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## Digital Technologies in Low-Resource Communities: An Exploratory Study

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## Digital Technologies in Low-Resource Communities: An Exploratory Study

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### Abstract

In the context of COVID-19 pandemic, research on digital technologies has gained renewed attention, especially in LRCs as they are prone to the digital divide – a lack of digital services and internet infrastructure due to heavy costs of deployment (Díaz Andrade & Techatassanasoontorn, 2021). Provided the vast array of opportunities that digital technologies have opened for individuals, businesses, and communities in modern society (Cohen, Amorós, & Lundy, 2017; Chan, Ahuja, Boroomand, & Sadreddin, 2019; Vial, 2019), it is crucial to further investigate the dynamics and impacts of digital technologies in LRCs. Although digital technologies offer several capabilities, their functionality also depends on users, and their environment. Mismatches between the deployed digital strategies and communities' contexts can result in unintended consequences and exploitation of communities (Tim, Cui & Sheng, 2021; Tim, Pan, Bahri, & Fauzi, 2018; Venkatesh, Bala, & Sambamurthy, 2016). While existing literature has scratched the surface of this research area, most have only studied the topic case-by-case. This research identifies gaps in the LRC literature and addresses the following research question: How do digital technologies enable development in low-resource communities? Our overarching goal is to create a comprehensive framework of inter-related constructs that lay a foundation for future research on how LRCs leverage digital technologies for development.

Derived from van Zyl, Badenhorst, Hanekom, and Heine (2021), we define low-resource communities (LRCs) as areas that have limited access to any of the following six resources: underdeveloped infrastructure, financial shortage, paucity of knowledge, human resource limitations, geographical and environmental factors, and influence of beliefs and practices. LRCs can be in either developing countries or developed countries, ranging from communities in sub-Saharan Africa to indigenous communities in the Northern regions of Canada as well as the native American reservations in USA. To capture the role of digital technologies, contexts, and actors (e.g., local governments, community leaders, organizations) in creating impacts for LRCs, we draw on Webster and Watson (2002) guidelines to conduct a systematic literature review of papers published in selected top-tier information systems journals. Our screening search includes the following keywords: low-resource, communities, digital technologies, and their synonyms. Due to the broad spectrum of the field, we also employ a bibliometrics analysis (Baskerville & Myers, 2009; Moeini, Rahrovani, & Chan, 2019) and paper coding approach (Moeini, Rahrovani, & Chan, 2019; Nicolai & Seidl, 2010) to refine our data collection results.

The findings will contribute to both digital technologies and community development literature while raising practitioners' awareness on how digital technologies are utilized in low-resource settings. In particular, the paper will expand literature on processes and solutions developed by different groups of actors in multiple low-resource contexts, thus providing opportunities to incorporate theoretical framework and further conceptual development. Practitioners are encouraged to take local contexts into consideration while developing initiatives and establish collaborative efforts among each other to achieve sustainable goals for LRCs.