Chapter 10
Access and Use of Networked Electronic Devices for Educational Information Management by Undergraduates in South Africa

Oghenere Gabriel Salubi
University of the Western Cape, South Africa

ABSTRACT

Electronic networked devices have broken down fences of communication and information access from anywhere in the world, and its capacity to store, manage, as well as transmit vast amounts of information to anybody anywhere in the world often makes it to be referred to as the "Information Highway." But digital divide has constraint access and use of these devices especially in developing countries like South Africa where economic-digital divide is very common. Four electronic devices (desktop, laptop computer, mobile phones, and tablets) that are mainly used for schoolwork and educational information management were sampled. The objectives of the study were to find out the electronic devices owned/ accessible to undergraduate students for educational information management, identify the location where undergraduate students mainly access the internet, appraise the means and cost of accessing the internet by undergraduate student, and ascertain how undergraduate students utilise networked devices to manage educational information. Survey research design was adopted for the study and quantitative data was collected with the use of a questionnaire from 390 respondents. Results from the study indicated that mobile phone (362 or 92.8%) and laptop computers (305 or 78.2%) are the most owned electronic devices. Only 3 or 0.8% do not own any of the electronics listed in the survey while 2 (0.5%) do not have access to any electronic device listed for the survey. Most of the respondents (307 or 78.7%) access the internet from their mobile phones with access to the internet being free wi-fi on campus 349 (89.9%). Ninety percent of the respondents make use of their mobile phone in managing educational information while only 19% manage educational information on their laptops when outside the university campuses. Digital divide still plays a major role in the hindering undergraduate students in the management of

educational information using networked devices.

INTRODUCTION

Digital technologies and networked electronic devices have become part of our everyday life and educational support media for many students in institutions of learning. These technologies have evolved to become an essential component in students' learning process as well as the management of institutional/personal educational information resources (Hong, Ridzuan, & Kuek, 2003). However, there exist the challenge in global inequalities of technology haves and have nots (Terán, 2010) which by extension have a manifestation in Institutions of higher learning in South Africa, being one of the most unequal societies in the world (Visagie & Posel, 2013).

The aim of this study was to assess undergraduate students' access to, and use of networked electronic devices for educational information management; specifically, undergraduate students in the Eastern Cape Province of South Africa. The Eastern Cape Province is reported to be among one of the poorest provinces in South Africa (Statistics South Africa, 2017, 2018). This study set forth to explore how this economic divide could affect access and use of networked electronic devices among undergraduate students at two selected universities in the Eastern Cape Province, South Africa.

Digital devices are extraordinary resources for gaining access to information of all kinds, including historical, and each day, a greater number of sources become available online. According to Adekunmisi, Ajala and Iyoro (2013), the digital educational media serve as a self-sustaining facility accessible to hundreds of millions of people worldwide. Digital technologies have broken down fences of communication and information access from anywhere in the world, and its capacity to transmit a vast amount of information to anybody anywhere in the world (Hargittai, 2010). Technology also improves education as it connects students and teachers with electronic resources and digital resources. It gives them access to new forms of information such as instructional videos and computer games. Students appreciate digital education because it engages them in the learning process and provides instant feedback on their academic performance (West, 2012).

The main difficult confronting many developing countries is 'digital divide' which symbolizes the discriminations in social, political, cultural and economic classification of people and communities into information communication technologies 'haves' and 'have nots'. Van Dijk (2006) succinctly puts it as the imbalanced distribution of access to electronic devices between society's 'haves' and 'have-nots'. Onye and Yu in 2016 stated that "digital diffusion increased the concept of digital divide, thereby forcing 'digital inclusion' into a major channel of bridging 'digital gap'. Today, digital inclusion has emerged into a model for neutralizing the divisions of digital divide between the digital haves and have nots" (Onye & Du, 2016).

As digital media technologies have been introduced into classrooms, students also make use of these media in the management of educational information resources. Rosen (2011) highlighted that technologies including desktop computers, laptops, and Tablets are among digital devices that students utilise in supporting learning in- and outside the classroom. With digital educational media inequality, there is the likelihood of some students performing less good than others.

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