ICT Adoption Among Tanzanian SME:s

Barriers Hindering Internet Use

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ICT Adoption Among Tanzanian SMEs

ABSTRACT

Problem
Tanzanian SMEs are experiencing rapid development and the emergence of ICT innovations related to business applications. However, the development is hindered by a number of barriers related to infrastructural, human capital and institutional issues. To raise economic growth, these barriers must be understood, what implications that follows in taking the next step up the adoption ladder and how to overcome them.

Purpose
To identify and explore how the barriers of ICT at different levels of the adoption ladder are to be overcome and what implications it has for SMEs in Tanzania.

Research design/methodology
A mixed method approach was conducted with a survey where 96 SMEs responded that asked questions regarding ICT use and its barriers. A qualitative study on site in Tanzania was also conducted involving eight different companies and organizations within the tourism sector. The data from both sources was then combined and analyzed to get a view of the current situation and reach a conclusion.

Conclusions
The major barriers identified were; bad/slow Internet connection, high cost of Internet access, high cost of equipment, lack of power supply, poor IT skills and difficulties getting bank loans. Regarding adoption levels, for every step upwards in the adoption ladder the barriers of ICT are raised. This dynamic view of barriers within this context were, for example, that continuous power supply at lower levels in the adoption ladder does not affect the use or perceived usefulness among SMEs in Tanzania. The combined theory and analysis of the empirical data was used to develop an analytical model that illustrates the rising barriers at every step in the adoption ladder. The empirical data and this dynamic perspective on barriers that the analytical model gives serves as the main contributions of this study.

Practical implications
The view on barriers in Tanzania is not static and the understanding of the barriers and how they impact SMEs will from this study help the government, NGOs and other organizations in Tanzania, in how to address the barriers of ICT that is currently impeding growth and economic development for SMEs.

Research limitations/implications
For these results to be generalized a bigger sample needs to be gathered and address more SMEs outside the tourism industry.

Keywords: ICT, Developing countries, Tanzania, E-commerce, Diffusion, Adaptation, Emerging markets, Internet Adoption, SME
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1 INTRODUCTION

This section will introduce the reader into the study concerning Internet activity among small and medium enterprises (SMEs) in Tanzania. It will also take the problem into discussion followed by the presented research questions and a thesis layout.

1.1 BACKGROUND

In today’s society it is almost a necessity using Internet, E-mail and other technology devices in order to grow a business. It is a fact, according to Doong & Ho (2012), that Information and Communication Technology (ICT) has increased the global economy, including both developed and developing countries. ICT grows the businesses by being able to reach out to new markets and create new opportunities, which will lead to increased economic growth and better standard of the population. In addition to that it can reduce poverty since poor people are given a chance to reach out to the world, building their own networks and promote their own businesses (Paul & Uhomoibhi, 2014). However, ICT has not been spread equally throughout the world. Africa, for instance, is not as developed concerning ICTs as the Western world, since it has not as much resources ready to invest. The gap between developed and developing countries is therefore still an issue (Doong & Ho, 2012).

A number of studies (Xiao, 2013; Mpofu et al., 2013; Abodohoui et al., 2014; Damasen, 2014) have investigated ICT adoption and its barriers in developing countries. Doong & Ho (2012) argue that ICT adoption is of most importance for developing countries to catch up with the digital divide. The digital divide separates developing countries from the developed world and African countries in general are lagging behind in the technological development in the Western world. African countries could benefit from new ICT innovations to boost economical productivity and increase the standard of living. However, due to lack of human capital, institutional problems and poor infrastructure these kinds of barriers impede economic growth in many African countries today.

Abodohoui et al. (2013) mention three ICT markets within the African countries: virgin, emerging and developed market. The virgin market has a rate of below 20 percent of ICT penetration whereas the emerging market has a rate between 20 and 49 percent and the developed market has a penetration of over 50 percent. E-communication can help developing countries being a tool to improve the workplace in organizations and their business processes. Furthermore, many regard business to business (B2B) as a key phenomenon when it comes to e-commerce and developing countries, since it is a convenient way for them to reach out to the global market (Kabanda, 2011). With e-commerce the administration will be more efficient for the organizations in many ways, particularly the fact that the global online market never sleeps.

Tanzania is an East African country in the Sub-Saharan region with more than 46 million people (World Economic Forum, 2013) living on an area of 885 000 square kilometers (The World Bank, 2013). The GDP per capita has steadily been increasing since after 2000 and is now stated at ranking place number 123 out of 142 countries regarding the Global Innovation Index and is categorized as a low-income country (Global Innovation Index, 2013).
In 2003 the Ministry of Industry and Trade established the report *Small and Medium Enterprise Development Policy* (2003) of Tanzania where it is stated that SMEs are playing a crucial role in Tanzanian income generation and employment creation. The report also says that ‘SMEs development is closely associated with more equitable distribution of income and thus important as regards poverty alleviation’ (Ministry of Industry and Trade, 2003). The Tanzanian government states today the importance of the private sectors and SMEs, that they are essential concerning the national economic growth of the country (Lyioomo, 2014). These enterprises are also important when it comes to employment creation, since approximately 3 million SMEs lately have created around 5,2 million jobs in Tanzania (Tanzania Daily News, 2014).

Regarding the statistics, 4,0 percent of the Tanzanian population is using Internet and the quality of electric supply corresponds to a ranking place at 131 out of 146 countries (World Economic Forum, 2014), which is quite insufficient. World Economic Forum (2014) furthermore states that there are 57 mobile phone subscriptions and 3,7 mobile broadband subscriptions, per 100 individuals respectively. In comparison to the European countries, where the number of Internet using individuals is much higher it is quite a contrast, e.g. Sweden has 124,6 mobile phone subscriptions and 104,9 mobile broadband subscription per 100 individuals. Further, according to Abodohoui et al. (2014) Tanzania would be considered a virgin market with an ICT penetration of less than 20 percent in this sense.

### 1.2 PROBLEM

The existing literature about ICT adoption is informative and well referenced concerning a global perspective and the development within developed countries. According to Xiao (2013) it is widely known that a high level of ICT adoption in developing countries significantly raises economical productivity. However, there is a lack of focus on the developing countries within these matters. Since Africa is currently experiencing a rapid growth regarding the e-services sector (Deguerre & Parker, 2013) this is an up-to-date issue worth exploring.

The governmental entity Tanzania Telecommunications Company Limited (TTCL) has recently drawn a microwave link between Zanzibar and Dar es Salaam in order to improve the communication possibilities (Tanzania Daily News, 2014) with expectations to increase the quality and the data connection ability. Due to this Zanzibar will gain more access to connected office tools, like being able to arrange videoconferences.

In September 2013 The Liquid Telecom Group signed an agreement with TTCL concerning an interconnection to TTCLs fiber network (Biztech Africa, 2013). This means that the Liquid Telecom Group will have a network that connects all East African capitals, which has never happened before. The Liquid Telecom Group has the objective to spread a secure and reliable Internet connection in South, Central and East Africa (Biztech Africa, 2013). Biztech Africa (Kazonta, 2013) furthermore states that Kenya Data Networks (KDN) will, too, connect the East African capitals, Nairobi, Dar es Salaam, Kampala and Kigali. KDN states that moving into Tanzania will increase the quality of individuals, businesses and governments. KDN has been in cooperation with The Liquid Telecom Group, which has a large fiber network covering approximately 13,000 kilometers from Uganda to South Africa. Earlier the network traffic between South Africa and East Africa needed to be directed all
the way to Europe before reaching the receiver. It is not a need for that anymore, since the traffic will remain within Africa (Kazonta, 2013).

Earlier research has been made among African countries such as South Africa (Mpofu et al., 2013), Benin (Abodohoui et al., 2014), Botswana and Ghana (Asare, Gopolang, & Mogothlhwane, 2012) in order to find what obstacles that are hindering and benefit the adoption of ICT within SMEs. The main hindering factors found in these investigations are power outage, limited finances, difficulty in getting loans from the banks (Mpofu et al., 2013), lack of language skills, poor infrastructure, high costs, underdeveloped security concerning e-business (Asare, Gopolang, & Mogothlhwane, 2012), corruption, poor IT skills and lack of ICT investment (Abodohoui et al., 2014).

According to World Economic Forum (2013) the five main obstacles that hinders business activity in Tanzania is access to financing, corruption, lack of infrastructure, lack of governmental bureaucracy and inflation. Furthermore, factors such as lack of educated labor, tax regulations, foreign currency regulations and poor work ethic can also be mentioned (World Economic Forum, 2013).

Earlier research, made by Kabanda (2011), has looked into the matter of SMEs in Tanzania and their perception of e-commerce within their businesses. Findings were that the companies did not really understand the concept of e-commerce. In their opinion e-commerce was defined by having a website and being able using basic features on the mobile phone (Kabanda, 2011).

Some SMEs state that they have not sold anything through their websites; their customers are not prepared or able to go online (Kabanda, 2011). The companies mean that the population is not up-to-date with the rapid change within technology development. Other companies do not see the point in changing to e-commerce when they are already, successfully, using M-Pesa, which is their way of doing e-commerce (Kabanda, 2011).

Literature lacks information about the SMEs view of the E-Commerce matter; instead telecommunication is being prioritized (Kabanda, 2011). Even though several of the barriers to SMEs perception of E-Commerce are known, not so much information in-depth is provided on how to confront them. Kabanda (2011) means that research need to go more into deep in order to better understand how the SMEs in Tanzania understand the meaning of Internet adoption and E-Commerce.

1.3 PURPOSE

The purpose of this study is to investigate and answer the proposed research question:

*What barriers are hindering the use of Internet within Tanzanian SMEs?*

After answering the research question the aim is also to investigate what action the Tanzanian SMEs can take in order to overcome these barriers. In the end of the paper the authors will discuss suggestions and implications in order to improve the adoption of Internet among companies in Tanzania.
Current research within the field of ICT in developing countries has been limited, especially in Tanzania. However, Kilangi (2012) is one of the few authors that have made a thorough study on ICT and its barrier in Tanzania. Yet, this study will contribute with a deeper knowledge regarding ICT adoption levels and what barriers to overcome in order to achieve more sophisticated levels of ICT usage among SMEs in Tanzania.

This paper will therefore contribute to a practical and a deeper theoretical understanding of Internet adoption among SMEs in Tanzania and its barriers towards its usage using the adoption ladder, it will then form a base for further research within this area as well as to contribute to the existing body of literature.

1.4 THESIS LAYOUT

This section explains how the thesis will be presented in order to answer the research question as thoroughly as possible. Chapter 2 will present a theoretical framework that will be used as a tool throughout the thesis and also present literature of the subject that will enlighten the reader of the existing literature looking upon the research subjects and introduce the reader into earlier studies being made within the matter of issue. In Chapter 3 the methodology for the research is being explained as thoroughly as possible. Following is Chapter 4, which will present the empirical data coming from the two data collections taking place in this study. After that the empirical analysis will be discussed in Chapter 5, followed by Chapter 6 where conclusions out of the empirical analysis will be drawn. At last Chapter 7 will present the implications and limitations of this research and also suggestions and propositions for further research.
2 THEORETICAL FRAMEWORK

In this section the reader will be introduced to the existing literature within the subjects of matter. Also it will describe the foundation on which this study is developing theory from. And describe why some the previous authors are important to this study and how the theoretical framework is developed. It will look upon earlier research of ICT adoption among SMEs in developing countries and other related literature.

Different theories and models in literature have been trying to explain the underlying factors of ICT adoption and diffusion behavior. Many of these theories roots down to the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), Diffusion of Innovations Theory (DOI) (Rogers, 2003), Theory of Planned Behavior (TPB) (Ajzen, 1991) and Technology Acceptance Model (TAM) by (Davis, 1989). These authors are all well cited within the ICT adoption-diffusion area and this study has chosen to rest on the theories and models mentioned above. They will form the theoretical base of this study together with other authors within the same area of research.

2.1 DIFFUSION OF INNOVATIONS

Everett Rogers popularized the theory about diffusion of innovations with his book Diffusions of Innovations (1962). In the book Rogers refer to innovations as technological innovations. Rogers means that it can often be a challenging matter getting a new idea adopted and implemented, even though it seems to carry several advantages. It can therefore be a rather time consuming process before the innovations are widely adopted. The dilemma for individuals and organizations is how they can manage to increase the diffusion rate in a shorter period of time.

Diffusion is defined as “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 2003). Diffusion of innovation is being divided into four main elements; the innovation, communication channels, time and the social system (Rogers, 1995). “These elements are identifiable in every diffusion research study and in every diffusion campaign or program” (Rogers, 1995),

1. The innovation – A new idea or practice that is regarded as new for the individuals it is presented to.
2. Communication channels – The way individuals share and create information about a new innovation.
3. Time – The time it takes from knowledge to adoption or rejection of a new innovation
4. Social system – interrelated set of individuals that can be informal groups, organizations, individuals etc.

The process for an innovation to reach an adoption or rejection is being built upon five stages, where the first step is to receive knowledge about the innovation and its existence. Thereafter follows a persuasion and a decision process.
Depending on the decision, rejection or adoption, an implementation stage will commence. Finally, confirmation of the adopted innovation of the individuals involved is made.

1. Knowledge
2. Persuasion
3. Decision
4. Implementation
5. Confirmation

The process that takes place upon choosing whether to adopt or reject the innovation is called the decision stage (Rogers, 1995). Rogers (1995) in order to make the decision process easier, a trial period of the new innovation might help. Change agents can speed up this adoption process by providing sponsorship of new ideas in a social system (Rogers, 2003). But just as naturally as an adoption can take place at the same time rejection is always an option during each step of the innovation-decision process (Rogers, 1995). There are two types of rejections:

1. Active rejection
2. Passive rejection

The first is when the adopter actively considers the innovation but decides not to adopt, the other one is simply when the adopter never considers using the innovation (Rogers, 1995).

Rogers (1995) underlines the importance not to assume that all innovations are desirable and necessary to adopt. Mechanical tomato-pickers became popular among the large farmers in California. However, the smaller farmers did not have financial enough in adopting the new technology and therefore they went bankrupt.

