments
 - Not applicable
11. How satisfied are you with the cloud adoption and transformation efforts in your IT department?
- Very Satisfied
 - Satisfied
 - Neutral
 - Dissatisfied
 - Very Dissatisfied

Section II: Factors motivate organisation

12. What were the primary factors motivating your organization to adopt cloud computing services? (Select all that apply)
- Cost savings
 - Scalability and flexibility
 - Disaster recovery capabilities
 - Improved collaboration and communication
 - Enhanced data security
 - Access to advanced technologies and tools
 - Regulatory compliance requirements
 - Competitive pressure
 - Other (please specify): _____
13. Did your organization face limitations or challenges with on-premises infrastructure that led to the adoption of cloud services?
- Yes
 - No
 - Not sure
14. How important was the need for on-demand scalability and flexibility in your organization's decision to move to the cloud?
- Extremely important
 - Very important
 - Important
 - Not very important
 - Not important at all
15. Was the desire for remote access to data and applications a significant factor in your organization's cloud adoption decision?
- Yes, a significant factor
 - Somewhat of a factor

- Not a significant factor
- No factor at all

16. Did the need to improve disaster recovery capabilities influence your organization's decision to adopt cloud services?

- Yes, significantly
- Yes, to some extent
- No, it did not influence the decision
- Not sure

17. To what extent did a desire to stay competitive and keep up with industry trends impact your organization's cloud adoption decision?

- Major impact
- Some impact
- Minor impact
- No impact

18. How important was the availability of specialized cloud-based tools and technologies for your organization's specific industry or sector?

- Extremely important
- Very important
- Important
- Not very important
- Not important at all

19. Did regulatory compliance requirements play a significant role in your organization's decision to move to the cloud?

- Yes, a significant role
- Yes, to some extent
- No, it did not play a role
- Not sure

Section III: Impact of cloud computing adoption on traditional IT department functions

20. To what extent has the adoption of cloud computing services affected your organization's traditional IT infrastructure management functions?

- Significantly transformed
- Moderately transformed
- Slightly transformed
- No significant transformation
- Not sure

21. In what ways has cloud computing adoption changed the IT department's approach to infrastructure provisioning and maintenance? (Select all that apply)

- Reduced on-premises server maintenance
- Altered staffing requirements
- Shifted focus from hardware to software
- Changed backup and disaster recovery strategies
- Improved resource allocation
- Other (please specify): _____

22. Has the cloud adoption led to a shift in IT department priorities from infrastructure management to more strategic initiatives?

- Yes, significantly
- Yes, to some extent
- No, not at all
- Not sure

23. What effect has cloud adoption had on the IT department's role in supporting software development and application deployment?

- Enhanced support for development and deployment
- No significant change
- Reduced involvement in development and deployment
- Not sure

24. What changes have you observed in the IT department's role in managing data and data storage as a result of cloud adoption? (Select all that apply)

- Reduced on-premises data storage
- Increased data security efforts
- Shifted data backup and recovery strategies
- Enhanced data analytics capabilities
- Other (please specify): _____

25. In your experience, how has cloud adoption affected the IT department's role in ensuring data security and compliance?

- Improved data security and compliance efforts
- No significant change
- Increased complexity in ensuring data security and compliance
- Not sure

Section IV: Identify the new roles and responsibilities that emerge within IT departments post-cloud adoption

26. Have you observed the creation of new roles or positions within your IT department specifically related to cloud adoption and management?

- Yes
- No
- Not sure

27. In your opinion, how has cloud adoption altered the responsibilities of traditional IT roles (e.g., system administrators, network engineers, IT managers)?

- Significantly expanded responsibilities
- Somewhat expanded responsibilities
- No significant change in responsibilities
- Reduced responsibilities
- Not sure

28. What skills and expertise are increasingly in demand within your IT department as a result of cloud adoption? (Select all that apply)

- Cloud architecture and design

- Cloud security and compliance
- DevOps and automation
- Data analytics and cloud data management
- Vendor management and cloud cost optimization
- Other (please specify): _____

29. What are the most significant challenges your IT department has faced as a result of its transformation due to cloud adoption? (Select up to three)

- Skills gaps and training needs
- Managing and optimizing cloud costs
- Ensuring data security and compliance
- Integration difficulties
- Cultural resistance to change
- Disruption of traditional IT processes
- Other (please specify): _____

30. In your opinion, what are the most promising opportunities or benefits that have arisen from the transformation of your IT department post-cloud adoption? (Select up to three)

- Enhanced agility and responsiveness
- Cost savings and efficiency gains
- Access to advanced technologies and tools
- Improved collaboration with other departments
- Increased scalability and flexibility
- Enhanced data analytics capabilities
- Other (please specify): _____

31. How has the transformation of your IT department impacted its overall effectiveness and ability to meet the organization's strategic goals and objectives?

- Significantly improved effectiveness
- Somewhat improved effectiveness
- No significant change in effectiveness
- Reduced effectiveness
- Not sure

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