A Viewpoint of Tanzania E-Commerce and Implementation Barriers

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Abstract. The growing rate of ICT utilization particularly the Internet and mobile phones has influenced at an exponential rate online interaction and communication among the generality of the populace. However, with the enormity of businesses on the Internet, Tanzania is yet to harness the opportunities for optimal financial gains. This study is exploratory in nature as it attempts to unveil the prospects of e-commerce implementation, participation, motivation and opportunity to the developing countries like Tanzania where by the domestic market is very big to ensure the growth of agricultural sector. The paper proposes to investigate the ability of consumers to purchase online, the available motivation to do so, and the opportunities for Internet access. We argue the Government and central bank to encourage innovative new technological developments by pre-regulating electronic money to familiarize itself with electronic money schemes generally. Findings revealed that Tanzanians have the ability to participate in e-commerce, but there is need for improved national image to bring in the element of trust and discipline within, and before the international communities. Currently, consumers source for information online but make purchases the traditional way.

Keywords: e-commerce, e-payment, ICT, web, internet access.

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1.   E-Commerce Phenomenon and Country profile

Tanzania has an area of 945,000 sq km (365,000 sq miles) and a population of about 42 million. Dar-es-salaam is the commercial capital and home to many government institutions and diplomatic missions. There are about 120 ethnic groups on the mainland, although none exceeds 10% of the population, as well as minority Asian and expatriate communities. Tanzania's economy relies heavily on agriculture, which accounts for nearly half of GDP and employs 80% of the workforce. Tourism is growing in importance and ranks as the second highest foreign exchange earner. Mineral production has grown significantly in the last decade and provides over 3% of GDP and accounts for half of Tanzania's exports [14].

The study has shown in [14] by Materu and Diyamett that the use of ICT equipment is still low in Tanzania compared to other countries in the world but it is growing at a staggering pace. According to the World Bank data in the last decade for instance, the penetration rate of personal computers has increased by a factor of 10, while the number of mobile phone subscribers by a factor of 100! Extrapolations until the year 2009 suggests that the penetration rates of personal computers lies around 19.5 computers per 1000 people, which corresponds to an installed base of 850'000 units in 2009.

The Audiencescapes survey of Tanzania was carried out in July 2010 by Tanzania Communications Regulatory Authority (TCRA) as a nationally representative sample. This will allow the researchers to provide accurate breakdowns of urban vs rural use [15]. The survey depicted that Internet use has clearly grown in Tanzania at the rate of 4% but not at the same rate as in neighboring countries like Kenya where the latest estimate of Internet users for Kenya from the ITU is 3995500 people, corresponding to a penetration rate of 9.7%. The table below shows percentage household access amongst those surveyed:

Table 1. Summary of percentage of ICT usage in Tanzania [SourceTCRA]

Media	All sample	Urban	Rural
Radio	85%	85%	84%
TV	27%	59%	14%
Computer	3%	8%	1%
Internet	4%	8%	2%
Mobile phone	62%	82%	54%

It should be noted that although a large number of computers in many cases are owned by the government than private sector but unexpectedly this was vice versa with Tanzania. Many private sectors owned computer compared to government.

The results of TCRA survey have further shown that the average distribution sales of new computers are 50% to government; 40% to the private companies and 10% to private households & small businesses while

the survey from second-hand dealers showed that second hand IT equipment are mainly sold to private households & small businesses. The average life of new computers was found to be 4 years in government and private sector and 8 years in private households and small businesses while the average life of second hand computers was found to be around 5 years.

Based on the results of this survey and some key development statistics for Tanzania, it was estimated that about 200,000 computer units reached their end-of-life in 2009. Future computer mass flow trends as one of the E-Commerce tool based on linear and exponential growth indicate that the potential of E-Commerce implementation is still hindered with many factors as it is depicted in details on this paper.

The number of Internet users around Tanzania has been steadily growing and this growth has provided the impetus and the opportunities for global and regional E-Commerce. However with Internet, different characteristics of the local environment, both infrastructural and socioeconomic, have created a significant level of variation in the acceptance and growth of ecommerce in different regions of Tanzania. It is these controversial finding in the literature that have motivated the paper. The aim of the work is to examine the existing and prospective barriers to E-Commerce to the successful operation of E-Commerce to Tanzanian firms and suggest some strategies to overcome these barriers.