Rogers (2003) exemplifies a failing innovation diffusion campaign in a Peruvian village. The service of public health in Peru requested the population to take notion of infectious diseases and to install some innovations with the purpose of improving the population health and increase the life length of the country. One of the innovations was to install latrines and another was to boil the water before drinking. The aim of the campaign was to show 200 families within a small village in Peru how to boil the water before using and why it was a necessity. However, out of these 200 families only 11 of them were persuaded. The campaign lasted during two years and was fully equipped with different professionals coming to the villages speaking about the importance of water boiling. Analyzing why the campaign failed it has been found that it was unsuccessful because of cultural beliefs of the village. The villagers did not see the connection between sanitation and illness. Tradition of the population says that warm food is connected with illness, hence only for sick people. Without being ill it is taboo drinking water that has been boiled. The housewives that were persuaded were either ill or social outsiders in the village. By that Rogers (1995) highlights the great importance of the social process, not only the technical. The persuaded housewives, the outsiders, were not seen and respected as role models in order to activate the local networks. This case demonstrates that innovation rate is strongly connected to the values, past experiences and beliefs of the individuals within the social system.
2.1.1 DIFFUSION IN DEVELOPING COUNTRIES

Diffusion of innovations is discussed in the previous topic where Roger (1995) takes up diffusion of innovations on a general level. To adhere to the context of our study we elaborate on literature that brings up the diffusion of innovation when it comes to Internet, and more specifically when it comes to Internet diffusion in developing countries, such as Tanzania. We also look into “leapfrogging” of ICT in developing countries and how these countries absorb new technology from the developed world.

Steinmueller (2001) writes in his article that leapfrogging in developing countries means “bypassing some of the processes of accumulation of human capabilities and fixed investment in order to narrow the gaps in productivity and output that separate industrialized and developing countries” (Steinmueller, 2001). Developing countries, as previous chapter mentions is separated from the developed world in what is called a digital divide (Doong & Ho, 2012). To be able to narrow this divide, developing countries needs to absorb new technologies that they could benefit from. “The first prerequisite for technological leapfrogging is the existence of absorptive capacities to produce or use ICTs.” (Steinmueller, 2001).

An example, in 2000 Africa had a 2 percent penetration of fixed-line phones and in 2012 the number of mobile subscriptions reached 650 million users (Deguerre & Parker, 2013). This means that African countries has skipped the fixed-line step and gone directly to mobile phones for communicating with each other. This is a clear example of how leapfrogging in the developing world can function. Today the sales of smartphones in Africa is substantially more than for PCs and other devices that uses mobile Internet (Deguerre & Parker, 2013). This indicates that African countries in are taking a leapfrogging step in adopting the smartphone directly instead of taking the “natural” steps involving the PC and laptop.

2.2 THEORY OF REASONED ACTION (TRA)

The TRA model is a theory with the ultimate goal set on predicting and understanding an individual’s behavior (Ajzen & Fishbein, 1980). The model is generic and can be applied in many different situations, therefore it is of relevance to this study, as we want to know why people, and in the end firms, engage in a certain behavior within the context of this study on ICT adoption and implementation. Ajzen & Fishbein (1980) puts forward in their book that the theory rests on certain internal as well as external determinants that will predict the actual behavior of an individual, as shown in Figure 1.

The theory of planned behavior (TPB) by (Ajzen, 1991) is developed from the theory of reasoned action (TRA) by (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and the technology acceptance model (TAM) by Davis (1989) is an extension from the TRA which includes the technological acceptance measures perceived ease of use and perceived usefulness. However, regarding the TPB, Grandón et al. (2011) states “academics should select the more parsimonious model (TRA) to study e-commerce adoption issues in developing countries.” And based on this conclusion and our interpretations of literature using this model, we will use the TRA when explaining adoption behavior.
The behavioral intention is influenced by two determinants in the model, the attitude towards behavior and the subjective norm.

The attitude toward behavior is a personal factor that is defined as “the individual’s positive or negative evaluation of performing the behavior” Ajzen & Fishbein (1980). The attitude an individual has concerning an action to be performed (e.g. when it comes to adoption of a new innovation) is an important measure for the actual behavior.

The subjective norm seen in the model is defined as “the person’s perception of the social pressure put on him to perform or not perform the behavior in question” (Ajzen & Fishbein, 1980). This determinant is relevant to our study as the perception of a person’s social surroundings makes him or her perform a certain action when it comes to adoption of new innovation.

Ajzen & Fishbein (1980) argues that in general if a person feels positive about a certain choice and people around this person that are regarded as important to him or her also feels positive about a certain choice, the person will most likely perform this choice. Which seems very logical, but explains a fundamental thought process of an individual that is important to understand when studying behavior and the adoption of new innovations.

2.3 TECHNOLOGY ACCEPTANCE MODEL (TAM)

Rogers (1995) provides a framework that is more focused on the diffusion of innovation on an organizational level while Davis (1989) adoption focused model investigates the perceived individual facts regarding new technology.

Davis (1989) is of the opinion that earlier literature lacks scales for valid measurements in order to predict an individual’s acceptance of computer usage. So as to pursue better measures, Davis focuses his study on two constructs, perceived usefulness (PU) and perceived ease of use (PEOU).

Davis (1989) defines perceived usefulness, as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). In contrast, he defines perceived ease of use, as “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320). In other words,
sometimes a system might be helpful for the user, but in the same time be highly difficult to use, which might make the system not worth using.

According to Davis (1989) the initial scale items for the matter of PU are as follows.

1. Using electronic mail improves the quality of the work I do.
2. Using electronic mail gives me greater control over my work.
3. Electronic mail enables me to accomplish tasks more quickly.
4. Electronic mail supports critical aspects of my job.
5. Using electronic mail increases my productivity.
7. Using electronic mail allows me to accomplish more work than would otherwise be possible.
8. Using electronic mail enhances my effectiveness on the job.
9. Using electronic mail makes it easier to do my job.
10. Overall, I find the electronic mail system useful in my job.

In addition to that, Davis (1989) also states the initial scale items for PEOU as follows.

1. I find it cumbersome to use the electronic mail system.
2. Learning to operate the electronic mail system is easy for me.
3. Interacting with the electronic mail system is often frustrating.
4. I find it easy to get the electronic mail system to do what I want it to do.
5. The electronic mail system is rigid and inflexible to interact with.
6. It is easy for me to remember how to perform tasks using the electronic mail system.
7. Interacting with the electronic mail system requires a lot of my mental effort.
8. My interaction with the electronic mail system is easy for me to understand.
9. I find it takes a lot of effort to become skillful at using electronic mail.
10. Overall, I find the electronic mail system easy to use.

As TRA (Ajzen & Fishbein, 1980) describes certain aspects of human behavior (e.g. attitude and intention) to predict actual behavior. The TAM, shown in Figure 2, through the PEOU and PU functions as other basic determinants of user behavior (Davis, 1989). The original scale items consisted of 14 statements but was reduced to a final 10 items to measure PE and PEOU. These final items, as seen above, serves as determinants when examining PEOU and
PU among individuals using new technology. This study has chosen to adopt some of the items presented to develop items for the empirical data collection described in Chapter 3.1.3.

### 2.4 BARRIERS OF ICT

When researching literature that concerns ICT in developing countries different authors identify barriers of ICT and categorizes them (Xiao, 2013; Mpofu et al., 2013; Abodohoui et al., 2014; Damasen, 2014). We will here present some of the relevant authors in our study and present some of their findings regarding ICT barriers, and show how this study will label and categorize ICT barriers. This to get an understanding of how different barriers are perceived and labeled by other authors within the same field of research.

Schoepp (2005) defines barriers as “any condition that makes it difficult to make progress or to achieve an objective”. Other types of synonyms found in ICT literature includes, constraints, obstacles, hinders, challenges, impediments and difficulties. We will in this study, however, label them as barriers.

Touray et al. (2013) identified 43 different barriers in ICT literature concerning developing countries and categorized them into eight different sub-categorizes which were referred to as critical success factors, the barriers included; economic socio-cultural, infrastructural, political and leadership, legal and regulatory, economical, educational and skills, technical and security and safety (Touray et al., 2013). The infrastructural and economic constraints were seen as major problems in the study (Touray et al., 2013).

Mpofu et al. (2013) made three case studies in South Africa within the tourism industry. They identified power outages, lack of time, and financial constraint as the three major barriers for ICT adoption among these three SMEs. The perceived benefits such as business efficiency; competitiveness; planning; management; communication; e-mailing; security; cash handling and billing purposes as well as online advertising and market sourcing, (Mpofu et al, 2013) could not be fully utilized due to these barriers, where power outages were pointed out as the single biggest barrier towards reaping the growth benefits of ICT for these three firms.

Hashim (2007) Issued a survey to 334 SMEs in Malasya and concludes that the main barrier for ICT adoption in Malaysia were poor ICT skills, low use of ICT, slow/late adoption and that ICT adoption is difficult.

Since this study among other theories rests on the TAM developed by Davis (1989) as other authors also refer to (Yonazi, 2014; Mpofu et al., 2013; Abodohoui et al., 2014) we have chosen to adopt the theoretical framework considering the categorization of barriers from Abodohoui et al. (2014). Abodohoui et al. (2014) incorporates their findings on ICT adoption in the Benin Republic in to the technology acceptance model (TAM) (Davis, 1989) to come to the conclusion of how the actual adoption of e-communication looks like.

The barriers in our study will be categorized from the three different categories derived from Abodohoui et al. (2014) who categorized barriers in to three main categorizes with three sub-categories for each one.
• Institutional barriers
  o Cultural and Social problem
  o Regulatory framework
  o Control of Corruption

• Human capital barriers
  o Poverty
  o Low literacy levels
  o Poor IT skills & technical ability

• Infrastructure barriers
  o High cost of ICT services
  o Lack of Investment in ICT
  o Poor power generation

These barrier categories were kept in mind as a guiding framework when forming the questionnaire and when constructing our interview guide, in Chapter 5 we further analyze these barriers from our empirical data. Abodohou et al. (2014) gives us a comprehensive framework that guides us in trying to understand the barriers hindering implementation of Internet among Tanzanian SMEs.

2.5 ADOPTION LEVELS OF ICT

To determine the level of ICT adoption and use in a firm Martin & Matlay (2001) provide a framework called the “Adoption Ladder” to position firms in a five-step ladder. The ladder measures the level of ICT adoption based on two dimensions; business benefits and extent of organizational change and sophistication. The ladder starts at the most basic level which is e-mail, then proceeds to website, e-commerce, e-business and transformed organization.

1. E-mail – Basic e-mail communication involves communicating with co-workers in the company and receiving/sending e-mails outside the company.
2. Website – Used for marketing purposes and for suppliers to look for information.
3. E-commerce – Customers are able to order and pay online at all times of the day, higher-level accessibility.
4. E-business – Incorporates a higher level of integration with the company functions together with e-commerce, which involves technical support and other services.
5. Transformed organizations – This highest level of ICT sophistication concerns integration with the firms’ business model and applies mainly to companies using Internet as a platform for their daily business activities.

“The process views firms as starting with the simple use of e-mail for the purpose of text messaging and communication. Further developmental stages build up, step by step, through to the final goal of integrating most if not all internal processes of business though the use of ICT.” (Martin & Matlay, 2001, p. 400)
The adoption ladder is one of the most widely used technology push-models (Zappalà & Gray, 2006). However, it receives critique for being too linear when describing processes that are non-linear and complex (Zappalà & Gray, 2006). But still it describes a sense of technological progression in a very direct and easy to understand way. Therefore this framework is suitable to our study when describing stages of ICT adoption. The original model is developed on the basis of Western world standards, thus ensuring steady power supply among other things. However, it will be adapted to the context of this study in Chapter 5 in the analysis.

Other authors such as Kilangi (2012) and Mpofu et al., (2013) have also used this framework to map out where firms are positioned concerning their ICT adoption levels. Mpofu et al. (2013) writes in their article that there were “notable differences in the level of organizational readiness and stages of ICT adoption” (Mpofu et al., 2013) among their investigated cases. Kilangi (2012) concludes that a lot of firms in the tourism sector in Tanzania has adopted lower levels of ICT which includes e-mail and websites through which they can receive booking inquiries (Kilangi, 2012). And this seems coherent with the research that others have made and suggests that a lot of firms in the developing world are still in the first or second stages of ICT adoption, where more advanced levels of ICT are not very desirable or possible due to barriers (Kilangi, 2012).

2.6 PROPOSED FRAMEWORK

Due to the sometimes harsh living conditions in developing countries and the scarcity of resources, we argue that individuals become more rational in their choices and thinking in developing countries. The perceived usefulness (PU) (Davis, 1989) of a new technology becomes more important as a certain “utility focus” becomes apparent when resources are
scarce in developing countries, which also puts growth constrains on knowledge intense firms in these resource scarce environments (Maxwell & Reuveny, 2000). There is however critic being raised to both the TAM, TRA and TPB, Bagozzi (2007) argues that there are several gaps in the theories and proposes a paradigm shift in the information system (IS) research regarding technology information adoption/rejection/acceptance. Where the author believes that the IS research concerning these topics are on the “threshold of crisis, if not chaos, in regard to explaining technology acceptance” (Bagozzi, 2007). We believe however that the current framework proposed in this paper, which includes TAM, TPB, TRA and Rogers’s, Diffusion of Innovations will adequately answer the stated research question.

This paper will be based on the literature mentioned above and further elaborate on the details for each theme. This will be the theoretical framework, seen in Figure 4, for this paper where the theoretical terminology is gathered from TRA and TPB, DOI and TAM. And the ICT barriers and the adoption ladder will be used together to explain the barriers for each step in the adoption ladder.
Chapter 3 Methodology

3 METHODOLOGY

The method section outlines the selected research approach, method, data collection and analysis of the data collected. This chapter will explain why certain methods were chosen and how the sampling and collection of data was conducted and analyzed.

3.1 METHODOLOGICAL CHOICES

The chapter outlines our methodological choices for this study. Mixed methods are being used consisting of both a qualitative and a quantitative data collection. This will be further elaborated in the following sections, with relevant literature within academic methodical research area that underpins our choices.

3.1.1 RESEARCH APPROACH

According to Bryman and Bell (2011) there are two approaches for a research study, the qualitative and quantitative research approach. This study consists of a mixed methods approach, both with a qualitative as well as a quantitative part. The results from the quantitative part will complement and aid in forming the interview guide for the case studies in the qualitative part, thus being able to address and dig deeper into identified themes or specific questions.

Existing literature and previous research in the field of Internet adoption guides the research of this paper, identifying themes and relevant models that can be used in the context of this study. The aim is to build a new theoretical model that can be used to understand the relations between theory and different factors regarding the barriers of ICT adoption that influence SMEs in Tanzania.

The existing literature linked to the research on the subject have been found at Halmstad University Library, both in the university database but also via Google Scholar, ISI Web Science, ABI Inform and Diva. Keywords that were used while searching were Internet adoption, ICT, innovation of diffusion in emerging markets, Tanzanian SMEs and ICT barriers in emerging economies.

