

Cloud Security's Impact on Human Activities

Om K. Siddhapura^{1,*}, Ripalkumar N. Patel², Chirag C. Mavani³

Abstract

Cloud computing as an integral aspect of computer services has several aspects and factors whose contribution has been discussed focusing on human activities. The research has focused on analysing how using cloud security affects job availability and skill requirements. In addition, the way cloud security impacts privacy positively has also been evaluated. Cloud computing privacy concerns in social networking and the role of cloud security in business, healthcare, and other critical decision-making areas has also been analysed. In the current research, secondary analysis has been carried out to provide summaries of existing literature and authentic numerical data has been presented. Thus, it has been concluded that cloud security is one of the most important parts that needs to be focused on while using the internet and technology. The study has highlighted different areas where cloud security has a major role, and the way cloud computing has been helpful.

Keywords: Cloud computing, security, secure cloud system, privacy breach, decision making

INTRODUCTION

Cloud security is one of the most important aspects which need to be considered in the current world of technology. With the increased use of technology and internet availability, the factor which needs to be focused on is cloud computing security. As opined by Akhtar *et al.*, it is a collection of security measures that are designed in a way which protects one's cloud-based applications and data [1]. These measures are taken to ensure that the user's authentication and data encryption can be controlled, and data privacy can be maintained. With the help of cloud security, it also supports regulatory data compliance [2]. The major reason to employ Cloud security is to protect an organisation's data from any unauthorised user access.

From the Figure 1, it can be evaluated that cloud security has been capable of satisfying the employees regarding security solutions during remote working [3]. 34% of the participants indicated that they are significantly confident about the security solutions.

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Received Date: January 17, 2024

Accepted Date: February 01, 2024

Published Date: April 04, 2024

Citation: Om K. Siddhapura, Ripalkumar N. Patel, Chirag C. Mavani. Cloud Security's Impact on Human Activities. Recent Trends in Parallel Computing. 2024; 11(1): 7–12p.

The Significance of the Topic

The topic shall focus on the importance of cloud security and the way it impacts human activities. The research will provide insights into the way cloud security is impacting the overall process of humans getting involved. With the help of the research, an overall analysis can be gained on the various aspects that should be focused on before using cloud computing security.

Adopting cloud computing security systems contributes towards the betterment of human activities by maintaining privacy, gaining cybersecurity awareness and initiating global connectivity.

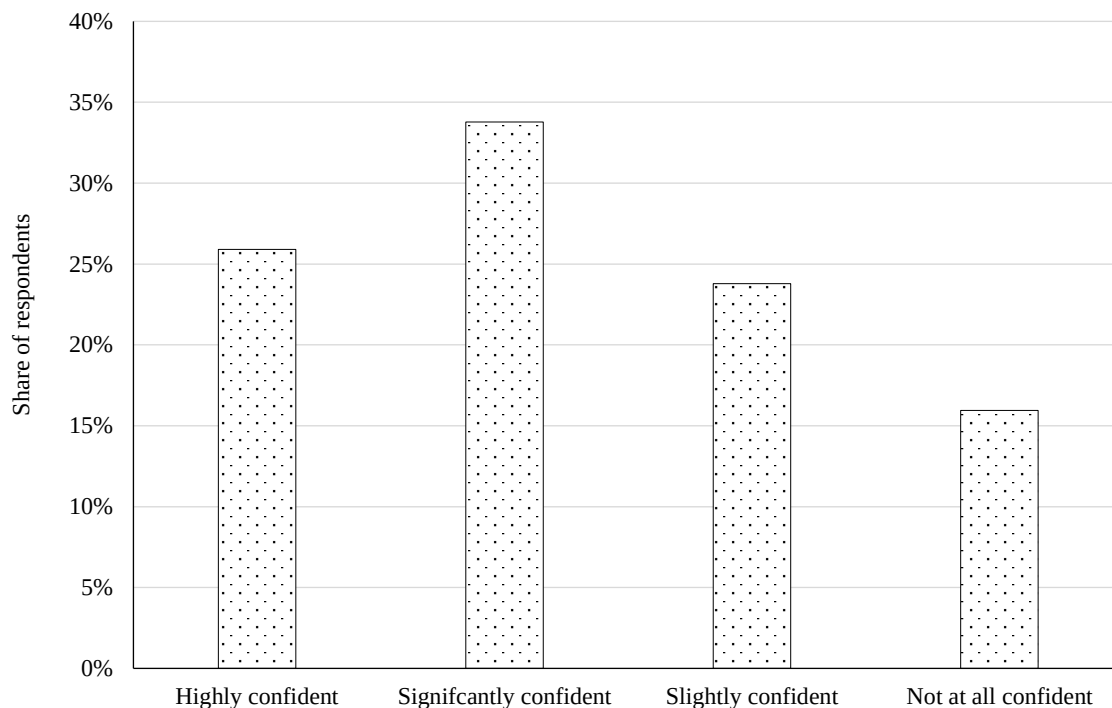


Figure 1. Confidence of employees regarding current access security solutions during work remotely in a secure and easy manner.

