# Smart Health: Big Data Enabled Health Paradigm within Smart Cities

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## Abstract:

*In the era of "big data", recent developments in the area of information and communication technologies (ICT) are facilitating organizations to innovate and grow. These technological developments and wide adaptation of ubiquitous computing enable numerous opportunities for government and companies to reconsider healthcare prospects. Therefore, big data and smart healthcare systems are independently attracting extensive attention from both academia and industry. The combination of both big data and smart systems can expedite the prospects of the healthcare industry. However, a thorough study of big data and smart systems together in the healthcare context is still absent from the existing literature. The key contributions of this article include an organized evaluation of various big data and smart system technologies and a critical analysis of the state-of-the-art advanced healthcare systems. We describe the three-dimensional structure of a paradigm shift. We also extract three broad technical branches (3T) contributing to the promotion of healthcare systems. More specifically, we propose a big data enabled smart healthcare system framework (BSHSF) that offers theoretical representations of an intra and inter organizational business model in the healthcare context. We also mention some examples reported in the literature, and then we contribute to pinpointing the potential opportunities and challenges of applying BSHSF to healthcare business environments. We also make five recommendations for effectively applying `BSHSF to the healthcare industry. To the best of our knowledge, this is the first in-depth study about state-of-the-art big data and smart healthcare systems in parallel. The managerial implication of this article is that organizations can use the findings of our critical analysis to reinforce their strategic arrangement of smart systems and big data in the healthcare context, and hence better leverage them for sustainable organizational invention.*

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