Since the study aims at getting a deeper understanding on the issue of ICT and the perceived barriers for its use among Tanzanian SMEs, a case study approach will be used. Eisenhardt (1989) describes a qualitative case study as “a research strategy, which focuses on understanding the dynamics present within single settings”. This in accordance with Bryman and Bell (2011) that addresses that deeper understanding and knowledge comes through conducting case study research. Yin (2009) also brings up case studies as a tool for a deeper understanding of complex phenomena.

Challenges with case studies can be mentioned as time consuming, need of interviewers that are skilled and that the researchers need to be careful when drawing generalizing conclusions from a small amount of cases, which may not be possible (Voss et al., 2002). However, Voss et al. (2002) state that despite that, case study results can be highly valuable; “it can lead to new and creative insights, development of new theory and have high validity with practitioners – the ultimate user of research” (Voss et al., 2002, p. 195).
However, case studies are hard to perform right and have traditionally been seen as a “soft” research approach where it indeed is not according to Yin (2012).

3.1.2 RESEARCH METHOD

Case studies often include different methods of data collection, such as interviews, observations, questionnaires and archives and they can be looking into either single cases or multiple cases (Eisenhardt, 1989). This study will use interviews, observations and a survey in order to collect the primary data. We will use mixed methods and combine the quantitative and qualitative data, which was gathered on site in Tanzania, to strengthen the validity of this study.

This twofold approach is a bit unorthodox but previous authors have argued that one can reap benefits from combining both methods (Bryman, 1988, p. 126). Johnson (2004) sheds light on the “paradigm war” that exists on the two different research methods and describes the different purists that exists on each side, where the purists of qualitative research such as Guba (1990) argues that the two methods cannot be mixed. However, Voss et al. (2002) argue that an increased level of validity can be acquired through triangulation of multiple data collection methods. Eisenhardt (1989) also states “case studies typically combine data collection methods such as archives, interviews, questionnaires, and observations.”. This gives support to our selected method of choice in combining qualitative and quantitative data and through triangulation of these sources discover patterns and themes to generate theory. Furthermore, (Edmondson & McManus, 2007, p. 1167) states that, “Using both qualitative and quantitative data, these studies can identify key process variables, introduce new constructs, reconceptualize explanatory frameworks, and identify new relationships among variables.” This further enhances our belief that combining methods will help our research and analysis.

The items developed for the questionnaire was created with the identified barriers identified by (Abodohoui et al., 2014) and items derived from the work of (Davis, 1989) and the Technology Acceptance Model (TAM) in mind. After constructing the first outline of the questionnaire it was sent out to a pilot group. Van Teijlingen and Hundley (2001, p. 35) states, “One of the advantages of conducting a pilot study is that it might give advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated”. After reconnections of constructive critique from the pilot group an edited version of the questionnaire was constructed and sent out to the respondents. The data collected through the survey was then used to help constructing the interview guide for the qualitative part.

The most interesting results from the quantitative data collection is highlighted and taken into account when analyzing the qualitative part of the research. Through triangulation of the data we discover patterns and themes that will form our conclusions.

3.1.3 DATA COLLECTION
Current section will present how the data collection in this research was made. This study consists of primary data, observations and secondary data. The section will go through the different parts together with relevant literature linked to each part.

### 3.1.3.1 Primary data

The qualitative part of the study was carried out in Arusha in Tanzania, making interviews and observations at eight Tanzanian SMEs within the tourism industry. The interviews were taken place at the company or organization offices together with the managers or directors. During the interviews one researcher and three research assistants were present, taking notes and making observations.

The quantitative part of the study was issued to 724 companies as an online questionnaire. The companies were from various industries and sectors mainly collected from the Tanzanian Yellow Pages, Google and in some cases Facebook in order to find the local, small companies that only market themselves via social media. The self-completing questionnaire was created through Google Forms, which is a web service where anybody with a Google Mail has access to create online surveys for free. In order to reach as many as possible the questionnaire was written in both English and Kiswahili (Appendix 1 and 2), which is the official language of Tanzania. It was then sent to a pilot group in order to test the questions and see how well it was understood and perceived. The pilot group reconnected to the researchers with constructive critique, where after editing of the questionnaire was done and later the final version was produced. The questionnaires were thereafter sent to the respondents as a link within e-mail. Some companies had the restriction to only receive inquiries and e-mails via a specific form on their webpage, wherefore these companies were contacted directly through their website.

### 3.1.3.2 Observations

Saunders, Lewis, & Thornhill (2009) write in their book on research methods that observations is a somewhat neglected form of collecting primary data. In this study we will however rely on data that has been obtained by observing people’s behavior during interviews and through observing the surroundings in Tanzania. This will add richness to our data (Saunders et al., 2009), and help us in getting insights into the subject. Eisenhardt (1989) also confirms that observations together with other empirical data can be used as means to add complementary information to interviews etc.

Observations in this study were made at the companies by writing down the researchers’ impressions during the visit without trying to locate important details, just trying to describe reality (Eisenhardt, 1989). Observations and additional conversations with local citizens of Tanzania, children, Tanzanian students, local business owners and some company directors have also been carried out in different parts of Tanzania; Arusha, Dar es Salaam and Zanzibar.

### 3.1.3.3 Secondary data

According to Saunders et al. (2009) secondary data can be either raw data or summarized data that was initially collected for other purposes. In our study we gathered information
about the companies through company webpages, hard copy brochures, online magazines and newspapers.

3.1.4 SAMPLING OF RESPONDENTS & CASE SELECTION

The target for our quantitative study is Tanzanian SMEs in any industry. Since the questionnaire was delivered to companies with a working e-mail address, one fundamental criterion was fulfilled in the context of this study. This was a fundamental criterion since carrying out the study on companies without working e-mail would be a significantly harder task, thus ensuring a certain level of basic Internet adoption in the companies.

Random selection when making case studies is not preferable (Eisenhardt, 1989) since the selected population “defines the set of entities from which the research sample is to be drawn” (Eisenhardt, 1989, p. 537). It also helps when defining the limits for the generalizability of the findings (Eisenhardt, 1989).

The selection of cases in this study addresses to Tanzanian SMEs within the tourism industry. This selection has been made of two reasons. First, in the quantitative study the majority of responding companies were working in the tourism sector, which could benefit the analyzing process and to draw conclusions when having a broad view over one industry. Second, from the questionnaire it can be sensed that many of the tourism companies are rather updated concerning Internet use, comparing to other industries. This since tourism companies mostly have customers from abroad, often from developed countries. It is therefore important for the companies to develop sufficient communication channels and advertisement in order to attract clients. Thus, this choice of industry will give us a deeper understanding in how tourism companies perceive the situation of Internet use and adoption together with which barriers they are and have been struggling with. In addition to that, since tourism companies are quite established users of Internet, it is possible to get insight in how the companies have overcome these barriers.

3.1.5 DATA ANALYSIS PROCEDURE

The qualitative and quantitative data will first be analyzed separately and then combined to reach final conclusions.

The quantitative study will be presented through displaying the collected data in an uncomplicated manner, mainly through diagrams, conclusions on the data will be drawn by looking at occurrences in certain constructs and doing an analysis of the text on the open ended questions from the survey.

The data from the qualitative study will be presented in Chapter 5 where a summarized version of each case will be written down together with the observations made on site. The data collected from the interviews will then be cross analyzed to identify important themes and patterns from each data set. Abbreviations of the multiple-choice questions will be made for easier handling in the analysis chapter.

Further analysis will be made with the 10 likert scale items derived from the TAM by Davis (1989) from the PEOU and PU scale items and the barriers categorization by Abodohoui et al., (2014) in mind. The items where developed so that the each one could be related to
either infrastructural, human capital or institutional barriers. Three items were also developed that had a certain utility focus concerning Internet use in the company. The likert scale items can be found in Appendix 1 and 2.

3.1.6 TRUSTWORTHINESS OF THE STUDY

As stated above, a mixed research method was used in combination of both qualitative and quantitative research methods. A pilot group was consulted when constructing the questionnaire in order to increase the reliability. The survey in the quantitative part that was sent out had a response rate of 14 percent, which was delivered to 724 companies in Tanzania. Both the survey and the qualitative data carry a bias towards the tourism sector in Tanzania. Since there are reasons to believe that the tourism sector has higher levels of ICT adoption than average Tanzanian SMEs, this will increase trustworthiness of this study since the respondents have a deeper experience concerning Internet use and thus are able to answer the questions in a reliable way. Further, the rest of the respondents can also be seen as reliable, since the answers from the questionnaire indicates that majority of the companies see Internet as crucial for the business and therefore, similar to the tourism industry, have the necessary experience of Internet use in order to bring reliable and accurate answers to bring richness to the research. Qualitative interviews were conducted on site with 8 tourism related companies and organizations to be able to cross-case analyze (Eisenhardt, 1989)

3.2 SCOPE OF ACCESS & RESEARCH ETHICS

To get trustworthy result that carried as little outside bias as possible we choose to issue the questionnaire ensuring full anonymity among the participants. The data collected only looks at what industry the company is in and the names of participants were never requested, thus ensuring anonymity. Certain ethical aspects was looked over and taken into consideration (Bryman & Bell, 2011) (e.g. sensitive questions regarding corruption and culture).

To ensure a reasonable response rate of the survey we offered the participants to take part of the result, this gave the participants a chance to feel engaged in their community by giving this offer and sharing our results with them. Same offer was given to the interviewees in the qualitative study. They were also given the chance to be anonymous in the study, if they desired. During the interviews there was also three research assistants present in order to assist by observe, listen and take notes.

3.3 CULTURAL DIFFERENCES

The qualitative interviews were taken place in Tanzania and the researchers had to take into account the cultural differences and barriers that could be of issue when communicating with the Tanzanian people and companies. The researchers were of the opinion that it is important to get to know the Tanzanian people’s culture and to respect it in order to gain their trust and motivated participation.

Language barriers were in some cases an issue, but for most of the time the interviewees managed to speak the English language rather well. The aspect of time was another issue. In a developed country as Sweden time has a central role of the population in the daily life. It is
important to be on time for an appointment. In Tanzania, however, the authors found that the concept of time is not prioritized in the same way.

In order to get to know the local culture in Tanzania and also to enrich the data collection further, several small interviews and discussions were taken place together with local Tanzanians. In that way a broad picture of the country and its traditions, behavior and beliefs were given to the study. These are being stated in Chapter 4, where the empirical data is being presented.
4 EMPIRICAL DATA

In this chapter the empirical data of the study will be presented. The quantitative part will be expressed and explained in diagrams and tables whereas for the qualitative part it will be expressed in company descriptions.

4.1 QUANTITATIVE STUDY AND GENERAL OBSERVATIONS

In this section the quantitative study will be presented together with general observations and conversations made in Tanzania during the research. The aim is to get a picture of Internet adoption within Tanzania SMEs. In addition to that short interviews, conversations and general observations will be taken into account to give the reader a broad perspective of the situation in the country.

4.1.1 BASIC INFORMATION

Out of 724 companies 96 companies from various industries participated in the online questionnaire. The basic criterion was that the companies would have an e-mail address. When finding the companies on the Internet notes were made if they had a webpage or similar online platform to present company information. 578 of the 724 contacted companies had a webpage and 111 companies marketed themselves only on Facebook. 10 companies did not seem to have a webpage, Facebook or other online presence, only e-mail.

The respondents were managers and/or owners of the companies. 86 percent of the companies stated that they are located in urban areas and 13 percent in rural areas, where the two most common nearby cities were Arusha and Dar es Salaam. The majority size of the companies was less than five or between 6 and 49 employees.

When e-mailing there were a lot of failure deliver notifications that returned to sender, which can be taken into consideration when analyzing the empirical data. It can be seen that several Tanzanian companies that can be found on the Yellow Pages and similar places do not seem to still exist, or if the e-mail provider has stopped existing.
4.1.2 LIKERT SCALE QUESTIONS

The participating companies are rather united when it comes to the usefulness of Internet within the company. As can be seen in Figure 5 and Figure 6 the result is that 71.9 percent of the companies think that the job would be difficult to perform without Internet and that 77.1 percent think that Internet saves the employees time in their daily work.

In Figure 7 the level of feeling secure while using Internet can be viewed. Results show that the majority of the companies feel totally or rather safe. Some companies are unsure. However, several companies have mentioned and insinuated in the open-ended questions what they feel about security online. Some companies have even had bad experiences concerning the matter.

Almost 50 percent of the companies are not happy with the power supply, and a little bit over 50 percent is satisfied, however, some of the satisfied companies still experience power cuts but have been equipped with an extra power generator.

A little bit over 70 percent thought the company had sufficient knowledge about Internet and almost the same amount did not think the Internet confuse them. Both results are therefore in line with each other. Lastly, the majority of the companies state they know where to find...
help about Internet. Figure 8 shows that the companies were not agreed on the item *Tanzanian culture influence your Internet use.*

![Figure 8 - Tanzanian culture influence your Internet use](image)

### 4.1.3 MULTIPLE CHOICE QUESTIONS

In Table 1 the result can be seen concerning what Internet is being used for among Tanzanian SMEs. E-mailing, information search, marketing, social networking, education and entertainment are the most common use within the company.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Abbreviation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mailing</td>
<td>EMAI</td>
<td>95,7 %</td>
</tr>
<tr>
<td>Information search</td>
<td>ISER</td>
<td>94,3 %</td>
</tr>
<tr>
<td>Marketing</td>
<td>MARK</td>
<td>92,1 %</td>
</tr>
<tr>
<td>Social networking</td>
<td>SNET</td>
<td>85,8 %</td>
</tr>
<tr>
<td>Education</td>
<td>EDUC</td>
<td>62,1 %</td>
</tr>
<tr>
<td>Entertainment</td>
<td>ENTE</td>
<td>52,4 %</td>
</tr>
<tr>
<td>Provide web services</td>
<td>PWSE</td>
<td>48,9 %</td>
</tr>
<tr>
<td>Internet phone calls</td>
<td>IPCA</td>
<td>48,1 %</td>
</tr>
<tr>
<td>Money transactions</td>
<td>MTRA</td>
<td>45,3 %</td>
</tr>
<tr>
<td>Internet video calls</td>
<td>IVCA</td>
<td>42,5 %</td>
</tr>
<tr>
<td>Shopping</td>
<td>SHOP</td>
<td>35,3 %</td>
</tr>
<tr>
<td>Other</td>
<td>OTHE</td>
<td>7,1 %</td>
</tr>
</tbody>
</table>

In Table 2 it can be seen what issues are seen as hindering factors when adopting Internet to the company. Bad Internet connection, high cost of Internet access, high cost of equipment, lack of power supply, poor IT skills and difficulties getting bank loans are the resulting factors according to the 96 participating SMEs. This is somewhat in line with what the qualitative interviews have been stating as well. The tourism managers are of the opinion that slow Internet connection, high Internet access costs, and lack of power supply are the main problems when adopting Internet.
Chapter 4 Empirical Data  ICT Adoption Among Tanzanian SMEs

Table 2 - What has been the main barriers while adopting the Internet to your company?

