Chapter 10
Governance, Complexity, and Resilience of the Kenyan Mobile Industry in the Context of Its Strategic Vision

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ABSTRACT

Assessing the impact of existing and emerging mobile technologies on individuals and societies is a complex task. Various models of the telecommunication industry have been developed and differ from country to country. The study analyses the Kenyan mobile industry's governance, complexity, and resilience. It investigates the emerging notion of "resilience" as a perspective for understanding how societies can cope with, and develop from, disturbances and change. A resilience approach to governance issues shows a great deal of promise to enable a more refined understanding of the dynamics of rapid, interlinked, and multiscale change. Simulation is done of the Kenyan mobile industry. The simulation result proves that the regulator Communications Authority of Kenya (CAK) is resilient amid the continuous change in the telecom industry. This study also uses the model to analyze mobile industry policy and concludes with policy suggestions to improve the expected mobile industry services and governance for developing countries.

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1.0 INTRODUCTION

In Kenya, mobile telecommunication industry has witnessed a tremendous growth over the last few years, as of 31st December 2019 the total number of mobile subscriptions was recorded as 54.5 million up from 46.6 million. Kenya's mobile phone penetration crested the 100 per cent mark as stated by the Communications Authority of Kenya. It joins Morocco, Namibia and Tunisia, the only countries in Africa to achieve the milestone. In the recent times, India has also emerged a fast growing telecom market in the world and witnessed a telecommunication revolution brought about by a collaboration of government, industry, and the scientific community (Bhushnan, 2012). The increase in mobile penetration was "mainly attributed to the fact that most users own more than one SIM card either from the same or different service providers. However, there is a wide variation in mobile diffusion as well as GDP growth across various counties in Kenya, raising questions of socio-economic disparities and how technology diffusion may help in the convergence of growth process among various counties. (Ansah, 2017) elicits the structural mechanism representing the intended effect of structural adjustment policies and the unintended effects observed from the implementation of the structural adjustment policies in many African countries. Empirical studies have found several factors such as per capita income, income inequality, population density, the age profile of the population, competition and regulatory structure to have a positive impact on mobile penetration (Yamakawa, et al., 2013, Chakravarty, 2007). Despite the evolving literature on the development benefits of mobile phones, we still know very little about factors that influence their adoption (Asongu, Nwachukwu & Aziz, 2018). Many studies have investigated determinants of mobile phone penetration in Sub-Saharan African countries using various policy variables. The relation between inequality and mobile penetration has been found to be mixed. In some studies, mobile penetration, was found to be negatively related to income inequality; whereas, it is positively related to inequality in the early stages of diffusion (Roeller & Waverman, 2001, Hytennin & Toivanen, 2011). In another study by (Vokshi et al., 2019), considered that people with access to mobile telephony also have access to Wi-Fi and GPS and that individuals can perform different activities, such as engaging in e-commerce, e-governance, health, and education; paying bills; saving money; and transferring money to other persons. This represented a good foundation for poor persons exit the cycle of deprivation and lead to the development of equal opportunities. In the developing country context, mobile phones serve dual purposes: one, as a consumption good for the rich and two, as a production good for the poor. Case studies from the Africa and Asia have shown the usefulness of mobiles as a production good (Jensen, et al., 2007, Aker et al 2008, Muto, et al, 2008). For this reason, income inequality may influence the spread of mobile penetration in the early stages. Embracing the digital revolution requires good ICT governance. Appearance of the inequality of opportunity might result in losing faith in the markets and might generate preferences for misleading market policies. Thus, understanding the connection between the inequality of opportunity and beliefs is quite important (Brock, 2018). In a study on the determinants of mobile phone ownership, the following were found to be quite important: education, informal work, employment status and type of electricity. To increase mobile phone use, especially among youth, governments should support initiatives involving the development of mobile phone content in local languages (Forenbacher et al., 2019). Although the impact of economic and demographic factors on mobile penetration has been established, there is not much clarity on the relationship between mobile phone penetration, economic growth and the extent to which this leads to convergence of growth process. Systems Dynamics could assist in viewing problems in complex system holistically, while Big Data in e-government is for collecting data and information which are used for developing model of system dynamics and its equations (Nasution