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SCHOOL OF COMPUTER SCIENCE

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Modeling the Factors Influential on CBDA Adoption –
The Case of Saudi Arabian Universities

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Abstract:

The Government of Saudi Arabia has an ambitious plan to shift its higher education sector to the cloud service paradigm and employ Cloud-based Big Data Analytics (CBDA) to overcome challenges confronting its education system. This is in a time educational institutes do not widely use CBDA. Based on Torntazky's TOE framework of technology adoption, a thorough review of cloud computing adoption literature was conducted to design the research, in which IT executives from 38 public universities participated.

The data reveals that universities that use business intelligence and analytics solutions on-premises are more likely to adopt CBDA. Contrary to previously published studies, the realization of CBDA's relative advantage is not the strongest predictor of CBDA's future use; top management support is. Additionally, top management support drives organizations to adopt CBDA when internal systems compatibility to CBDA is assured, but this support declines if they perceive a higher degree of security concerns associated with using CBDA. Our results confirm that TOE is still a good instrument to analyse universities' drivers of CBDA adoption in the research context. They also reveal a shift from technological factors as most influential factors on organizational adoption of cloud computing to organizational dimension.

Therefore, we recommend a policy that mandates public universities to conduct awareness programs to increase decision-makers' awareness of CBDA compatibility to their existing data and practices and explain the treatment of the risks associated with data migration to the cloud paradigm.