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Abbreviation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad Internet connection</td>
<td>BICO</td>
<td>78.1%</td>
</tr>
<tr>
<td>High cost of Internet access</td>
<td>HCIA</td>
<td>73.9%</td>
</tr>
<tr>
<td>High cost of equipment</td>
<td>HCOE</td>
<td>51.0%</td>
</tr>
<tr>
<td>Lack of power supply</td>
<td>LOPS</td>
<td>43.8%</td>
</tr>
<tr>
<td>Poor IT skills</td>
<td>PITTS</td>
<td>26.0%</td>
</tr>
<tr>
<td>Difficulties getting bank loans</td>
<td>DGBL</td>
<td>22.9%</td>
</tr>
<tr>
<td>Lack of equipment</td>
<td>LOEQ</td>
<td>18.8%</td>
</tr>
<tr>
<td>Lack of E-security</td>
<td>LOES</td>
<td>2.00%</td>
</tr>
<tr>
<td>No problems using the Internet</td>
<td>NPUÍ</td>
<td>1.40%</td>
</tr>
<tr>
<td>Mistrust</td>
<td>MIST</td>
<td>0.96%</td>
</tr>
<tr>
<td>Corruption</td>
<td>CORR</td>
<td>0.52%</td>
</tr>
<tr>
<td>Illiteracy</td>
<td>ILLI</td>
<td>0.42%</td>
</tr>
<tr>
<td>Language barrier</td>
<td>LABA</td>
<td>0.42%</td>
</tr>
<tr>
<td>No need of Internet</td>
<td>NNOI</td>
<td>0.20%</td>
</tr>
<tr>
<td>Lack of interest</td>
<td>LOIN</td>
<td>0.20%</td>
</tr>
<tr>
<td>Other</td>
<td>OTHE</td>
<td>0.10%</td>
</tr>
</tbody>
</table>

4.1.4 OPEN ENDED QUESTIONS

Fortunately the participating companies have decided to share their views on several aspects concerning this research, which will be concluded in this section. These statements and quotations help to get a broader picture on how the companies perceive the matter of Internet implementation within the company. In addition to the questionnaire responses, observations and conversations will be added in order to enrich the data further.

4.1.4.1 GOVERNMENT’S ROLE

78 percent of the companies do not think the government has helped or supported them regarding Internet adoption within their company. One company in the survey does not have any power access and holds the government responsible, “we have to produce our power ourselves. Therefore the government does not support this at all”. Another company writes, “We encounter slow internet speed at our office despite being provided internet services (ISP) by Government entity i.e TTCL”. A third company states in the survey that the information from the government is minimal, “most of it is from our own initiative”. Other companies know where to look for information but complains about the content, “Government agencies do have their websites which could prove useful if they were updated regularly”, as one company puts it. Business Registrations and Licensing Agency (BRELA) can be taken as an example, which is a governmental agency with the vision “to be world class customer focused business regulatory and facilitator Agency” (BRELA, 2012) and the mission “to regulate and facilitate business operations by adopting internationally recognized best practice” (BRELA, 2012). Among the guiding values for the BRELA employees can be found “timely delivery of services” (BRELA, 2012). This can seem slightly contradicting since the three different e-mail addresses that can be found on their website were not functioning. When e-mailing BRELA only notifications of delivery failure was returned to sender. Added to that the work phone did not function either.
The government has promised the Tanzanian people that the country will be national connected with a faster and cheaper Internet connection, but according to several companies this has not been lived up to. One company means that “accessibility is still a problem although we national connected” and another company says that “the use of fiber cable which does not help us because its expensive to have link, I wonder why not cheap so that we can access even for a cent which is affordable”. A director\(^1\) is disappointed of the high costs, “even though the government promised a lower cost for Internet connection, we still experience it to be on the higher side, even higher than before”.

A company from a rural area is expecting more from the government, “no help from the Government. We believe the Government hasn’t put enough effort to help in providing support to make sure Internet infrastructure is accessible and cheap to as many citizens as possible”. Another company states that the government has left Internet services to be completely run by private or business entities, “…this means that their main focus is on profits. They thus tend to remain in urban areas where they can maximize on profits. Government should subsidize internet costs (service and equipment) and make it available in rural areas”.

A firm director\(^2\) makes a statement about African society overall, “For most we don’t use the expertise we have”, meaning that people do not think in long term, only in short term. No one thinks about the next generation. The solutions are meant to be cheap and to solve the problems today, avoiding looking at the expensive solutions that will be required tomorrow, “being poor is expensive”, the same director says\(^2\). The director continues, “we don’t know why it is like that, of course corruption is one important thing, corruption is killing this country, but what to expect when having a corrupt government”\(^2\).

Corruption is an issue in Tanzania, according to most Tanzanian spoken to. Observations\(^3\) have been noted that policemen are standing alongside the streets in order to stop the cars and examine carriage and driver. Sometimes they might do incorrectly made fines, without anything being wrong. The policeman can charge the driver and write the fine down on a false form for which the driver further on can be charged once more. According to several local people\(^4\) the policemen earn large amounts of extra money that goes straight into their own pockets. A professional dalla-dalla driver\(^5\) states there is a special bond between the driver and the police officers that prevent the police officers from charging the driver each time the dalla-dalla passes the road police control. Instead, to avoid giving corrupted money, the driver needs to be flexible in fixing other issues for the policemen, such as delivering goat meat, water bottles or similar favors.

A few companies think, however, the government has succeeded giving help to the SMEs, “it help encourage the uses of internet on legal way” and “provision of the optical fiber (nationwide) has improved internet performance – somehow faster than before”. A tour operating company writes that the government has been helping them via establishing associations of tour operators and travel agents organizations.

\(^1\) Construction manager, Dar es Salaam, 2nd of May 2014
\(^2\) Company director, Dar es Salaam, 2nd of May 2014
\(^3\) Researcher’s observation, Arusha, Zanzibar and Dar es Salaam, between 14th of April and 5th of May 2014
\(^4\) Local Tanzanians, Arusha, Dar es Salaam, Zanzibar, between 14th of April and 5th of May 2014
\(^5\) Tanzanian dalla-dalla driver, Zanzibar, 26th of April 2014
4.1.4.2 THE IMPORTANCE OF INTERNET

Internet use is being more and more common in Tanzania and an important tool to use within companies, especially within the tourism industry, “We are a travel agency as well as travel agent and we need to be abreast with news when it happens and how it happens. This keeps us ahead of the competition; we also get the opportunity to find new products as well as clients over the Internet. Our reservation system for the air ticketing is Internet dependent!”, writes one of the respondents in the questionnaire.

Even for the cultural tribes Internet proves to be useful. Two Maasai men, working as watchmen in Dar es Salaam and are living with their families in a village in the northern circuit, state it is common for them and their family members and other villagers to own a mobile phone with Internet connection. Some of them even have Facebook accounts and other social media. Since many of them are away working in the cities for long periods it is a way for them to keep updated and in communication with their village.

However, there is no doubt Internet being useful for most of the companies. The majority of the companies seem to be rather clear about the importance of Internet, “Internet has helped our business a lot, we wouldn’t manage without it – without Internet I would sell the company”, says one of the directors of a construction firm in Dar es Salaam and laughs. Quotations from the questionnaire also underline the positive effects coming out of Internet use, “Our company would not be able to function without the Internet”, “we are skyping to save international phone charges”, “we need full time connectivity” and “Internet has a great added value in education if well tapped into”. A manager furthermore writes in the questionnaire about the national gain Internet provides, “The Internet play a crucial role in shaping Tanzania economy and also educating the youth”. Another manager mentions that Internet helps avoidance of traffic disturbance, “It saves me time and money due traffic jams problems in Tanzania. I spend less administration to monitor my employee’s customers and acquire good/potential markets through Internet”.

Many people in Arusha own a mobile phone and many of them use social media, such as Instagram, Twitter and Facebook. Young people often create Facebook accounts under simulated names in order to be able to date and act online without being exposed to the people you know and to the society, “it is easier to be yourself when you pretend to be someone you’re not”. A Tanzanian citizen in Arusha says that it is common to see Tanzanians having more than one mobile phone, sometimes five. This in order to be somewhat reassured to always have at least one mobile phone with a charged battery if the power shuts down. “The power cuts are a big problem here in Arusha”, the Tanzanian continues. Wondering how Tanzanian people find a specific telephone number to a specific company they answer the same, they look in the Yellow Pages, which is a book. However, if they want to find a private person it is more complicated. Since the SIM cards are not personal and not connected to the owner of the phone it is difficult, if not impossible, to keep record of the data, “The only way to find a person’s telephone number is for the person to give it to you personally.”

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6 Maasai men, Dar es Salaam, 3rd of May 2014
7 Company manager, Dar es Salaam, 2nd of May 2014
8 Tanzanian student, Arusha, 19th of April 2014
9 Tanzanian student, Arusha, 19th of April 2014
10 Tanzanian citizen, Arusha, 20th of April 2014
11 Tanzanian citizen, Arusha, 19th of April 2014
Internet can be used in different ways. Some companies use it mostly for advertising to customers living abroad, some companies use it to a larger extent for communication purposes, “it [the webpage] has not been updated very often, it is mainly to show the world that we have a website and to be able to contact us”, a director says. The same company had troubles in the beginning to get the domain for the website, which was a time demanding process. The website is hosted in the U.S., “it is advantageous for the website to be hosted in another country since the visitors will be able to visit the page at all times, compared to websites hosted in Tanzania that can shut down during power cuts”, the director says. The same company does not use social media, like Facebook or Twitter, for advertisement. However, Internet is not being used as a way of attracting customers. It is mainly being used for communication between employees, suppliers and already existing customers. Customers are mainly being attracted by word-of-mouth and via a good reputation, “since the most clients are locals it is no need to advertise online”.

4.1.4.3 DIFFICULTIES WITH INTERNET

Before introducing Internet to the company a construction firm managed the business via fax and fixed line telephones, however the telephones were expensive. Business took much time since meetings and large amounts of the communication needed to be done with physical visits, “back then a conversation could take several months”, the director says. Naturally it was also expensive to arrange the travels. The company introduced Internet in 1999, connection made via dial-up. There was no doubt introducing it. One of the directors living partly in the Netherlands was already using Internet and had seen the advantages Internet could bring. In the beginning it was only the use of e-mail mainly as a communication channel between the directors that was being made online. The fax was being used as a complement to the e-mail, in case of needing to send a picture or a hard copy paper. Other business issues made on the computer were still being made offline. Approximately in 2009 the company started using Internet in a deeper sense. Since the Internet use in Tanzania had by that time increased it was possible to communicate with suppliers and customers via e-mail.

Marketing and to be visible online can be difficult for Tanzanian companies, ”The Difficult situation when I’m using the Internet is through different platforms and also through marketing, well as Search Engine Optimization. I would like to have my Company well marketable online through worldwide to make more clients in my business.”. Another company writes that it is difficult to be unique among all other websites, ”There are barriers to publicize business websites in our country due to the existence of other related companies website from other countries.”.

Even though the result from using Internet is positive, there are still a few bottlenecks concerning the Internet. “Sometimes the Internet is very slow, especially when everybody at the office uses it at the same time, then the system becomes overloaded.”, says one director. Many companies from the questionnaire are of the same opinion about the low speed when accessing the Internet, “It take more than 10 to 15 minutes to open a page and start open a mail”, which affect the efficiency at work, “In our case the costs of subscribing to Internet is

12 Director of a construction firm, Dar es Salaam, 2nd of May 2014
13 Director of a construction firm, Dar es Salaam, 2nd of May 2014
very high and the speed provided is very slow, hence poor performance to daily work schedules.”.

Power cuts is a big problem for many companies, ”Slow power and power erratic. Unable to stream downloads, sometimes unable to send or receive e-mails. Skype erratic or impossible”, as one manager writes. Another manager points out that power outages exists in the big cities as well, “Power cuts are also affecting the society in Dar es Salaam.” Another mentions several problems related to power cuts, “factors that make it difficult to ACCESS the Internet may be power cuts (for both office server and/or computers), problems with the ISP, lack of credit (i.e. package has run our with ISP), poor signal, and extra cable problems (for example, Tanzania experienced Internet blackout recently when a boat off the coast tore up a cable)”.

Even though Internet is a tremendous source of knowledge the Tanzanian websites do not seem to provide the companies with sufficient information, “difficult searching some of the market and production information especial for farm activities”, as one company puts it. A company director\(^\text{14}\) is of the same opinion, when looking after local supply and materials it is difficult to find anything essential, “Tanzanian websites are not very good and informative, especially they do not state the prices – no one is really serious with their webpages”, the director points out. The explanation, “it is the way it works in Africa” the same director says. The director means that it is not tactical to write down the prices on the website. The rivals can take advantage of that and also the customers, who can start up a bargaining process, which ends up in disadvantage for the company.

For some managers it is difficult to learn and search for information on the Internet, ”Of course there are some difficult especially when you want to learn about something on the Internet and then you don't get what you want, or you might get but hard to understand because its not simplified so to make it easy to learn.”, as one says and one other, “there are often changes and updates in the programs.. There are also some programs which are useful and i have to try to self-teach myself and this has not been easy.

73 percent of the companies feel totally or rather safe with using Internet. However, some companies do not feel secure when using Internet and have shared their view on online security, based on bad experiences. One says that “main problem is hacker and secured page for safe payment for us who use e-commerce”, another one claims that the homepage was hacked three times. Several companies are aware of the risks with Internet, “the existence of many illegal websites and some of them are used to steal using Internet” and “fear of virus attack”, are two statements in the matter. One firm\(^\text{15}\) states that it has not yet started using online money transactions due to mistrust against the online security, “stories about people being robbed would not exist if the system was entirely secure”, one of the company directors say. However, the same director brings up that “M-Pesa is a very smooth and reliable way of paying the bills”.

\(^{14}\) Company director, Tanzania, 2nd of May 2014
\(^{15}\) Director of a construction firm, Dar es Salaam, 2nd of May 2014
4.1.4.4 NO NEED OF INTERNET

A maasai man\textsuperscript{16} living in a village in the Ngorongoro Conservation area says that Internet is not a priority for them. “Why would I need Internet? If I need to send a message, I will send someone”, he says. He explains further that his villagers are shy of new technologies, meaning they do not know how and especially why they need to use mobile phones and Internet. How would it help them? Living in their tradition they do not naturally need Internet and its features. However, worth mentioning, due to the location of the village it often gets visited by tourists passing by on their way to the game drive in the national parks.