The human activities that would be focused on include employment and job aspects, analysis of privacy and surveillance, evaluation of social networking, decision making and ethical considerations.

LITERATURE REVIEW

Key Concepts of Cloud Security and its Impact on Human Activities

The overall concept of cloud security has two different aspects to focus on. The impact of cloud computing on human activities can be both positive and negative. As opined by Tabrizchi and Kuchaki, Security in cloud computing has a major role in companies as it takes the initiative to keep their applications safe [4]. It can be said that it is essential to maintain strong cloud security for organisations to achieve reduced upfront costs, lower ongoing operational and administrative costs, reliability and many more. The connection of cloud security with human activities is immense. Data protection and privacy is one of the most important parts of cloud security as human activities can be kept encrypted and safe from unauthorised extrusion. Cloud security provides help for protecting personal data which are stored in the cloud and these data can be confidently stored maintaining all data protection regulations as shown in Figure 2.

In addition, another important impact of cloud security is in remote working and flexibility. Kaushik and Guleria stated that the concept of remote working has become popular after the pandemic hit [5]. Different companies started to provide employees with remote working scopes which has initiated in gaining better scopes for cloud computing security. During remote working, Cloud technology played the most essential role as it provided the users scope to access data from wherever they wanted to be. In addition, it also focused on giving security measures so that remote work environments could be safeguarded, and confidential information could be kept secured. Besides, the contribution of cloud security is immense as it also focuses on contributing to cybersecurity awareness. Ahmad *et al.* stated that the prevalence of cloud services has focused on increasing cybersecurity awareness among individuals [6]. Users become conscious of the importance of encryption, passwords, and different multi-factor authentication. Thus, cybersecurity has influenced and reshaped human activities.

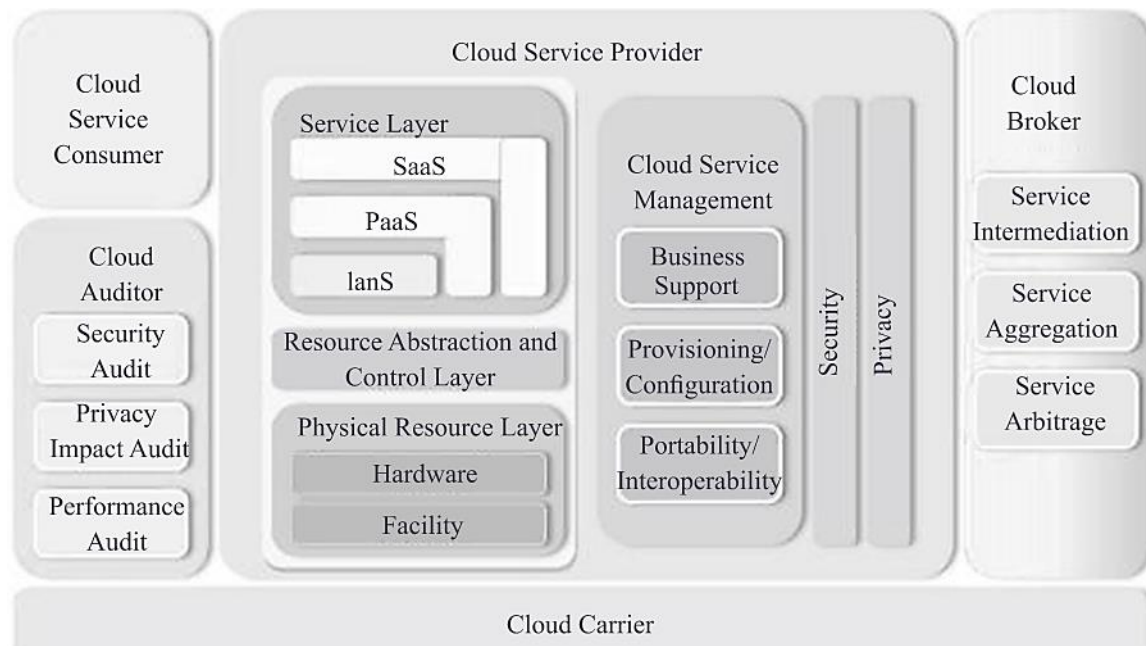


Figure 2. Cloud computing configuration [4].