Despite the spectacular dot-com bust of a few years ago, the Internet has markedly changed the way we do business, whether it's finding new streams of revenue, acquiring new customers, or managing a business's supply chain. E-commerce is mainstream — enabling businesses to sell products and services to consumers on a global basis. As such, e-commerce is the platform upon which new methods to sell and to distribute innovative products and services electronically are tested.

The Web's influence on the world's economy is truly astonishing. The business world knows that the Web is one of the best ways for business such as manufacturers to sell their products directly to the public, brick-and-mortar retailers to expand their stores into unlimited geographical locations, and for entrepreneurs to establish a new business inexpensively.

Thus, it is important that the executive in the 21st Century know 1) where technology stands in the business processes of his or her company, 2) how technology relates to the company's strategies, 3) how rapidly technology changes and evolves, and 4) how the company and its business partners will respond to the changing technology.

In the high flying 1990s, many people jumped on the e-commerce bandwagon after reading the many highly publicized dot-com "success" stories. Admittedly, most were written to raise the entrepreneurial blood pressure. What many forgot, though, was the old adage: If it looks too good to be true, it probably is. They didn't use their innate intelligence and failed to proceed with caution.

Nonetheless, the ascendancy of e-commerce has expanded the business environment so that even a small start-up can compete with well-established business names and product brands. Yet, when you consider joining the e-

commerce commerce community, keep in mind that selling products and services on the Web presents a unique set of challenges. This paper will help in identifying and realizing on those challenges with respect to Tanzania scenarios.

There are challenges on what already in place, including a national payment system, local credit cards, and a legislative framework appropriate for e-business. These are challenges that need to be addressed urgently. Most significantly, the legal framework does not provide adequate safeguards to create an environment of trust for e-business transactions to take place. Consequently, financial institutions are not able to set up provisions for supporting e-transactions for their own, and each other's clients. However the use of traditional marketing mechanism is also one of the constraints facing Tanzania participate in e-commerce.

The evidence from literatures also supports that the hype and promise of e-commerce has been well recognized, but the fact is, it has not been realized at the rate which policy documents and government claim. There are very limited ICT developments in Tanzania with less than three people in every 100 people having access to ICT infrastructure [1]. All Governments particularly in Developing countries should play the leading role in the development of Infrastructure including financing Experience has shown that the Private sector is not able to take the responsibility of owning and, thus carrying out all the rehabilitation, and maintenance of the existing network and expansion of the new one that reaches all people in the rural and under-served areas for creating open access to all [21, 22].

There is a very good expectation on e-commerce applications in Tanzania. However there are still some complexities in several aspects such as peripherals like computer importation and use of face to face in conducting business, which brings difficulties in facilitating the take off. The Government should design the framework and policies which may make computer available easy to interested parties within the country, discourage the use of papers in many division from its offices. However it should champion and give the lead to the process. So far it's being claimed that the importation of Computer is tax free but in practice there are difficulties to importing computers to the Country, clearance tariffs are so higher. The situation has not been improved as it is being addressed.

The remainder of this paper is organized as follows: In section 2 the paper describes the literature review. Next we present major barriers of e-commerce development in Tanzania, customer's perceptions in section 3. In section 4 the paper presents the study methodology and Regression model is discussed in section 5. In section 6 the paper presents our recommendations for solutions to the problems and in section 7 we conclude the paper.

2. Literature Review

It is conceived that e-commerce is a phenomenon of developed country and new technology generally put challenges for developing countries that lack the requisite capabilities, as well as the economic and financial resources to cope with the developed countries. Especially internet presents both opportunities for economic and social development, and a threat to further increasing the gap between developed and developing countries [2].

The experience of most developed countries shows that price and availability of the telecommunications infrastructure are clearly associated with competition and market access [3]. Tanzanian Government has withdrawn import duties from computers and computer related peripherals. Due to the withdrawal of duties prices of computers and related products have become affordable to general communities. This to some extent has increased the use of computer for general purpose though effective applications of computers are still underutilized due to particularly government policy. However, it is revealed from recent survey that nearly 90% of the computers are Dar-es-salaam based and there is little scope for decentralization of these PCs to different regions of Tanzania [4].