A tour operator\textsuperscript{17} says that some of the maasai people near the national parks have started being aware being a tourist attraction and therefore understood they can earn money on tourism. Some of the maasai children living in the national parks standing beside the roads waiting for the tourists passing in their safari vehicles shouting to the tourists to take photographs of them. After the tourists have taken the picture the children ask for money. “Lately it has even been cases when the maasai children throw stones at the cars when they do not get money from the tourists”, says the tour operator.

A local pot manufacturer\textsuperscript{18} in Tanzania, a family owned company established in the middle of 1970’s, has the manufacturing at home. Internet connection is provided via cable and several television channels are also being a part of the household. However, the company does not use any marketing online for the business, not even a website. The only online communication takes place through e-mail, but it is not crucial for the business. “It is not necessary with any online advertisements since we already have a solid customer group and a good reputation. We sell our products all over Tanzania”, says the manufacturer. The company has already bargaining power within its industry and do not need to advertise online in order to be unique and reach new customers. It has a decent reputation that is spreading from mouth to mouth between satisfied customers to new customers.

Local shop owners in Arusha, Zanzibar and Dar es Salaam\textsuperscript{19} have been stating that they do not have any need for advertise or use online features in their business. “Our target customers are only local Tanzanians, therefore we don’t need Internet to manage our business. However, we have Internet in our phones for private use”, one of the shop owners says.

4.1.4.5 SUGGESTIONS FOR IMPROVEMENTS

In order to solve the issues being mentioned by the companies in this research, they have themselves come up with suggestions for solutions. Some of them want to increase the focus on international education, “I would suggest Abroad University to send some of their students, to volunteer in Tanzania especially Teaching at Tanzanian university to help us learn more about Internet and Computers in General”. Another company also desires help from abroad, to let a developed country help Tanzania getting proper computer and IT equipment, which means that it will help the Tanzanian people to gain a deeper knowledge of Internet and its devices.

\textsuperscript{16} Maasai man, Ngorongoro Conservation Area, 15th of April 2014
\textsuperscript{17} Tour operator, Serengeti, 15th of April 2014
\textsuperscript{18} Local pottery manufacturer, Tanzania, 20th of April 2014
\textsuperscript{19} Local shop owners, Arusha, Zanzibar and Dar es Salaam, 17th to 25th of April 2014
Another company is well aware of the corruption and wants to avoid it, “try to open different IT schools for the citizen of Tanzania, to get the knowledge, the University just puts the money in its own pocket, our government is full of corrupt”. The issue of schools being corrupt can be substantiated with a statement of a Tanzanian student, that it is common that the teacher sometimes does not show up at lectures for several weeks until close to the exam. The teacher then tells the students that it is fully possible for the students to pass the exam, even though they have limited amount of time to study. However, it is only possible if the students come to school on a Sunday, which means they need to pay the teacher for working extra in the weekend. “The students have to pay, in order to be prepared for the exam”, the student says.

Others want workshops, where they can learn and work together in different parts of the country; “we need at least workshop for IT even for zones (ex. Northern zone of Tanzania center could be in Arusha city” is the opinion of one company. Others mean that the government needs to take responsibility for the country and the matters concerning Internet access, “The government needs to take a central role in creating the needed infrastructure to push costs down. Also they need to control businesses to ensure they provide what is being advertised. That is 4g speeds must be 4g and not marketing garbage”. Another company highlights the crucial importance of Internet within businesses today, “The government should invest in providing Internet since in the modern world it is no longer a luxury but a basic need, with Internet more Tanzanian can run their businesses better and also learn and exchange ideas with other people”.

One company points out that even though Internet is an efficient tool helping improve the business, it is crucial to know how to use it, “if one is not keen in using the Internet a lot of time can be wasted instead of being productive, therefore, self-discipline with the use of Internet is paramount”.

Two Tanzanian bachelor students independent of each other, tell about their projects concerning providing access to online books and e-library services to those that cannot visit the library. The students are aware of the already existing service of online books and journals in developed countries and hope to contribute to more knowledge among the people using the service. However, says one of the students, “it is difficult to get scholarships and appreciation from the government since the government does not always want to listen to smart solutions.”

One company express that the qualifications for implementing e-commerce need to be improved, “To keep up, the current trends it is essential for Tanzania to set up commerce online, our neighbors Kenya, Uganda and Rwanda are already ahead and actively developing solutions for it”. Another manager is thinking in the same direction, “Can't setup online stores in Tanzania, cause no major payment gateway accepts Tanzania as a pay out country. NOT EVEN PAYPAL. Something needs to be done about that.”

A Tanzanian marketing student is used to shop online in Tanzania and shares the experience about Tanzanian banks and online money transactions. There are three main,

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20 Tanzanian student, Dar es Salaam, 2nd of May 2014
21 Tanzanian Bachelor Degree student, Arusha, 23rd of April 2014
22 Tanzanian Bachelor Degree student, Dar es Salaam, 3rd of May 2014
23 Tanzanian marketing student, Tanzania, 20th of April 2014
locally owned, banks that operate in Tanzania; National Microfinance Bank (NMB), National Bank of Commerce (NBC) and Cooperative Rural Development Bank (CRDB). Most Tanzanians are using the locally owned banks. All governmental workers receive their salaries through NMB, wherefore these people need to have an account at NMB. NMB does not does not have the service of money transactions, through for instance PayPal, since their cards are only accepted in Tanzania. NBC works the same as NMB, with no internationally accepted credit cards. Both with NBC and NMB it is impossible to shop online via PayPal. The student regards CRDB to be the best choice. “If you have an account with CRDB they give you ATM cards which are accepted globally such as VISA and MASTERCARDS. They also give you an access to online portals (Internet banking system) where you can do all your transactions online using your computer instead of having to get to the bank. Now if you have a CRDB account you can easily use the ATM cards to register with PayPal and then you go to the bank and they give you forms to fill in and then after that you get a code (usually after 2 to 3 days) that you can use to verify and link your PayPal account with CRDB bank account”, the marketing student says.

A lodge owner in Arusha24 says that the power outages are common, “there are at least one or two each day, that is standard, but it can reach up to several more, it depends a little bit on the weather, when it’s raining it’s often worse”, the owner continues. The owner has overcome this problem by installing an extra generator to take over when the electricity disappears. Since the business concerns accommodating clients from developed countries, who are used to a specific standard, it is important being able to provide them with a sufficient power supply. A citizen in Arusha points out that it was only just one or two years ago the power could be left out for months25.

4.2 QUALITATIVE STUDY

The qualitative interviews have been held together with eight tourism companies and organizations. These interviews aim to give the reader an insight in the tourism industry in Tanzania. All the interviews have been held in Arusha due to that it is the ultimate located city considering the closeness to the national parks, especially Ngorongoro Crater and Serengeti, and Kilimanjaro which are stated to be three of the seven natural wonders in Africa (Seven Natural Wonders, 2014). The tourism industry is interesting in this research since it depends on attracting customers from abroad, mostly from developed countries. This means that it is of great importance to keep updated on new technology and on how clients want to be approached.

4.2.1 BMS SAFARIS

Managing director, Buhembo Elikana, explains that BMS Safaris was established in 2011 and has today six employees in the office, excluding drivers and guides who are being consulted and hired depending on the amount of clients. The drivers are thus not being counted as permanent employees26. The company helps clients arrange animal safaris, accommodations, mountain climbing, city tours and car rentals with the vision “to establish with each of our customers a long-term business relationship which is built on competitive, cost effective and high quality services” (BMS Safaris, 2014).

24 Lodge owner, Arusha, 20th of April 2014
25 Tanzanian citizen, Arusha, 19th of April 2014
26 Buhembo Elikana, Managing Director at BMS Safaris Ltd, Arusha, 22nd of April 2014
The office is located in the central parts of Arusha on the second floor in a building that is being under construction at the floor above. The office is rather dark and small and contains two desks with one desktop computer and one laptop. The noise from the constructing work is loud and it is difficult to hear each other. There are some chairs for clients and a Barclay’s card machine, meant for client payments. The building is clean and empty in the stairwells, with gratings in front of each door due to prevent break-ins.

Elikana’s role in the company, together with the other employees at the office, is to deal with customer contacts before they arrive to Tanzania and he points out the importance of Internet being the only communication channel to the company’s clients, “no contact, no business” he says. When communicating with the clients, e-mail and Skype are the mainly used features online. “Skype is a useful tool for calling long distance calls to the clients, and much cheaper”, Elikana says. Most of the customers are from abroad, mainly Europe, which makes the marketing important or rather crucial. The marketing is being made via website, Facebook, travel booking agents and hard copy guidebooks. However, the advertisement can be costly, “it can cost up to 300 USD for advertise in one travel guidebook”, according to Elikana. Elikana has his own Facebook account, but he use it as a channel to promote his company as well, uploading updates, photos from safaris and so on. This makes him reach out to all his friends and their friends. However, the company has also its own Facebook page, which was established in 2011 and has for now 213 likes, where the visitors can see updates from the parks and happenings attached to them. The page is well informed with general information about the company, its vision, mission and its services. Contact details are also included. The page is being updated regularly.

One of the most important places to be well promoted, according to the manager, is on TripAdvisor. It is the window for the new clients to look into when choosing the tour operator company. They can read of about experiences of BMS Safaris from earlier clients. However, when looking into it, BMS Safaris does not exist when searching for the company name on the website of TripAdvisor. Since the word-of-mouth and a good reputation are crucial for the business the company is keen on continuously improving and developing its services. Therefore the customers are being provided a hard copy survey after the safari where they can say their opinions and ideas of improvements.

Among the employees it is only the office personnel that are using Internet in their daily work. The drivers and guides have no need using it. Communication between drivers and the office is mainly through cellphones or radio.

The company is using Milan cable as their Internet service provider, which the manager is rather satisfied with, “it is easy to get support with this company”. ICT support is only a phone call away. However, since Milan cable has no backup generator in case of power outages it means that when the electricity disappears the company has no Internet, “generator is a waste”, Elikana says. Elikana express his dissatisfaction with the power cuts. They make it difficult to work. However, they use modems in order to access the Internet.

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27 Researcher’s observation, Office of BMS Safaris, 22nd of April 2014
28 Buhembo Elikana, Managing Director at BMS Safaris Ltd, Arusha, 22nd of April 2014
30 Researcher’s observation, 17th of May 2014
31 Researcher’s observation, 18th of April 2014
during no electricity. Speed is another large problem, “you have to be patient”, he says and shows how slow Internet is by opening a webpage, which takes several minutes\textsuperscript{28}.

The manager of BMS Safaris started learning about Internet in school and is now pleased with his computer knowledge in order to fulfill is needs. Before starting the company he used to be a safari guide and travelled a lot, so the idea of starting his own company came rather naturally, “being a logic step to take”. He loves animals and the Tanzanian nature and goes on safari to the national parks whenever he can. Now the company has one branch and brings in total up to 2000 clients in a good year, but he has a future vision of expanding the business into even more clients. However, he adds, “this year is a bad year since many of the clients will go to Brazil”, concerning the 2014 FIFA World Cup that will take place in Brazil current summer\textsuperscript{28}

\subsection*{4.2.2 BRIGHT AFRICAN SAFARIS}

Bright African Safaris is a tour operating company, established in 2009, that provides safaris, trekking adventures, cultural tours and biking tours for its clients. Msangi Charema, the managing director, says that the company has two permanent employees in the office and three permanent drivers. During high season, which takes place from May to August, he hires more people and can sometimes reach up to 25 employees\textsuperscript{32}.

The office is located in the central parts of Arusha, in the northern part of Tanzania. There are two desks in the room, one for the secretary and one for the manager. Both of them have their own computer, laptop and stationary computer. They also have one printer each. The atmosphere in the room is well balances, with a sand colored wall adorned with six certificates of Bright African Safaris being a well-seen company and two tax record diplomas. On the floor there is a large round carpet together with four chairs for the clients with a table in the middle\textsuperscript{33}.

The company has been using Internet since day one on manager Charema’s demand, “all companies without Internet dies” he says. Charema was first being introduced to the basic use of Internet in college. There after he has been learning some deeper skills by himself, since he was not satisfied with what he knew, “learning by doing”, he smiles. He has a friend that knows how to make websites and advertisement and has therefore been helping Charema with these issues. The company advertises mainly through the website and hard copy brochures, “I am not so good using Facebook, so no marketing there”, Charema says\textsuperscript{32}. However, the company has a Facebook page equipped with telephone number, physical address and some wall posts\textsuperscript{33}, for instance about Bright African Safaris being a Certified Excellence Winner in 2013. It is not being updated very often though\textsuperscript{34}.

It is mainly the manager and the co-worker at the office that use Internet for business when communicating with clients. Charema says that he is usually at the office seven days a week between 8 am and 6 pm. The drivers and guides are in no need of Internet in the same way. Historically there was no Internet connection available in the national parks, meaning that the only channel of communication was radio\textsuperscript{32}. Now, however, the national parks have

\textsuperscript{28} Msangi Charema, Managing director Bright African Safaris, Arusha, 22nd of April 2014
\textsuperscript{32} Researcher’s observation, 22nd of April 2014

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improved both telecommunication and Internet connectivity, which means they can use their smartphones for calling, texting and e-mailing each other.\footnote{32}

The company has 4G-modem for Internet connection and a backup generator in case of power cuts. If the electricity shuts down the business can therefore continue as usual. The office is also equipped with voltage regulator in order to protect electrical devices from being harmed during electrical power cuts. Charema says that he and the company do not have any security problems with using Internet, however, he has a friend that has had problems with highjacked international payments in his company, which was very unfortunate. Bright African Safaris has not yet started with an online payment system due to this, the fear of being hacked and with not enough knowledge. Charema believes, however, that in two or three years it might be possible to make payments for his safaris online. Barriers of Internet adoption that the company is facing are mainly the low speed, “It sometimes takes long time to have things done online”, Charema says.\footnote{32}

Even though the website contains an online booking service there is no one using it, “people don’t want to book on the website – almost all customers require personal correspondence over e-mail, in some cases over 50 e-mails”, Charema says.\footnote{32}

Manager Charema is well aware of word-of-mouth being the most important marketing channel. His vision for Bright African Safaris is to ensure everyone that works for him being well paid, that will say them being enough paid in order to make them happy in their life, with their families and with their employment, “a happy employee is a good employee that results in happy clients”, he smiles. He wants to be a good manager having good and reasonable terms for the employees. His interest in his employees’ happiness shows in several phone calls from drivers that want to work for his company, “unfortunately I don’t have the capacity right now to employ everyone that is calling me for employment”, Charema sighs.\footnote{32}

Msangi Charema was a waiter before starting at Bright African Safaris and his dream was to become a tourism officer. After being a waiter he started working at a well-known lodge in Tanzania when his interest of being a safari guide started to grow, and he further on got his guiding license. He had a cousin abroad telling him that he should start his own business. Charema had not thought of starting his own company before, but the cousin promised to provide him with support and clients and then the business would be up and going, the cousin had said to him. However, that never happened. The cousin did not keep the promise. It ended up with Charema starting up the company on his own, without any help from the cousin, “it was somehow lucky that my cousin pushed me to start the company, even though I didn’t get any help. If not I would not have been here with Bright African Safaris today”, he says happily. His vision about the future is to expand and to receive more clients. Then he can also employ more drivers and in that way make the drivers who desire to work for him happy.\footnote{32}

\subsection*{4.2.3 TAI TRAVELLERS}

Tai Travellers is a Tanzanian native owned tour operating company providing safaris, cultural tours, beach holidays and mountain hiking for its clients. The company established in 2010 and has had Internet access from the beginning. The manager, Patrick Bille Naye\footnote{35},
states that Internet is crucial for the business in order to reach out to the customers, mainly via e-mail and social media. The clients are primarily from U.S. and Canada, since Tai Travellers has travel-booking agents in those areas. Local clients from Tanzania are not very common, but the company does, however, arrange safaris together with Tanzanian schools.