Literature Gap

Based on the learning gained from existing literature it has been evaluated that many studies have explored different aspects of cloud security. They also have looked for the pros and cons related to it. However, they have not always focused on critically analysing the reasons behind the security issues being faced after implicating highly encrypted security measures.

IMPACT OF CLOUD SECURITY ON HUMAN ACTIVITIES

Employment and Job Market: Discuss how Cloud Security Affects Job Availability and Skill Requirements

It can be said that cloud security has a major impact on employment and the job market. Based on the current demand for cloud security, it has been seen that it has increased demand for cloud security professionals in the market. Organisations are looking for individuals who have expertise in cloud infrastructures and thus are creating better job aspects. In addition, skill diversification is another important aspect where cloud security is affecting human involvement. Organisations are looking for diverse skills which will be linked to cloud security. Those can include DevSecOps where professionals have good knowledge of networking, compliance and encryption. Based on the reports of 2021, it can be concluded that the cloud computing job scopes have increased from 36,453 to 130,798 2017 to 2021 as shown in Figure 3 [7].

Privacy and Surveillance: Explore how Cloud Security Impacts Privacy

The overall concept of cloud computing has a direct link with privacy as it is related to how data is stored and accessed in the cloud. As opined by Yang *et al.*, data encryption is one of the most important aspects where cloud security plays an essential role in privacy [8]. Cloud security protects sensitive information and data by providing accurate encryption keys. Besides, it has been seen that cloud security has its contribution to privacy through its access control and identity management. Janssen *et al.* stated that access control and identity management help restrict access to sensitive data and ensure that only authorised access is applicable [9].

Social Interactions: Analyse Cloud Computing Privacy Concerns in Social Networking

Cloud-based social networking platforms like Facebook and Instagram are built on cloud computing technology. Currently, social media and cloud computing are used in various ways. It can be said that

cloud security is used for social interaction for managing security as people nowadays use social media a lot. It helps in storing personal information, different media content, and messages in the cloud so that unauthorised access and data breaches can be avoided. Thus, it has been seen that different businesses nowadays have turned to the cloud for managing social media platforms and the cloud security market is expected to increase to a huge extent as shown in Figure 4 [10].

Decision-Making: The Role of Cloud Security in Business, Healthcare, and Other Critical Decision-Making Areas

Based on the knowledge gained regarding cloud computing, its role in business, healthcare, and other critical decision-making areas are as follows:

- Cloud security is used in businesses for data protection, secret collaboration, cost efficiency and secured business continuity [1].
- Its role in the healthcare sector consists of patient data security, remote patient monitoring, medical research and compliance with healthcare regulations [11].

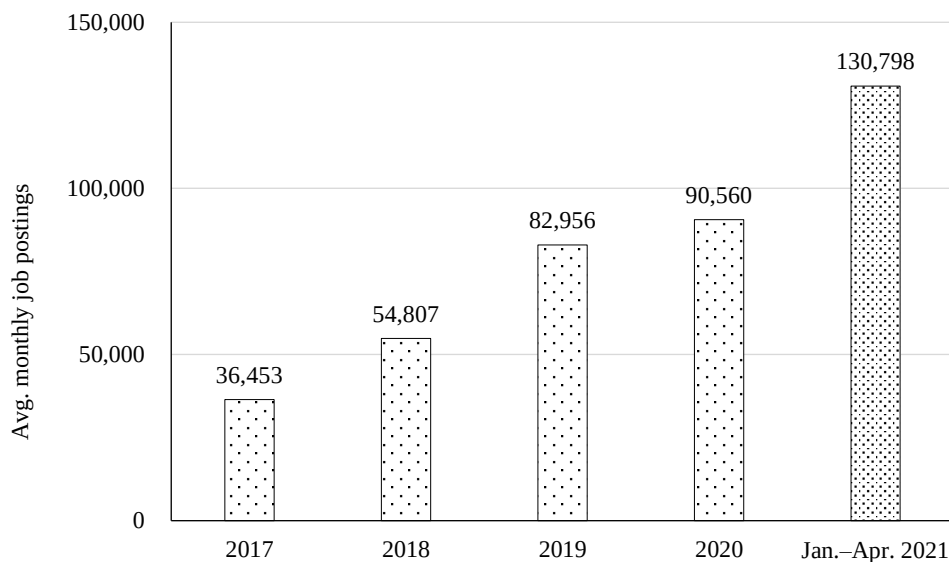


Figure 3. Employer demand for cloud computing hire [7].

