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# The rise of "big data" on cloud computing: Review and open research issues

Ibrahim Abaker Targio Hashem [a,*], Ibrar Yaqoob [a], Nor Badrul Anuar [a], Salimah Mokhtar [a], Abdullah Gani [a], Samee Ullah Khan [b]

[a] Faculty of Computer Science and information Technology, University of Malaya, 50603 Kuala Lumpur, Malaysia
[b] NDSU-CIIT Green Computing and Communications Laboratory, North Dakota State University, Fargo, ND 58108, USA

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ABSTRACT

Cloud computing is a powerful technology to perform massive-scale and complex computing. It eliminates the need to maintain expensive computing hardware, dedicated space, and software. Massive growth in the scale of data or big data generated through cloud computing has been observed. Addressing big data is a challenging and time-demanding task that requires a large computational infrastructure to ensure successful data processing and analysis. The rise of big data in cloud computing is reviewed in this study. The definition, characteristics, and classification of big data along with some discussions on cloud computing are introduced. The relationship between big data and cloud computing, big data storage systems, and Hadoop technology are also discussed. Furthermore, research challenges are investigated, with focus on scalability, availability, data integrity, data transformation, data quality, data heterogeneity, privacy, legal and regulatory issues, and governance. Lastly, open research issues that require substantial research efforts are summarized.



**Contents**



* Corresponding author. Tel.: +60 173946811.
*E-mail addresses:* targio@siswa.um.edu.my (I.A.T. Hashem), ibraryaqoob@siswa.um.edu.my (I. Yaqoob), badrul@um.edu.my (N.B. Anuar), salimah@um.edu.my (S. Mokhtar), abdullah@um.edu.my (A. Gani), samee.khan@ndsu.edu (S. Ullah Khan).

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