The location of the office is in central parts of Arusha, opposite the main bus terminal. Green walls combined with pictures on different animals and famous places that can be seen in Tanzania are surrounding the room and its two desks. Due to the window and the glass doors the office is bright and has a welcoming atmosphere, clean with no carpets and no bookshelves or papers lying around36.

A 3G-modem is being used in the company. Even though there are power cuts, “which occurs a lot!” as Naye says, they can still be online. They do not have an extra generator providing them electricity when power shuts down, which means that, the batteries in laptops and mobile phones, eventually will die. The stationary computers cannot be used during power outages35.

The company mainly advertises via business cards and hard copy brochures. It also uses social media like Twitter and Facebook in addition to the website. The Facebook page, which now has 7 likes (Facebook, 2014) is, however, not being updated very often. Naye tells that there are many competing tour operating companies in Arusha. The agents in the U.S. and Canada is what puts Tai Travellers ahead of the competition when it comes to attracting customers, according to Naye35.

Naye is the manager of the company but he was not part of the start-up of it. It was a Tanzanian couple that had been in the tourism industry for at least 10 years that decided to start up Tai Travellers. Naye says he learned the basic Internet skills in school and that he is satisfied with his knowledge about Internet and computers due to his needs, “I am not interested in how it works, only that it does”, he states. Before becoming a manager at Tai Travellers Naye was working as a safari and mountain trekking guide. When he is looking forward he wants to see the company expand and attract more customers35.

4.2.4 LASI TOURS

Lasi Tours started its business in 1996, a well-experienced company according to the marketing manager David Otuta37. The company has between 450 and 600 clients per year and consists of 22 employees out of which 11 are safari guides, 4 mountain guides and 7 placed in the office. The company makes all sorts of trips, there among mountain hiking, cultural tours, safaris and arrangements for accommodation and airplane tickets. The company’s vision is “care of the land, care of the wildlife, care of the people”38.

Lasi Tours has a spacious one-room office located in central Arusha, with 11 chairs in addition to three desk chairs. Close to the door there is a stand with hard copy travel brochures and large maps of Kilimanjaro and Tanzania can be seen on the walls. The office also contains a stereo, a small television and drinking water in a large bottle39.

36 Researcher’s observation, Office of Tai Travellers, 22nd of April 2014
37 David Otuta, Marketing Manager at Lasi Tours, Arusha, 22nd of April 2014
38 Webpage of Lasi Tours, http://www.lasitours.com/, 17th of May 2014
39 Researcher’s observation, Office of Lasi Tours, 22nd of April 2014
Lasi Tours started using Internet around 2007-2008. It was a time when many tour companies introduced Internet and went online with their communication channels, “the target audience was using it and therefore we should also be using it”, Otuta says. Before Internet was introduced clients were found at typical tourist locations such as the country border, airports, hotels and bus stations. Introducing Internet has helped the company business because it saves both time and administration. It also makes the communication with the clients simpler than before. However, one side effect with going online is to find a way of being unique and to gain the clients’ trust; to stand out in the crowd. “It is important what the customers want” Otuta says. Lasi Tours is trying to explore where the tourists are and what their desires are. “Our clients are like our ambassadors, they need to be happy with their experience with Lasi Tours in order to advice them to others” says Otuta who knows that word-of-mouth is extremely important. Otuta is aware of the importance of having good reviews on Tripadvisor, however, he and his colleagues have not yet enough knowledge in the matter, “we need to learn more about it”, he says. As the time being, advertisement is being made through magazines, the company website and through travel guidebooks.

Otuta speaks about Lonely Planet and refers to it as “The Bible” within the tourism sector. However, he is not fully pleased with how it works. He means that Lonely Planet is favoring European tour operating companies and forgets about the African companies, which he thinks is a pity.

One problem Otuta wants to highlight is tourists coming to Tanzania, without having booked a safari arrangement in beforehand and do not have enough money to pay for one while in Tanzania. The tourists will then ask around among the different tour operators, “since there are a lot of us here in Arusha!”, Otuta sighs, for the one offering the lowest price. Only the non-licensed tour operators will give them a reasonable price. “This operator will then take the money and drive them to a fake Serengeti park and since the clients have never seen the real Serengeti they will not recognize the differences” Otuta explains. He is concerned about the tourists paying for nothing and that this phenomenon gives the tourism industry in Tanzania a bad reputation. Furthermore, Otuta wants to add, that it is fully possible to book the safari tour when already arrived in Tanzania. However, the tourists need to visit the Tanzania Tourist Board (TTB) and ask for a list of licensed tour operators and then choose among those. There are, of course quite many companies that are licensed, which can be difficult for the tourists to choose the “right” one for them. However, as long as the company is licensed “the important thing is to follow your heart”, Otuta says.

Lasi Tours has a backup generator and modems in case of power cuts, so they can continue working even though electricity is gone. Only the employees at the office use Internet. Communication with the drivers is being made via radio or mobile phones.

Otuta’s plans for the future are to be the number one tour operator company in Tanzania. The goal for the company is to give good and reliable service to the clients and in order to do that they need to be aware of what mistakes they make. Therefore a meeting with the clients is being held with the clients after each tour where they get the opportunity to speak their minds.
4.2.5 NAIPENDA SAFARIS

Naipenda is a Kiswahili word and the meaning is *I love to travel*. Naipenda Safaris started its business in 2000 and is working with safaris and further holiday planning. The company has 20 employees and 12 vehicles. In high season Israel Thomas Mwanga\(^{40}\), one of the managers, consults more drivers. 90 percent of the clients are from the U.S., which Mwanga says most likely is because of the company has a local partner there, which recruits many clients.

The office is located in the central parts of Arusha and consists of several rooms. Mwanga’s office is in a separate room. The company has had access to the Internet from the beginning and is being accessed via cable connection. Online connectivity is being used for advertisements towards and to communicate with clients, where e-mail and the company website is the main channels. The company has also an online shop on their website, where visitors and clients can buy safari caps, shirts and postcards. The payments are arranged via Paypal. On the webpage it also says that Naipenda Safaris accept all major credit cards, but also Paypal e-check and bank wired money transactions\(^{41}\).

“Customer satisfaction is our number one priority” (Naipenda Safaris, 2014) is the philosophy of the company. Mwanga knows it is important to achieve decent reviews from the clients. Even though the company does not yet exist on Tripadvisor the website contain a place for testimonials where earlier clients speak their meaning of their experiences with Naipenda Safaris. The company believe they are standing out compared to the rivals, “We believe we have a unique company with an excellent reputation, offering much and more of what there is to see … giving you good value for your vacation dollar.” (Naipenda Safaris, 2014).

On the website Naipenda Safaris write in its privacy policy about the security and the practices on the webpage, in order to assure the visitors about respecting their privacy. “Naipenda Safaris employs software programs to monitor network traffic to identify unauthorized attempts to upload or change information, or otherwise cause damage. This software receives and records the Internet Protocol (IP) address of the computer that has contacted our Web Site, the date and time of the visit and the pages visited.”\(^{41}\).

Mwanga was introduced to Internet in school and has since then been continuing to learn about Internet use on his own. His great interest in animals and nature made him a safari guide. Later on he figured that he wanted to create his own tour operator company. The main barriers hindering the start-up process were the financial support that was needed in arranging websites and buy the technology devices. It was highly difficult to get bank loans. However, he has managed well during the years and wants to expand Naipenda Safaris in the future and reach more clients\(^{40}\).

4.2.6 TANZANIA NATIONAL PARKS (TANAPA)

Today Tanzania has 16 national parks, compared to only one park back in 1959. The institution Tanzania National Parks (TANAPA) exists in order to keep the parks clean and

\(^{40}\) Israel Thomas Mwanga, Owning Partner & Naturalist Guide at Naipenda Safaris, Arusha, 23rd of April 2014

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free from demolition. TANAPA has the vision “to be the highest globally rated institution in sustainable conservation and provision of exceptional tourism services” and the mission “to sustainably conserve and manage park resources and their aesthetic values, for the benefit of present and future generations of mankind, as well as efficiently provide high class tourism products and services.”

The establishment of national parks often begins with the Tanzanian people; they wish the parks to exist. TANAPA create the laws and regulations of the parks via general management planning with park stakeholders and meetings with the local people.

TANAPA market themselves via hard copies consisting mostly of printed brochures. Many tourism organizations, firms and associations still not exist online, wherefore they not yet communicate that much via e-mail and other online social media, “next years to come, maybe online will be the best way of teaching people about our business”, Victor Ketansi says, head of marketing department of TANAPA.

Right now TANAPA uses ordinary cable to provide Internet connection. It was just recently the TANAPA Marketing Department started using online business, “the world is changing and many people are accessing information online, Internet will be the main source of information in the future”, Ketansi says and means that it is about time for TANAPA to follow the development of the surroundings. Internet gives TANAPA the opportunity to reach a larger target group with their message and information. For internal communication they use an internal network.

TANAPA started a Facebook account in the late of 2013 and they also exist on Twitter. The Facebook page has today 4098 likes and contains information about the organization, including contact details. Further on they also plan to create a Youtube account, an Instagram account and a newsletter for subscribers. Ketansi also mentions an advertisement channel being used in India. In India they advertise via sending mass text messages to many people at the same time. Ketansi hopes that TANAPA also will be able to use that method. Another plan is to create one official blog for each park, where the latest news from each park will be documented. Similar to that is the idea of develop a smartphone application made for each of the national parks in Tanzania. At first they it to be only for iPhone, but they soon realized that many people also use Android, wherefore they will make it suitable for both types.

The strategy behind the Facebook page was from the beginning to give the tourism officers in all the national parks access to upload pictures, since it is mainly pictures of animals and nature phenomenon that are of interest to the audience. However, this was not a winning concept since after uploading the pictures the tourism officers did not care of answering the questions and comments that appeared attached to the pictures. Ketansi is of the opinion that TANAPA now should regain control over the account access so that TANAPA can be responsible for answering questions and interact with the audience. “It is important for us to interact with our audience”, Ketansi says.

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42 Victor Ketansi, Head of Marketing Department at TANAPA, Arusha, 23rd of April 2014
43 Webpage of TANAPA, http://www.tanzaniaparks.com/, 17th of May 2014
One problem in the parks, especially during high season, is the long queues of safari vehicles appearing at the park’s entrance gates and within the parks, “we need to find a way of shorten these queues” Ketansi says42.

In order to enter the national parks an entrance fee needs to be paid for. Before all those fees were being paid in cash, which resulted in large amount of cash at the park offices. The risk of being robbed was high. Lately a new system has been implemented, where the tour operators visit the bank in beforehand and charge the card with the entrance fee money. Later on, when entering the park, it is only for the driver to register the card in a machine and the money are being transferred to the TANAPA bank account. “Online system of money has its challenges, but a lot of positive things as well”, Ketansi says. For instance, it results in fewer robberies since the cash does not exist and the authenticity of the currency is no longer an issue for the same reasons. Before money checks have been a problem when some of them lack coverage, but now that issue also disappears. However, as with all systems there are fraudsters and they have learned to infiltrate this new online system as well. They try to copy the plastic cards, but they are often being caught rather quickly42.

Victor Ketansi looks bright at the future. A lot of things are going on at the Marketing Department at TANAPA, with the aim of conserve and protect among the most important natural resources in Tanzania42.

4.2.7 TANZANIA ASSOCIATION OF TOUR OPERATORS (TATO)

Tanzania Association of Tour Operators (TATO) is a union with approximately 300 members and 4 employees operating in the private sector with the purpose to “act as a link between the members, government and its institutions in promotion of tourism in Tanzania” TATO45. The association was established in 1983 and is the largest association for tour operators and is pushing for a decent business environment among tour operator companies and it functions as a tourism adviser to the government. The aim is to provide information and trainings in order to fully meet the need of its members to support them to do business46.

TATO assists the companies that are in need of help, everything from legal protection to advertisement or credibility. Every year TATO is arranging its own fare, Karibu Fare, for all the tour operators to attend. A hard copy magazine, Twiga Times, is also being published three times each year. It is distributed to all the members, the Ministry of National Resources and Tourism, the headquarters of Tanzania National Parks, domestic and international travel fairs46.

TATO is being provided Internet connection via cable and according to Akko the association has been using online features since he started, approximately in 2000. Akko says furthermore that the most common communication channel with the members is e-mail, but information is also being spread through hard copy brochures. Most of the members have an e-mail address, which makes it simple to reach them and to spread information. The online communication with members is restricted to e-mail, no online forums or similar is yet developed, where the members can communicate with each other. TATO have not yet developed an internal network for the employees to communicate through either. The association has, however, a website and a Facebook page where information and pictures are

http://www.tatotz.org/index.php?option=com_content&view=article&id=44&Itemid=68
46 Sirili M. Akko, Executive Officer at Tanzania Association of Tour Operators, Arusha, 23rd of April 2014
being provided and updated continuously. The Facebook page has 215 likes\(^{47}\) and contains some information about the association and the link to the website. The account was established in the middle of 2012 and it is now being updated regularly\(^{46}\).

TATO has been struggling with the challenge of branding. The association lacked bargaining power against other unions and it was not very well known among the tour operators, “We still work on being an acknowledged and a well-known association, it takes time but it will work”, says Akko\(^{46}\). The main problem doing business, according to Akko, is the capacity; to find competent employees and to keep them employed. Right now they are only four employees at TATO, which is quite few, according to what the members need. “It is a difficult balance not being too expensive for the members and yet be able to perform enough to the members.” Sometimes the members were expecting more performance out of TATO than it was possible to deliver. Looking at the online activities the power cuts and the slow speed of Internet is the major hinders\(^{46}\).

