

学校编码: 10384
学号: 17720111154218

分类号____密级____
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厦 门 大 学

硕 士 学 位 论 文

坦桑尼亚消费者电子商务采纳的研究

A study on Electronic Commerce Acceptance in
Tanzania

Shariff Mohamed Matengo

指导教师姓名: 蔡舜 教授

专 业 名 称: 管理科学与工程

论文提交日期: 2015 年 7 月

论文答辩时间: 2015 年 9 月

学位授予日期: 2015 年 9 月

答辩委员会主席: _____

评 阅 人: _____

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摘要

随着世界电子商务的发展和网络技术设备在创造财富和经济增长中的爆炸性使用，发展中国家需要利用电子商务和应用这一技术创新来获得收获，并改善社会，经济和技术条件。然而，大多数的发展中国家都严重缺乏对于该问题比较正规的学术研究，特别是实证研究，这些研究可以为政府或者个人在发展电子商务方面提供一些指导。本论文是研究影响消费者采纳电子商务的主要因素，提出了一个适合研究坦桑尼亚电子商务采纳的模型。本研究将提供更好的关于坦桑尼亚人的需求水平和使用电子商务的准备。

根据前人的研究文献和技术接受模型（TAM），本文进行修改并提出了一个更适用于坦桑尼亚的电子商务环境的研究模型。在建立研究模型之后，本文运用实证研究的方法进行研究。坦桑尼亚的互联网用户是用定量的方法进行调查，并评估决定他们采纳电子商务服务的影响因素。调查数据收集之后，本文运用 SPSS 2.0 和 LISREL 8.7 对相关研究问题和研究模型进行数据分析。实证结果表明，个人创新性、感知有用性对用户采纳电子商务的行为意向有最强的正向影响。主观规范，熟悉度和感知易用性对电子商务的采纳都发挥了重要的作用。购买力和信任对电子商务的使用意愿没有产生深远影响。另外，研究表明在坦桑尼亚，人们对最新的移动支付应用的熟悉，M-PESA，对电子商务的采纳有正向的影响。研究还发现，坦桑尼亚人对电子商务服务的需求正在不断地增加。最后，本文讨论了对于政府机构和个人企业的启示，并提出了进一步研究的主题。

关键词：电子商务，技术接受模型，M-PESA，坦桑尼亚。

Abstract

With the advancement of e-commerce and intensive use of internet and technological devices on creating fortune and economic growth in the world, developing countries need to take advantage of e-commerce and apply this technological innovation to acquire revenues and improve social, economic and technological conditions. However in most of these countries there is serious shortage of formal academic studies, particularly the empirical ones, to give guidance to the public and private entities on the development of e-commerce. This thesis studies the distinctive factors that influences consumers' acceptance of e-commerce and propose a proper model for studying e-commerce in Tanzania. The study is going to provide better understanding of level of demand and readiness of Tanzanians towards use of e-commerce.

Based on previous literature and the technology acceptance model (TAM), this thesis revise and propose a model that is well suited and more applicable for Tanzania's e-commerce context. After establishing a research model, the thesis uses the empirical research approach to conduct the research. Quantitative approach is then used to survey Tanzanian internet users and assess the impact of the factors that determine the adoption of e-commerce services. The survey data are collected and the thesis uses SPSS 20.0 and LISREL 8.7 to perform data analysis related to the research questions and research model. The empirical results show that personal innovativeness and perceived usefulness have the strongest positive influence on the user's behavior intention to use e-commerce. Subjective norm, familiarity and perceived ease of use all play most significant role in the acceptance of e-commerce, and affordability and trust doesn't have a meaningful impact on the intention to use e-commerce. Also the results show that familiarity to latest mobile money application, M-Pesa, has positive influence in the acceptance of e-commerce in Tanzania. The study also found out that there is increasing consumers' demand for e-commerce services in the country. Finally, the implication for public agencies and private companies are discussed, and then the thesis proposes topics for further future researches.

Keywords: Electronic commerce, Technology acceptance model, M-Pesa, Tanzania.

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Chapter 1 Introduction

1.1 Background

Since the innovation of internet in the 1990's, it has revolutionized the way people view and approach different principles. The internet has changed the economy and the way we trade for better. The growth of internet was accompanied with upsurge of personal computers, which consequently led people to take advantage of the opportunities and explore new ways of doing business virtually (Choi and Lee, 2003)¹. This phenomenon of conducting trade over the virtual market via electronic devices such as personal computers is what referred as electronic market. Barbonis and Laspita, (2005)² mentioned that because of the improvement of technology and internet communications, business entities having deviating from traditional commerce to electronic commerce (e-commerce), the new method of commerce.

In 2012, global Business-to-Consumer (B2C) e-commerce value alone reached \$1.06 trillion, and it is estimated to hit \$2 trillion by 2016, driven by growth in emerging markets (emarketer 2014)³. It was also estimated at the end of 2012 global Business-to-Business e-commerce, particularly among wholesalers and distributors, reached US\$ 12.4 trillion (WTO 2013)⁴.

Despite the rapid growth of e-commerce globally over the past decade, the rate of e-commerce adoption varies from one country to another due to different reasons. Barbonis et al (2005) and Cao et al (2005)⁵ have attributed these variations to different technical infrastructures, differences in consumers' personal characteristics, different framework of laws and different cultures.

