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SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY

The mission of the University is to provide an environment that enables the cultivation of Competence, Confidence, Creativity, and Character, in the academic, professional and social interactions.

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TOPIC:	Maximizing data sovereignty through Cloud Storage Governance (CSG)

ABSTRACT:

Cloud computing services – specifically cloud storage service, are presenting millions of clients with the enormous capacity and increased business benefits that they entail. However, this extensive growth can/do also present a number of drawbacks. Amongst a number of concerns are; new security and privacy challenges such as data sovereignty which is very high on the table. At present, in a number of organisations especially in low- and middle-income countries, decision-making about choosing the right cloud service provider (CSP) and the management of cloud migration is a multifaceted and complex task. In order to assist organisations through the cloud migration process that empowers them to make the correct choice for data protection and assigning the suitable security measure, this research presents a novel Cloud Storage Security Strategy (CS3) to minimalize the data security risks, specifically data sovereignty. This study was done tthrough a systematic literature review of more than 20 papers and interviews with 09 security consultants / specialists and numerous potential factors has been discussed and considered. Grounded on these factors, a useful solution inform of a security strategy is developed that helps to fill the security gaps during the cloud adoption.

Against this backdrop therefore, the main contribution of this study is a security strategy that helps in assessing and improving the security of an organizations's data during the data migration/transmission, beginning from decision making about the cloud provider till the conclusion of the process of migration. Additionally, with amalgamation of academic and practical sources provided in this study, a comprehensive understanding on the cloud storage security risks and migration process is presented, together with the important factors that should be considered in the migration process that provides effective security countermeasures and an improved security strategy for the organisation.