Very few standard IT institutions are providing high quality IT education in Tanzania, but the costs are very high and consequently remain beyond the reach of ordinary people. Some IT related private institutions opened and started to offer IT courses but again they are centered around big cities such as Dar-es-salaam, Mwanza and Arusha. These institutions suffer from lack of coordination and quality course materials, and inadequate technical facilities. In course of time, eventually a situation has been improved as the government withdrew duties on computers. At present there are more than 50 ISPs operating in the country including the government initiatives of putting in place the fiber optical connecting the whole country [4].

Different patterns have been found in studies about the extent to which firms in developing countries embrace the internet. In Brazil, telecommunication infrastructure is not considered as barrier for e-commerce, and financial services sectors have widely adopted the internet approach [5]. In Nigeria, e-mail was the prime aspect of the internet system and business people used email mostly for the purpose of communication [6]. Low level of IT education was recognized as the underutilization of internet system in many developing countries.

In Hongkong low e-shopping compatibility, e-shopping inconvenience, e-transaction insecurity, and low internet privacy, together with orientation toward social interaction and poor awareness on the part of the consumers, translate into supply-side hurdles [7].

It is found from various studies that in developing countries e-commerce has hindrances in the arena of cultural habit and business and technology infrastructures as well [8].

Various studies identified a number of factors that facilitate or limit internet-based businesses. The enablers are availability of information, access to price information, accessibility, and convenience. These are the

factors that would benefit the online business. On the other hand, the limiters which inhibit the escalation of internet business include lack of trial, lack of interpersonal trust, lack of instant gratification, high shipping and handling costs, customer service issues, loss of privacy and security, lack of a stable customer base, and poor logistics. Oinas in [9] recommended in his paper that online companies serving ultimate consumers need to build competency in retailing, handling payments, and distribution, among other crucial business functions [9].

3. Major Barriers of e-Commerce Development in Tanzania: Customers Perceptions

E-commerce is ubiquitous and thus anyone can transact at any time from any place. On-line commerce has enabled customers to overcome the handicaps of time and space. However, despite the rapid and demonstrated uptake of e-commerce techniques, there is still very limited detailed evidence about how individual corporations in developing countries are using e-commerce to improve their business activities and what the effective costs and benefits are of using those techniques (*Digital Opportunities for Development*). Despite the fact that e-commerce has endless opportunities, it is evident that numerous barriers inhibit the successful uptake of e-commerce as can be referred from figure one above. One point of this paper is to revealing the existing and prospective barriers to e-commerce and devising their solutions in the context of Tanzania.

3.1. Context: Tanzania

Consequently, there appears to be major problems in defining 'E-commerce', generally in the entire Tanzanian context. But according to the WTO, "Electronic commerce refers to the production, distribution, marketing, sale or delivery of goods and presentation of electronic services." Thus, electronic commerce or e-commerce is understood as all commercial activities on electronic networks, including promotion, online sale of products and services, customer service, etc.

According to International Telecommunication Union (ITU) report, there are 520,000 Internet users in Tanzania as of June, 2009, 1.3% of the population, according to 2010 ITU report. There are around hundreds of formal and informal IT training centers and numerous computer shops. Although ICT had been announced as a thrust sector in 2003 year no substantial and clear-cut IT policy has been followed since then. Still legislation towards electronic signatures, practical laws to protect intellectual property rights and relevant financial structure to facilitate electronic transaction are yet to be formalized. The entry into the global economy is effectively blocked because of inadequate ICT infrastructure and human

resources, and non-existing compatible electronic environment to the rest of the world, lack of coordination among different stakeholders. However, the member of IT users in Tanzania is increasing rapidly.

3.2. Technical Limitations to e-Commerce

There is no doubt behind the fact that E-commerce has given many companies the right to cheer but there are few limitations of E-commerce too. Hence understanding the drivers and barriers of e-commerce adoption becomes increasingly important as can be observed from different authors [18].