While the level of e-commerce adoption in the developed world is arguably at its highest, in most of the developing countries the adoption of e-commerce is still in the beginning stage and/or not as widely adopted as in the developed countries.

The difference level of e-commerce adoption is mainly attributed by the difference in the level of internet penetration and access. The developed world enjoys higher penetration and cheaper access of internet as compared to the developing world. According to the

International Telecommunication Union (ITU), by 2013, there were over 2.7 billion Internet users, which correspond to 39% of the entire world's population. However in the developing world only one-third, 31% of the developing countries population is using the internet, which is very low compared to 77% usage in the developed countries. Europe is leading the world in the highest Internet penetration rate of about 75%, followed by 61% in the Americas. According to this ITU 2013 statistics, only 16% of the Africa's population is using the Internet.⁶

However in recent years there's rapid increase in the use and access of internet in developing countries, particularly in Africa, which is contributed by new mobile broadband connection which is relatively cheaper than the fixed mobile broadband connection. According to ITU, mobile-broadband usage which is determined by the numbers of subscriptions, have gone up from 268 million to 2.1 billion between 2007 and 2013. This is equivalent to an average of 40% annual growth rate, turning mobile broadband to be the most significant Information communication and technology market. According to the report, the number of mobile broadband subscriptions in developing countries has more than doubled from 472 million in 2011 to 1.16 billion in 2013 surpassing the subscriptions in developed countries. Over the period of three years, Africa has seen the increase in mobile broadband subscription from 2% in 2011 to 11% in 2013 (ITU 2013), making it the highest growing region.

The rapid increase in the internet access among the developing countries in recent years has not only made e-commerce a possibility but also a service that can potential lead to social, economic and technological development. Many developing countries have been adopting e-commerce technology hoping that it will boost their economies and business competitiveness to the highest level. Tanzania as a country would benefit greatly from adopting e-commerce to the fullest, however it is among the African countries that lag behind in e-commerce and its technologies, and need to seriously improve and increase their investment as well as implementation of e-commerce services.

1.2 Motivation and Research Gap

The increased availability of technology and internet penetration in developing countries has brought not only new opportunities but also new alternative ways of doing business; the most significant one is e-commerce. E-commerce is among the latest technologies entering developing countries. E-commerce has a capability to not only boost economy by providing new and improved business opportunities but also to stimulate country's technological development (UNCTAD 2002). To implement e-commerce, a country will need to have well-established financial systems that responsible for handling e-commerce transactions, fast and stable internet connection that can keep the businesses connected twenty four hours a day, enough qualified IT personnel to manage e-commerce, stable electric supply that can keep the businesses going seven days a week, adequate supply of IT devices as well as IT literate consumers. All these factors are crucial for country's development.

With the advancement of e-commerce and intensive use of internet and technological devices on creating fortune and economic growth in the world, developing countries like Tanzania also need to take advantage of and apply e-commerce to gain more profits and revenue as well as better social and technological conditions. In Tanzania, businesses as well as government have also begun moving from traditional physical methods also known as brick-and-mortar, to modern virtual platforms also called click-and-mortar. In recent years the country has seen important improvements in the ICT that necessary to implement complex online services such as e-commerce. Most importantly the Tanzania's consumers are increasingly becoming aware of these technologies and services, and are willing to use different online services (TCRA 2014).

However the level of adoption of e-commerce and internet technology by both businesses and consumers is still very low compared to some other developing countries including its east African neighbors, Uganda and Kenya (ITU 2013). Few researches have been done to address e-commerce problems in Tanzania, with most of them focusing on the organization side of e-commerce. For instance Ndyali (2013) researched the barriers that hinder small and medium enterprises (SMEs) to adopt e-commerce in Tanzania, and found that technical barriers such as lack of internet security and limited use of internet banking were the most

significant followed by government regulatory barriers. Oreku (2013) discussed the general overview of Tanzania e-commerce and implementation barriers. Oreku found that Tanzania's consumers search for products and services information online in the internet but conducted their purchase the traditional way from the physical stores, hence suggested the government and Tanzania's central bank to purposely encourage new technological development especially in the electronic money schemes. The two latest and other past studies focused on either organization side of e-commerce, barriers or infrastructural side of e-commerce, none of the studies focused on consumers. In the past few years, there has been some significant technological improvement in the country and some of barriers mentioned in these studies are not as relevant. Consumers are the vital part to consider for any business and technology such as e-commerce to be successfully accepted, particularly business to consumer e-commerce. Therefore in this thesis we will focus on the consumers, trying to address the factors that may influence their adoption or acceptance of e-commerce.

1.3 ICT and E-commerce in Tanzania

1.3.1 Tanzania's ICT Policy

Information and communication technology (ICT) infrastructures and services are crucial for establishment and implementation of e-commerce services. That means successful implementation of e-commerce will largely depend on how well-developed is the ICT of the country.

1.3.1.1 Country Profile

Tanzania is located in the Eastern part of Africa with an area of 945,000 square km or about 365,000 square miles. The capital city is Dodoma, and Dar-es-salaam is the largest city which also is a commercial capital and home to the presidential state house and diplomatic missions. The mainland Tanzania has about 120 ethnic groups, each less than 10% of the population, as well as minority Indian, Arab and expatriate populations (Oregu G.S et.al 2013⁷). Tanzania has an estimated population of 49.64 million people (World Bank)⁸, 51.3% of them are female and 48.7% are male. Only 27.5% of the population is living in the urban,

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