Akko has a vision of TATO to grow in the future, to be well known and “to reassure the world that Serengeti and the other national parks in Tanzania will remain as long as human beings are walking on the earth”\(^{46}\).

### 4.2.8 TANZANIA TOURIST BOARD (TTB)

Tanzania Tourist Board (TTB) is a governmental organization, originally established in 1962 but was amended in 1992, with the mission “to promote sustainable tourism both domestically and internationally through innovative and dynamic awareness creation, in order to contribute significantly to the social-economic development of Tanzania”\(^{48}\).

Willy Lyimo\(^{49}\), branch manager for TTB in Arusha, is aware of the role Internet plays in the society; “Nowadays it is very important for the companies to have Internet, especially for the tourism companies.” Lyimo says. He furthermore explains that he gets more work done in a shorter period of time with Internet, “Internet makes business life easier. The use of paper decreases and information flow between producers, suppliers and customers increases.”, he says\(^{49}\).

TTB uses a cable connection to access Internet and has a backup modem in case of electricity shuts down. There is no backup generator covering the power cuts. Lyimo believes that issues related to power cuts are bound to decrease in the future as power supply becomes more stable and the network is being upgraded. “As you can see, this is one of our problems”, Lyimo says and points at the blank Internet window on his desktop computer, “I’ve been trying to connect for a long time now. Lyimo states that TTB suffers from bad Internet connection with bad quality and slow speed\(^{49}\).

TTB went online with its business in 2010. At that time the society was starting to use Internet more frequently and it became more and more common for the companies to conduct business over the Internet. Especially the tour operators were using Internet. Before 2005 less than 2 percent of the business transactions were made online\(^{49}\).

\(^{48}\) Webpage of TTB, http://www.tanzaniatouristboard.com/, 17th of May 2014
\(^{49}\) Willy Lyimo, Branch Manager at Tanzania Tourist Board in Arusha, Arusha, 23rd of April 2014
Lyimo believes that it is important for Tanzania to invest in education, “the young people holds the key to our future”, he says. He also mentions that some children are given tablets in Rwanda and that young people tend to be quicker to learn and adapt to new technology, “my son knows more about computers than I do, despite the fact that I have had training”, Lyimo laughs.

Lyimo says that when working in the tourism industry it is important to know that without a good reputation and positive reviews from earlier customers, it is difficult to attract new clients. “Tripadvisor is very important, people want to hear the opportunities and experiences of others before they make reservations. Often tourists know us more than we know them.” Lyimo says.

Lyimo shares TTB’s ongoing project to create an application for smartphones in order to reach a larger audience, “very many people have smartphones nowadays, so there are large opportunities make advertisements”. The application will be adjusted to be suited for both iPhones and Android, since these are main operative systems existing in Tanzania.

It is problematic that some companies are corrupt, which is affecting the whole industry in a negative sense. Since much business is being made online it is important to use filters regarding bad or harmful contents on the web. “There are a lot of smart people on the Internet that tend to exploit other people for their own means”, Lyimo says and points at the wall where pictures and warning messages of black-listed companies and fraudsters are being shown. “Unfortunately there are some companies within the tourism industry whom conduct fraudulent transactions.” Lyimo sighs.

The organization has the vision that “tourism industry will become the number one contributing sector of GDP in 2025” (TTB, 2014). Lyimo’s thought about the future is to continue to grow and increase the visitors to Tanzania. He wants TTB to be service minded and provide correct and quick answers to the clients. He is confident that the future will bring improvements in several areas, for example infrastructure and technology adoption. “Africa is late with the technology, but we adapt quickly.”, Lyimo says.
5 EMPIRICAL ANALYSIS AND DISCUSSION

Empirical analysis section will contain discussions of the empirical data collection. The data will be interpreted, analyzed and connected to the theoretical framework and parallels will be drawn to the literature.

5.1 BARRIERS OF ICT

The analysis will try to give answers to our research question on each of the barriers identified. The most relevant quantitative and qualitative data will connect to theory and analyzed to get a deeper understanding of the barriers and what kind of implications they might have for Tanzanian SMEs. At the end of the analysis we will present the proposed analytical model for this study. The analysis will be guided by our research questions in order to not lose focus on the issue. Research question:

“What barriers are hindering the use of Internet in Tanzanian SMEs?”

5.1.1 INFRASTRUCTURAL BARRIERS

When looking into our empirical data and analyzing the infrastructural barriers in this study, we can see some recurring patterns and themes.

Power supply is one of the most outstanding barriers and something that is mentioned throughout literature on ICT in Africa and in our survey categories (Xiao, 2013; Mpofu et al., 2013; Abodohou et al., 2014; Damasen, 2014). We also get a more nuanced and detailed picture of this barrier when combining quantitative and qualitative data through the interviews conducted. The majority of the respondents stated that they have sufficient power supply, despite the facts that power outages happen sometimes several times each day. The qualitative interviews showed that in order to overcome this barrier a backup power generator can be used. Then the business can somewhat continue as usual. In that sense, it can be discussed that even though lack of power supply is being mentioned as a common matter, the Tanzanian companies seem to accept the fact of its existence. Compared to the Western world, where several power cuts per day would be seen as a major disaster among the companies, but also among most of the population.

Figure 9 – Internet saves you time (previously presented in Figure 5)

Figure 10 – Your job would be difficult to perform without the internet (previously presented in Figure 6)
When looking at the likert scale items in Figure 9 and Figure 10: “Your job would be difficult to perform without the Internet”, “Internet saves you time” and the fact that in the survey almost all companies use Internet for either e-mailing (96 percent) or marketing (92 percent). Relating this to the Technology Acceptance Model (TAM) we interpret the data as that the perceived usefulness (PU) in the survey is high for these two items and that e-mail and marketing is most frequently used in the companies surveyed. And this while the data is indicating very poor power supply with frequent power cuts, sometimes several times a day. A interviewee comments: “there are at least one or two each day, that is standard, but it can reach up to several more, it depends a little bit on the weather, when it’s raining it’s often worse”

So the PU is high and almost all surveyed companies use Internet for marketing and e-mail for their business. The infrastructural barrier regarding power supply on level 1 and 2 in the adoption ladder does not seem to affect the use of e-mail or their website, which is used mainly for marketing purposes. Reading and sending e-mail can be done without a continuous power supply and the website, if hosted on a foreign server, is then not affected. The power supply barrier is perceived as one of the major barriers but does not affect the use or PU of Internet at low levels in the adoption ladder. Again, a reflection from a European perspective, having frequent power cuts would be disastrous for the daily work and an unbearable situation in a society that is heavily dependent on continuous power supply.

E-security is an issue when comparing our two data sources. It seems like the companies are at a crossroad where online payments are being used more often. What can be seen is that people in general feel safe using the Internet, although the result could be more conclusive as seen in Figure 11. Money transactions is used by 45 percent of the companies, where a majority was in the tourism industry, suggesting they are at level 3 in the adoption ladder. In the qualitative data Naipenda states that the company has an online shop where the tourists can buy safari clothing among other things and the money is wired through PayPal. TANAPA says, “Online system of money has its challenges, but a lot of positive things as well” about having implemented a cash free payment system for the entrance fees in the parks. However, this is not to be considered as a fully integrated online payment system since it includes a physical visit to the bank, yet they have intentions in implementing additional online features in the near future.
Although more and more are feeling secure online, there is still an awareness of weaknesses in online security. Some respondents’ comments: “Main problem is hacker and secured page for safe payment for us who use e-commerce”, “Fear of virus attack” and “The existence of many illegal websites and some of them are used to steal using Internet”. Other respondents report hacked websites and that security is perceived as minimal.

The insecurity that some people have about online payments will constrain firms in seeing increased PU and move up the adoption ladder. Further constrains involves the widespread use of the current “online” payment system M-Pesa (Kabanda, 2011). A interviewee says that he does not see the point in using online money transactions when he has M-Pesa especially together with the lack of online security.

### 5.1.2 HUMAN CAPITAL BARRIERS

The perceived ease of use (PEOU) when adopting new technology can sometimes be low in developing countries. In quantitative data we see poor IT skills (PITS) as a barrier, 26 percent reports that they lack in IT skills. One of the respondents comments, ”if one is not keen in using the Internet a lot of time can be wasted instead of being productive”.

This is connected with lack of education on computers and Internet, however, since the majority of the companies in the survey, as mentioned before, are in level 1 or 2 in the adoption ladder most of them actually have sufficient knowledge for the basic levels. But for higher levels of adoption the knowledge and education needs to be higher.

Another human capital barrier that is fundamental for reaching global information is the language barrier. For developing countries to be able to adopt and absorb new technology from the developed world (Rogers, 2003), being able to read and write in English is a key competence. However, in the quantitative study the respondents choose to fill in the English form 91 times out of 96 as opposed to the Swahili version. This, counter to our initial beliefs on language proficiency, was somewhat surprising. The ability to absorb new information for regarding new innovations is then not a barrier for Tanzanian SMEs. This result, however, carry some bias, as owner/managers that has an e-mail seems to be proficient in the English language. This is not representative for the whole company and certainly not for companies without e-mail in the rural areas, as observed during empirical data gathering.

### 5.1.3 INSTITUTIONAL BARRIERS

The company respondents of the questionnaire were not agreed on the item “Tanzanian culture influence your Internet use”, as can be seen in Figure 12 where those who answered 1 disagree and 5 agree. Naturally, the item can be interpreted in different ways depending on the individual reading it, wherefore it is difficult to analyze this item fully.
Tanzania is a country consisting of several different tribes with traditional cultures, among which the maasai people can be mentioned. A maasai man from a village close to Ngorongoro conservation area claims they do not see the meaning of Internet, “the people are shy of new technology and don’t see the meaning in using it”, he says and continues explaining that if he needs to send a message to someone he “just send someone to deliver the message”, this can seen as an passive rejection of Internet as an innovation (Rogers, 1995). Linking to DOI (Rogers, 1995) example of the Peruvian village and the boiling water being exemplified in Chapter 2, it can be seen that new innovations are not for everyone. However, two maasai men from another village claim on the contrary they use mobile phones and Internet a lot in the village and say that “many maasai use mobile phones to access the Internet”. Some of them even use social media, such as Facebook. This is an example of an innovation being positively adopted, after being processed through the five stages knowledge, persuasion, decision, implementing and confirmation (Rogers, 1995).

High cost of Internet access (HCIA) is perceived as a major barrier by 73,9 percent of the companies together with bad Internet connection (BICO), stated by 78,1 percent. This is consistent with the qualitative data where the interviewed individuals think the government is responsible for the two issues, “even though the government promised a lower cost for Internet connection, we still experience it to be on the higher side, even higher than before” as one manager says. Another manager expresses himself strongly, “the government needs to take a central role in creating the needed infrastructure to push costs down. Also they need to control businesses to ensure they provide what is being advertised. That is 4g speeds must be 4g and not marketing garbage”. The Internet service provider company TTCL, which is the main company that is providing Tanzania with Internet on a national level, is being a government entity whereas the Tanzanians blame the government. HCIA as a major barrier is in line with what earlier literature (Mpofu et al., 2013; Touray et al., 2013; Asare et al., 2012; Abodohou et al., 2014) have stated about SMEs in developing countries where financial constraints is seen as one of the major barriers when adopting Internet.

Overall, the confidence the Tanzanian people and companies have for the government is not good at all. Many of the interviewees and respondents have in addition been mentioning the

50 Maasai man, Ngorongoro Conservation Area, 15th of April 2014

51 Maasai men, Dar es Salaam, 3rd of May 2014
issue of corruption in Tanzania, that it is a deep-rooted problem in the country; “corruption is killing this country” as one of the managers put it. The same manager is of the opinion that Tanzania does not use the expertise they have in a correct way, meaning that when constructing roads for instance there are no long-term solutions being provided, only short-term. It means that there will be a cheap solution today, but an expensive solution tomorrow. This mindset seems to be deep infiltrated in the country and the people – “what to expect when having a corrupt government”, the director says. This overall negative impression about the government together with corruption is in line with statistics made from World Economic Forum (2013), where corruption is stated as one of the five main obstacles that hinders business activity in Tanzania. Abodohoui et al. (2014) also underpins this study’s result by mentioning corruption as one of the main hinders for SMEs when adopting Internet.

22 percent of the companies have being highlighting the difficulties getting bank loans (DGBL), “I would like to get loans for IT solutions in order to have a reliable internet services providers instead of using modem line from cell phone companies”, which also can be related to the literature, where Touray et al. (2013) and Mpofu et al. (2013) both identifies DGBL as a barrier. The barrier of DGBL is linked to HCIA. Naturally, when there is no money in the pocket, money needs to be lent from the bank. If DGBL would decrease as a barrier, the HCIA would most likely also decrease.

5.2 HOW ICT BARRIERS AFFECT TANZANIAN SMES

As mentioned before is the power supply barrier (LOPS) is one of the major barriers of ICT development, and this affects companies in a very direct way. As they have no light during night time and even the websites might be down due to power cuts as the Internet service provider (ISP) also might suffer from these. Bad Internet connection (BICO) affects the company in similar ways by being unreliable for the Internet user and erupting the work schedule by taking more time than it is calculated for.

Poor IT skills (PITS) was another barrier. Several of the tourism companies were aware of TripAdvisor and Facebook being important for the company in order to advertise and reach out to the big audience, but experienced lack of knowledge into making it happen. PITS make the companies reject new communication channels, which makes them loose important advertisement opportunities. Companies that have adopted those innovations are exposed to a larger audience and have therefore a competitive advantage compared to the companies that have not.

Lack of e-security (LOES) affects SMEs as about 50 percent of the people has issues when it comes to trust in online payments. Stories of fraud and online theft are common and people in general use M-Pesa (Kabanda, 2011), to pay their bills. This hinders the development of e-commerce and e-business in the higher levels in the adoption ladder, as trust towards these type of services are not entirely established. Furthermore, as the banks are not internationally recognized by e-payment solutions such as PayPal is putting further growth constrains on companies that depends on the global market, this is especially a limiting factor for companies in the tourism sector.

52 Company director, Dar es Salaam, 2nd of May 2014
5.3 ADOPTION LADDER

Every step upwards on the adoption ladder is involving an iterative process where the individual goes through the innovation-decision process (Rogers, 2003), and arrives at a rational decision in adopting or rejecting the next innovation, in this case; e-mail, website, e-commerce, e-business or transformed organization. The PU and PEOU must be reached for every step; also a higher degree of financial investment is necessary when climbing up the adoption ladder.