Few technologies have realized the many benefits e-commerce does, whether taking a small business to never before seen global proportions or opening up millions of new customer markets. E-Commerce has given many companies the right to cheer, but Tanzania these have not taken place and here are a few of the reason why:

- Lack of sufficient system security, reliability, standards and communication protocols,
- Insufficient telecommunication bandwidth,
- The software development tools are still evolving and changing rapidly,
- Difficulties in integrating the internet and e-commerce software with some existing applications and databases,
- The need for special web servers and other infrastructures, in addition to the network servers (additional cost),
- Possible problems of inter operability, meaning that some E-commerce software does not fit with some hardware, or is incompatible with some operating systems or other components.

3.3. Non Technical Limitations to e-Commerce

Despite the fact of the mentioned technical limitations above, E-Commerce also has its own limitations in non-technological as follow:

- Cost and Justification,
- Security and privacy,
- Lack of trust and user resistance,
- Channel conflict,
- Other limitations factors are such as lack of touch and feel online etc.

According to the study conducted by Oreku et al., in [10] E-Commerce readiness in Tanzania is not advancing because of;

- Poor physical and network infrastructures,
- Inadequate human resources,

- Absence of required rules,
- Low level of computer literacy,
- Widespread poverty etc.

4. Study Methodology

The study methodology followed to complete the study is on the basis of primary and secondary data. The result from this study was collected from different sources. Secondary data were collected from relevant papers, daily newspaper, and IT magazines published in paper form and electronic form as well. Primary data were collected from interviews from five major Bank Managers "(Tanzania Postal Bank ,Cooperative Rural Development Bank ,National Bank of Commerce ,National Microfinance Bank ,Azania Bank);" 14 stakeholder groups namely, vendors (merchants) with not less than thirty employees, 3 financial institutions, Top five IT Mangers to the institutions and the group of seventy nine consumers (mostly SMEs). A critical analysis was done to determine the barriers that hinder the effective implementation of e-commerce in Tanzania.

Among other barriers many traditional middlemen are trying to preserve existing barriers and create new ones as a way to prevent online competition. In the developed countries these barriers already prevented many firms practicing e-commerce from selling directly to consumers and severely limit the ability of consumers to buy things.
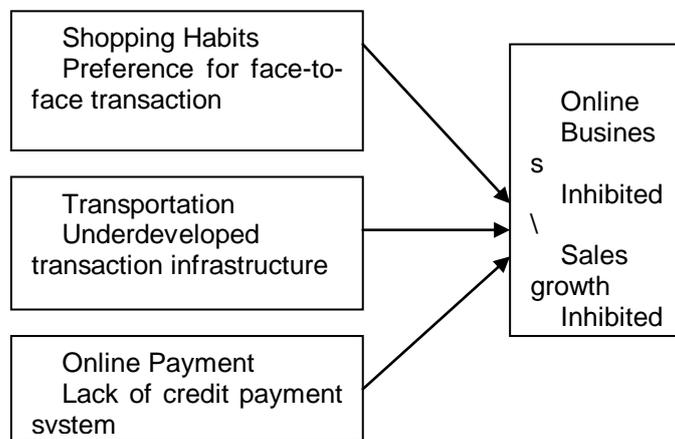

Fig. 1. Barriers to Online Business [source Author]

The challenge confronting Tanzania is to create an ideal market structure for E-Commerce that will stimulate and modernize network development and infrastructure such as currier services; accelerate universal access; support

affordable access; encourage investment and innovation which will mean more business. Because of the critical nature of these issues, government and the business community are faced with the challenges of developing strategies and policies that will strengthen the infrastructure needed to support effective use of e-commerce.

4.1. Study Findings

The study collected and analyzed primary data about existing and prospective inhibitors from customers. The study has investigated six critical factors namely: lack of security, lack of privacy, lack of information, lack of experts, computer illiterates and inappropriate law.

From study undertaken six critical factor identified from questionnaires were able to indicate the sense of barriers to the growth of E-Commerce in Tanzania. Since the number of observations for the study was relatively small, the results provide some general ideas about the directions of the three hypothesized relationships:

I. The current patterns of E-commerce activities may change as E-commerce matures, and Internet infrastructures in many countries are improved (Lynch and Beck, 2001).

III. When products and services are available online and in high demand by other countries, there is a possibility that foreign sales for the products and services would be increased.

