

8-10-2020

COVID-19 Pandemic Management and Control: Effects of Information and Communication Technologies

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Recommended Citation

Siau, Keng and Han, Linrui, "COVID-19 Pandemic Management and Control: Effects of Information and Communication Technologies" (2020). *AMCIS 2020 TREOs*. 72.
https://aisel.aisnet.org/treos_amcis2020/72

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COVID-19 Pandemic Management and Control: Effects of Information and Communication Technologies

TREO Talk Paper

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Abstract

In late 2019, a new coronavirus, COVID-19, was reported in Wuhan, China. The origin of this virus is still debated. Nevertheless, this new coronavirus spreads like wildfire and is now a global pandemic. Different countries have responded to the pandemic in different ways with varying results. In this research, we investigate the effects of information and communication technologies (ICT) on COVID-19 pandemic management and control.

Information and communication technologies have impacted nearly every industry in the world from finance and banking to universities and nonprofit organizations (Siau and Long, 2009). The health care system, which is composed of hospitals, individual physician practices, specialty practices, as well as managed care providers, pharmaceutical companies, and insurance companies, is no exception (Siau *et al.*, 2002; Siau, 2003). Mobile technologies (Siau and Shen, 2002), which are new in healthcare informatics (Siau and Shen, 2006), are also widely used in disseminating information (Katerattanakul and Siau, 2003), and contact tracing in managing and controlling the spread of COVID-19. A country's development and maturity in ICT should affect its COVID-19 pandemic management and control. For example, those countries that have a more developed ICT should be able to capitalize on its ICT strengths to administer contact tracing and pandemic management. This research will utilize the Growth Theory, which is an economic theory investigating reasons for growth and development, as the conceptual foundation. Based on the Growth Theory, we hypothesize that ICT affects COVID-19 pandemic management and control. The hypotheses will be empirically tested using secondary data on COVID-19 and ICT. Anecdotal data from various websites and news media will also be collected to triangulate the results. This research will provide insights into the use of ICT in pandemic control and identify the best practices in using ICT for pandemic management and control.

References

- Katerattanakul, P., Siau, K. 2003. "Creating a virtual store image," *Communications of the ACM*, 46(12), 226-232.
- Siau, K. 2003. "Health Care Informatics," *IEEE Transactions on Information Technology in Biomedicine*, 7(1), 1-7.
- Siau, K., Erickson, J., Nah, F. 2010. "Effects of national culture on types of knowledge sharing in virtual communities," *IEEE transactions on professional communication*, 53(3), 278-292.
- Siau, K., Long Y. 2009. "Factors Impacting E-Government Development," *Journal of Computer Information Systems*, 50(1), 98-107.
- Siau, K., Shen, Z. 2002. "Mobile commerce applications in supply chain management," *Journal of Internet Commerce*, 1(3), 3-14.
- Siau, K., Shen, Z. 2006. "Mobile Healthcare Informatics," *Medical Informatics and the Internet in Medicine*, 31(2), 89-99.
- Siau, K., Southard, P., Hong, S. 2002. "e-Healthcare Strategies and Implementation," *International Journal of Healthcare Technology and Management*, 4(1-2), 118-131.