Mobile Technologies Impact on Economic Development in Sub–Saharan Africa

Adam Crossan
Letterkenny Institute of Technology, Ireland

Nigel McKelvey
Letterkenny Institute of Technology, Ireland

Kevin Curran
Ulster University, UK

INTRODUCTION

In today's world mobile technology has been used to help improve and enhance almost every sector, in this paper the author researches and discusses how it has helped benefit developing areas such as sub-Saharan Africa, the paper outlines the constraints of mobile technology in sub-Saharan Africa. This paper focuses mainly on how the use of mobile technology has improved the health and education standards in different areas. It outlines how mobile devices are being used to educate those all over sub-Saharan Africa on how to protect against diseases such as polio. This paper also details how mobile devices are being utilized to help provide better healthcare to those in African cities, through topping up smart cards with mobile devices for the distribution of clean water as well as the delivery of vouchers which can be exchanged for healthcare equipment. This report also discussed how mobile devices are being used to track and monitor the outbreak of malaria in sub-Saharan Africa and is applied to a system to help ensure health care facilities in areas with affected residents have the capacity to deal with those who have contracted the disease. Finally, this paper discusses the ethical effects of using the mobile devices and how they are affecting the residents of sub-Saharan Africa.

BACKGROUND

Mobile Technology is a sweeping term covering many different areas of technology. Many of the uses for this technology in developed countries include helping with general day to day operations for the user such as online banking, shopping, or social media applications. Mobile technology is a sector which is growing rapidly, and also merging with other sectors to help make use of the technologies full potential. One of the areas where mobile technology has been proven to be successful, is when using simple technology and mobile devices to help developing countries such as Africa (Aker & Mbiti, 2010). Many different organizations and companies are using mobile technology to accomplish huge feats for rural African villages. A leading success story has been the M-Pesa service launched in 2007 by Vodafone for Safaricom and Vodacom. This has generator mobile money revenues of more than $300 million in 2004. This makes it the most successful mobile transfer service at this time. It has now expanded to Afghanistan, South Africa, India and Eastern Europe. It seems to have found its niche market. In Kenya alone, mobile money transactions totalled $22+ billion in 2013. Other African countries such as Sudan, Somalia, Tanzania, and South Africa are also huge revenue generators for operators as well (BBC Africa, 2015).

Mobile Tech in Africa

In today's world when discussing developing countries, the most commonly mentioned country is Africa. Africa is known worldwide for its widespread poverty, levels of education, unsanitary living conditions, gang violence and high mortality, and birth rates. Many companies and organizations are now turning to mobile technology to help combat these issues facing those living in Africa. With the increase in advancements in technology, many organizations and companies are researching and looking into how some technologies could be adapted to help reach areas which are usually not easily accessible. A simple yet effective method at developing communication with these areas is through mobile devices. In recent years the ownership of mobile phones in Africa have increased rapidly, with the percentage of adults who own a phone rising from 64% in 2002 to now match the US with 89% in 2014 (Global, 2015). An infographic depicting this information can be seen in Figure 1. As shown in reports conducted by Pew Global (2015), the most popular activity for mobile phone users in Africa is sending text messages. The report shows that 80% adult cell phone owners use their phone mostly to send text messages as seen in Figure 2. SMS is arguably the most popular activity in this area due to the fact that many in this area only have ownership of a cell phone rather than smartphone, with a study conducted on Nigerian residents showing that although 89% of the population there owned a mobile phone only 27% owned a smartphone (Pew Global, 2015).

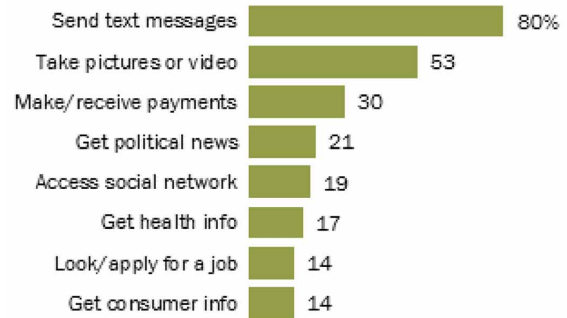## Constraints Affecting Mobile Devices in Africa

Africa is known for its lack of proper infrastructure, and industrialization. Technology isn't something that is commonly associated with Africa. The main contributing factor for this being that mostly all technology needs to be powered in some way. A study by The World Bank (2013), showing that

Figure 1. Percentage of what adults use their mobile devices for in sub-Saharan Africa
As stated by Pew Global (2015).

Texting Most Common Use of Cell Phones in Africa

Median adult cell phone owners who used a cell phone in the past 12 months to ...

Send text messages	80%
Take pictures or video	53
Make/receive payments	30
Get political news	21
Access social network	19
Get health info	17
Look/apply for a job	14
Get consumer info	14

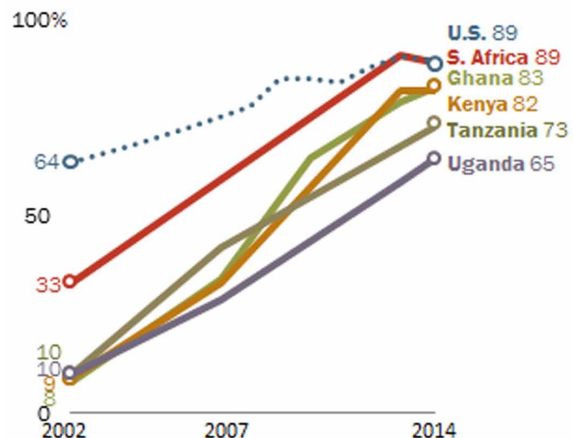Note: Median percentages across seven African countries.

Source: Spring 2014 Global Attitudes survey. Q74a-h.

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Figure 2. Infographic depicting the number of adults who own a mobile device globally
As stated by Pew Global (2015).

Cell Phone Ownership Surges in Africa

Adults who own a cell phone

U.S. 89
S. Africa 89
Ghana 83
Kenya 82
Tanzania 73
Uganda 65

Note: U.S. data from Pew Research Center surveys.

Source: Spring 2014 Global Attitudes survey. Q68.

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