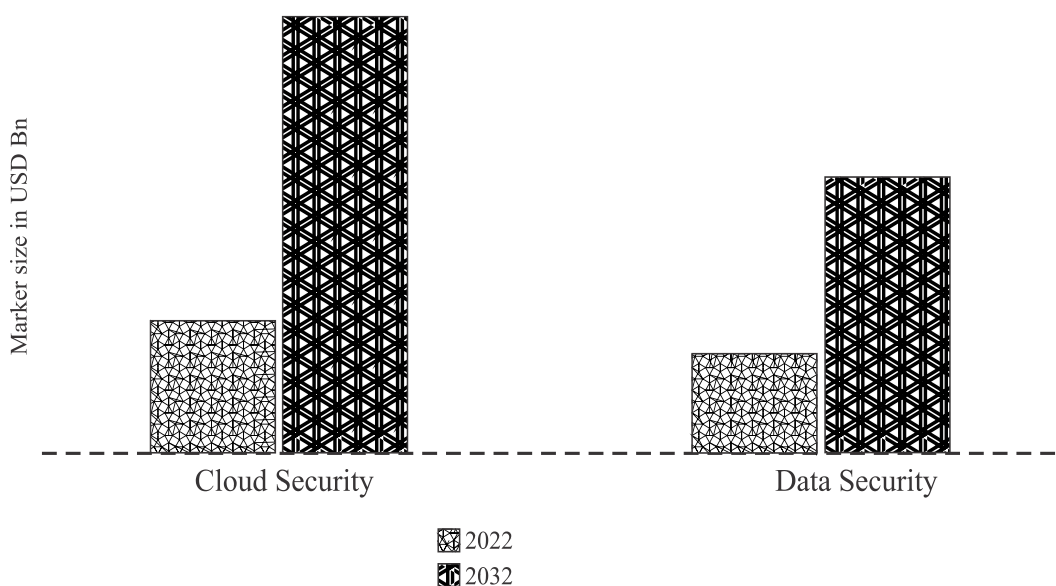


Figure 4. Social media security market [10].

On the other hand, cloud security has been involved in many decision-making areas like government services, financial services, infrastructure protection, supply chain security and others [12].

Ethical and Moral Considerations: The Cloud Security Dilemmas

Based on the importance of cloud security, there are several ethical and moral considerations that are connected to cloud computing.

- Balancing transparency and accountability are important as security practices and sensitive information should be protected from being exploited.
- Government Surveillance and Access needs to be followed as user privacy should be encrypted and this step is a part of the government's actions [13].

DISCUSSION

Interpretation of Findings

From the above, it can be interpreted that security in cloud computing is one of the most important aspects that has been identified. In addition, data protection and privacy are also included in cloud computing as it is linked with remote working and flexibility. With the increased demand for cloud security, job aspects have increased giving better preferences to employees with computing skills. Cloud security has a major role in privacy and better data security. Especially in social media networking, cloud security is involved in keeping data encrypted. The role of cloud computing security in business healthcare has also been evaluated focusing on other decision-making prospects as well.

The Implications of Cloud Security's Impact on Human Activities

It can be evaluated that cloud security has a major impact on human activities. There are various aspects which can be considered for the purpose. Using cloud computing as a part of daily activities is connected to how technology has gotten involved immensely [14]. In terms of work and productivity cloud computing has enabled the concept of remote working and gaining better job options. On the other hand, education has also been another sector where cloud computing has its role. In addition, cloud security has also contributed towards business and innovation and also be used in the healthcare sector.

RESEARCH LIMITATIONS

- *Time contrasts:* It can be said that one of the research limitations that has been faced includes time contracts as conducting the research, a more lot of time should have been allocated.
- *Limited access to information:* based on the requirement of the research, there has been less evidence on how cloud security might be impacting negatively, though there was ample evidence for positive aspects.
- *Maintaining authentication:* All the sources that have been used in the research are authentic and genuine. But it has been challenging to find genuine resources as there was evidence which could not be accessed without a premium account.

CONCLUSION

Implementation of identity and access management helps in better user access. Keeping regular updates and patch systems contributes to addressing potential vulnerabilities. In addition, it can be evaluated that cloud computing has both positive and negative aspects, but the research on negative aspects is lower than that of positive. The study has identified loopholes and the importance of cloud computing and the way it could be solved. The prime significance of the study will shed light on how cloud computing has become a daily name and its contribution towards society and humanity is immense.

Future Recommendations

- More in-depth research could be undertaken in the future.
- Focusing on the negative aspects could also be done, and based on that, the reasons behind it can be initiated.

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