5.3.1 E-MAIL

Overcoming the first barrier for e-mail requires no need of capital or other things than being able to read and write, thus the barrier of Illiteracy is the only one to overcome. There has also been an decision-process involved as the individual has chosen to adopt e-mail. The financial constraints are considered very low, as the only cost involved is access to the Internet. Which does not have to involve your own equipment, for example going to a web café. Out of the participating companies all of them reach this basic level of ICT adoption. However, this was the basic criterion during our sampling.

5.3.2 WEBSITE

The barriers overcome for this step involves the same as for e-mail, but puts more requirements on understanding how the company can benefit from having a website and also how to update and use it to spread information. The kind of knowledge regarding the use and maintenance of a website must be acquired to perceive benefit from it. The financial investment involves monthly costs to the domain host and possible cost for hiring a web designer. Out of the 724 companies selected for our quantitative study 578 had a website, 111 of the companies had a Facebook page only. And the rest, 10 had no online presence only an e-mail, out of these 724 companies 14 percent answered the survey. However, this shows that the majority of the companies are at level 2 in the adoption ladder or higher, which is consistent with ICT literature categories in Chapter 2.

5.3.3 E-COMMERCE

At this level, to overcome the infrastructural barrier becomes greater of importance within this context. As e-commerce involves having continuous power supply, thus being able to have access to the Internet at all times, and with a satisfying bandwidth and speed on the connection. As an example, tourist companies need to have online payment solutions for their foreign customers. But in general the perceived use of e-commerce is low, due to the limited use of credit cards and online banking, the Tanzanian society relies to a large extent on cash solutions.

5.3.4 E-BUSINESS

Very few companies in this study has adopted this sophisticated level of e-business. The barriers that add on to the previous steps involve further investment in human capital and more knowledge of the owner/manager. The organization also needs have knowledge about
computer systems and a larger percentage of the employees need to have a device connected to the Internet. Something that is difficult to achieve with the current ICT infrastructure.

5.3.5 TRANSFORMED ORGANIZATIONS

None of our investigated companies has had any indication to adopting ICT on this level in the company. The level of sophistication regarding organizational readiness on the highest level in the adoption ladder concerns all of the barrier categories. Human capital requirements needed at this level involves knowledge about business models and how they can lineate their organization with Internet to support their supply chain etc. This level mostly concerns global software companies that have their main business on the Internet and are dependent on it for their day-to-day business.

5.3.6 ANALYTICAL MODEL

This model developed, as seen in Figure 13, is derived from the conclusions drawn from the empirical data and the theoretical framework in Chapter 2. The model is based on the assumptions that for every step upwards the adoption ladder the barriers are considered from a more dynamic perspective as they will rise and put further requirements on resources to overcome the barriers.

All the barrier categorizes which we have based our analysis on; infrastructure, human capital and institutional, will get higher and further demands will be put on each one. Concerning infrastructure further requirements must be met when it comes to the stability of the power supply and in providing good IT infrastructure for the companies in order to conduct business in an efficient way. More human capital resources must be acquired, as skilled people will be needed to manage and develop ICT systems and its use within the company. Institutional requirements are also to be met at each step as the government plays an important role for SMEs in Tanzania. The financial requirements also play a crucial role, as the PU and PEOU must be reached for the individual to invest in overcoming barriers.
The proposed analytical model is presented above from which we have formed assumptions and analysis around. The five steps are indicated with arrows, and for each level that the arrows point to the barrier gets higher. The model rests on a theoretical foundation, which includes TRA (Ajzen, 1991), TAM (Davis, 1989) and DOI (Rogers, 1995), from which we base our terminology. The model is adapted from the adoption ladder (Martin & Malay, 2001).
6 CONCLUSION

The conclusion section concludes the earlier sections by reaching one or several statements that will explain and answer the research question and purpose of this study. The contribution to both practical and theoretical research will also be stated.

The main theoretical contribution of this study is the development of a dynamic perspective from the analytical model, derived from the theoretical framework together with empirical data and the following analysis. The understanding conveyed in this study that barriers in relation to adoption levels cannot be seen as static but as a dynamic phenomena, where barriers are being raised and becoming more complex and demanding concerning all three barrier categories; infrastructural, human capital and institutional, at every step upwards in the adoption ladder, this serves as an important conclusion in understanding the barriers of ICT in Tanzania.

Looking at the adoption ladder most of the companies in this research have reached and overcome the barriers for step 1 and step 2. In order to reach step 3, e-commerce is required. Relating to the TAM and TRA, for SMEs to reach higher levels in the adoption ladder and have greater Perceived Usefulness (PU) of e-commerce and payments through the Internet, the e-security issue must be addressed on a governmental level. In this research, companies within the tourism industry are the majority of stating they use online money transactions. This industry relies strongly on Internet since it needs to keep updated of news, use and trends in order to be ahead of competition attracting more clients.

The main barriers found in this research are bad/slow Internet connection, high cost of Internet access, high cost of equipment, lack of power supply, poor IT skills and difficulties getting bank loans. Some of the barriers are difficult to overcome, since a higher authority is responsible, government and Internet service providers. Therefore the slow Internet speed and high cost of Internet access is hard to prevent from a company perspective. However, some companies have of course more financial capital than others, but they also state that it is expensive compared to what Internet connection they get. Companies are conquering the lack of power supply by having their own power generator, which they can rely on during power outages. It can also serve them power if they originally do not have any electricity. Some companies produce the power themselves. Several managers in this study have been explaining that they got some basic knowledge about Internet in school, but not sufficient enough to manage the business where they felt they lacked IT skills. Therefore they have learned about Internet by their own. A lot of information and knowledge can be found through the Internet.

Difficulties getting bank loans and lack of financial resources are a common problem among companies. Among the interviewed tourism companies there were often a third part involved from abroad. This third part provided the company with ideas, equipment, financial support, IT knowledge, market research, website development or similar services. Such help makes the companies up to date with what their clients need and what to focus on.

The barriers of ICT in Tanzania are far from easy to erase and overcome by themselves. Many of the problems Tanzania is facing roots down into a deeper ground, where everything is linked together. Only one barrier cannot be solved, without solving another one. Since the main Internet service provider is a governmental entity and since, according to the majority
of answers from respondents and interviewees in this research, the government is corrupt together with teachers and policemen. This creates a society in which its population does not have any confidence. Tanzania seems to be trapped in a vicious circle where the mindset of the people is only being in short-term. They solve infrastructural problems today, but do not think about the consequences tomorrow. Smart solutions are needed in order to get a hold of the individual issues that are hindering SMEs to develop online business.
7 IMPLICATIONS, LIMITATIONS AND FURTHER RESEARCH

This section will present the implications and limitations the authors think are of importance of the study. It will also contain suggestions from the authors on different and possible angles on how to go into further research.

7.1 IMPLICATIONS, LIMITATIONS AND FURTHER RESEARCH

The findings in this study is based on eight interviews and observations on site in Tanzania, and a survey in which 96 respondents answered a set of questions regarding ICT in Tanzanian SMEs. The study carry a certain bias towards the tourism industry as our access to other companies was limited in our qualitative study, and the survey had a high response rate from tourism related companies. Therefore, the findings cannot be generalizable for all SMEs in Tanzania. However, the dynamic view on barriers and adoption levels of ICT among SMEs that has been developed here in this study can be applied in other contexts. Yet, this is something for further research and hopefully the additional findings can then be interpreted in a more general context when discussing ICT barriers among SMEs in Tanzania or in other developing countries.

7.1.1 INSTITUTIONAL IMPLICATIONS

Create more exchange scholarships to get more international influences and knowledge diffusion. The younger population is seen as the future hope of contributing to a better society in Tanzania, therefore it is of great importance to encourage and stimulate this group of young people to be creative and lead further development.

It is important that Tanzania can learn from other African countries that have already been overcome some of the ICT barriers. This insight was brought to our attention through our survey, where a respondent suggests learning from neighboring countries as Rwanda, Kenya and Uganda that are already ahead in ICT development.

Find the root cause of the infrastructural barrier concerning power supply and misused electricity. To reduce the price and increase access of electricity for the people and also it will be less of a burden for the electrical system in the society. Other infrastructural problem that has to be addressed is the bad Internet connections concerning both price and speed. This it is in the government’s interest since stimulating Internet adoption within SMEs will increase economical productivity and raise the standard of living.

7.1.2 IMPLICATIONS FOR TANZANIAN SMEs

Out of this research some implications towards Tanzanian SMEs can be made. Having a backup power generator in case of power outages is a way to avoid being without electricity when at work. It gives the opportunity to continue working at all times.

Having a decent way with your employees is a good start having a nice environment at work. As Msangi Charema at Bright African Safari says, “A happy employee is a good employee that creates happy customers” are wise words. The customers will notice that the
employees are having fun and are committed to what they do. As a manager it is important to encourage the employees in their Internet and computer learning development.

Having the company website hosted outside Tanzania is a way of assure the page to be online at all times, even during power cuts.

Internet is rich on knowledge. Many of the questions about Internet use can be found on the Internet.

Social media can be useful when marketing the company, depending on what target customers/audience the company has.

### 7.1.3 IMPLICATIONS FOR THE TOURISM INDUSTRY LIMITATIONS AND FUTURE RESEARCH

Future research regarding the dynamic perspective on ICT barriers using the adoption ladder in Tanzania or in other developing countries serves as a future suggestion for research, and if this dynamic perspective is applicable to a larger sample in different industries.

The survey was issued to 724 companies that had an e-mail address, this also affect the conclusion and analysis as certain barriers are already overcome in order to have an e-mail. Thus, a higher level of proficiency in English and knowledge about the Internet could be seen. Further studies within the field should investigate companies in the rural areas without e-mail to get a broader picture of the state of ICT in when it comes to lower ICT adoption levels in Tanzania.

Future research could also focus on different practical solutions to overcome infrastructural barriers such as lack of power supply. Damasen et al. (2014) made a study on solar electricity generation and its impact on ICT development; these kind of studies could benefit the government, NGOs and companies in Tanzania in overcoming infrastructural barriers. In addition, in Chile they made a restructuring of the electricity sector and after that the electricity costs dropped significantly and the transmission and distribution losses (including electricity theft) were reduced with 20 percent (Center for Energy Economics, 2006). This is a relevant research field for those willing to find solutions to the frequent power cuts happening in Tanzania.

More extensive studies regarding education and how students learn about IT in schools is also something to be further looked into.

How come there is a lack of power supply when Tanzania is rich in energy resources such as oil, gas and coal? This is question worth exploring as it touches upon several fundamental issues concerning Tanzania.

Find a way to decrease the corruption – the mindset of people needs to be changed. What would happen if people stood against the corruption?
ICT Adoption Among Tanzanian SMEs

References


Center for Energy Economics. (2006). Results of Electricity Sector Restructuring in Chile.


APPENDIX 1 – Questionnaire in English

1. What is your position at the company? (Owner/Manager/Other)
2. Number of employees at the company (Open)
3. Year of company establishment (Open)
4. Main industry of the company (Open)
5. Nearest city (Open)
6. Location of the company (Rural area/Urban area)
7. Where does your company use the Internet? (Open)
8. Your company has sufficient power supply (Likert scale) Infrastructural
9. Your company has sufficient knowledge about the Internet (Likert scale) Human capital
10. What help has the government provided to your company regarding the Internet? (Open)
11. Where did you learn about using the Internet? (Open)
12. You have sufficient knowledge about the Internet (Likert scale) Human capital
13. You feel safe using the Internet (Likert scale) Human capital
14. Internet helps your company to develop business (Likert scale) Utility
15. Tanzanian culture influence your Internet use (Likert scale) Institutional
16. You often become confused when using the Internet (Likert scale) Institutional
17. You know where to find help about the Internet (Likert scale) Utility
18. What is difficult when using the Internet? (Open)
19. Your job would be difficult to perform without the Internet (Likert scale)
20. The Internet saves you time (Likert scale) Utility
21. Why is the Internet useful in your company? (Open)
22. Which devices are used in your company to access the Internet? (Open)
23. To what do you use the Internet in your company? (E-mailing/Money transactions/Information search/Social networking/Marketing/Internet phone calls/Provide web service/Shopping/Education/Entertainment/Internet video calls/Other)
24. Which have been the main barriers while adopting the Internet to your company? (High cost of equipment/High cost of Internet access/Lack of power supply/Poor IT skills/Lack of equipment/Lack of Internet connection/Difficulties getting bank loans/Lack of interest/Language barrier/Illiteracy/Corruption/Lack of E-security/No need of Internet/Mistrust/No problems using the Internet/Other)
25. Is there anything else that you would like to add? (Open)
26. Please insert your e-mail below if you would like to take part of our results (Open)
APPENDIX 2 – Questionnaire in Kiswahili

1. Una nafasi gani katika kampuni? (Meneja/Mmiliki/Other)
2. Idadi ya waajiriwa katika kampuni (1-5/6-49/50-99/100+)
3. Mwaka wa kuanzishwa kwa kampuni (Open)
4. Shughuri kubwa ya kampuni (Open)
5. Jiji la karibu (Open)
6. Mahari kampuni ililipo (Mjini/Vijijini)
7. Ni sehemu gani kampuni inatumia mtandao? (Open)
8. Compuni yako yana fupyo unaotumia mtandao? (Likert scale)
9. Kampuni yako inauzishwa karibu? (Open)
10. Ni msaada gani serikari imesaidia/changia kampuni yako katika mtandao (Open)
11. Ni wapi ulijifunza kutumia mtandao (Open)
12. Una ujuzi wa kutosha kuhusu mtandao (Likert scale)
13. Una amani ukitumia mtandao (Likert scale)
14. Mtandao unaisaidia kampuni yako kuimarisha biashara. (Likert scale)
15. Tamaduni za kitanzania zinahimiza matumizi ya mtandao. (Likert scale)
16. Huwa unachanganyikiwa kwa msaada katika kampuni yako? (Open)
17. Kazi yako inakuwa ngumu kuifanya bila mtandao? (Likert scale)
18. Mtandao unalindia mda (Likert scale)
19. Kwanini mtandao ni muhimu katika kampuni yako? (Open)
20. Ni vitu gani vinawafanya mtumie mtandao? (Open)
21. Ni vitu gani vinawafanya mtumie mtandao? (Open)
22. Ni vifaa gani vinavyotumika katika kampuni yako katika matumizi ya Internet (Open)
23. Ni vitu gani vinawafanya mtumie mtandao? (Open)
24. Ni vitu gani vinawafanya mtumie mtandao? (Open)
25. Kuna chochote ungependa kuongezea labda? (Open)
26. Tafadhari weka E-mail yako ili kuwa sehemu ya majibu yetu (Open)
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