III. Internet accessibility in the home country will negatively moderate the relationship between Internet and E-commerce capabilities and the proportion of export sales to total sales of Firms.

Table 2. Model Summary of six E-Commerce implementations factors.

		Lac_of _sec	Lac_of _pri	Lac_of _inf	Lac_of _exp	Comp _ill	Inap _law
N	Valid	200	200	200	200	200	200
Mean		2.9900	2.4500	2.7000	2.8500	2.3500	2.1500
Median		3.0000	2.0000	3.0000	3.0000	2.0000	2.0000
Std.dev		1.1904	1.1904	1.1298	1.1723	.9550	.8551

The mean score of the variable lack of security which is the observations from lowest value to highest value and picking the middle shows that the average people to some extent agree about the fact that it has substantial contribution to the obstacles of E-Commerce. The mean score of the lack of experts, computer illiteracy, and inappropriate laws indicates that the average respondents agreed that these variables have impact on the development of e-commerce in Tanzania.

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5.   Regression Model

Electronic commerce (e-commerce) is a growing field of scholarly research especially in information systems, economics and marketing, but it has received little to no attention in statistics. This is surprising because it arrives with an enormous amount of data and data-related questions and problems[19,20] In light of the special data structures collected from the field survey we analyse these functional data which can play major role in this field through regression models.

In this study, the dependent variable "inefficient e-Commerce" which indicates ineffi_e_Commerce and independent variables were: (a) inappropriate laws indicates as inap_law (b) computer illiteracy indicates as comp_ill, (c) lack of experts indicates as lac_of_exp, (d) lack of infrastructure indicates as lac_of_inf, (e) lack of privacy indicates as lac_of_pri, (f) lack of security indicates as lac_of_sec.

The model summary contains six models. Model 1 refers to the first stage in the hierarchy when only inappropriate law is used as a predictor. Model 2 refers to the second stage in the hierarchy when inappropriate law and computer illiteracy are used as predictors. Model 3 refers to the third stage in the hierarchy when inappropriate law computer illiteracy and lack of expert are used as predictors. Model 4 refers to the fourth stage in the hierarchy when inappropriate law, computer illiteracy, lack of expert, and lack of infrastructure are used as predictors and so on.

In the column labeled R are the values of the multiple correlation coefficients between the predictors and the outcome. When only inappropriate laws is used as predictor, this is the simple correlation between inefficient e-commerce system and inappropriate laws (0.294), when inappropriate laws and computer illiteracy are used as predictors the simple correlation between inappropriate laws and computer illiteracy (0.301) and so on for other predictors.

The next column gives a value of R^2 which is a measure of how much of the variability in the outcome is accounted for by the predictors. For the first model its value is 0.087, which means that inappropriate law as predictor accounts for 8.7 per cent of the variation in the dependent variable inefficient e-commerce. The values of second, third, fourth, fifth, and sixth models increase to 9.1%, 12.4%, 13%, 13.5%, and 16%. The adjusted R^2 gives some idea of how well model generalizes and ideally it would like its values to be the same or very close to the value of R^2. The difference for the final model is a fair bit (0.160-0.134=0.026 or 2.6%). This means that if the model was derived from the population rather than a sample it would account for approximately 2.6% less variance in the outcome. The Durbin-Watson statistic informs about whether the assumption of independent errors is tenable. The closer to that the value is, the better, and for these data the value is 2.011, which is so close to 2 that the assumption has almost certainly been met.

Table 3. Regression Model Summary.

Model	R	R²	Adjusted R square	St. Error of the Estimate	R. Square Change	F. Change	df 1	df 2	Sig. F. Change	Durbin Watson
1	0.294ᵃ	0.087	0.082	0.44018	0.087	18.764	1	198	0	
2	0.301ᵇ	0.091	0.081	0.44033	0.004	0.864	1	197	0.354	
3	0.353ᶜ	0.124	0.111	0.43315	0.034	7.583	1	196	0.006	
4	0.36ᵈ	0.13	0.112	0.43296	0.005	1.174	1	195	0.28	
5	0.368ᵉ	0.135	0.113	0.43263	0.006	1.299	1	194	0.256	
6	0.4ᶠ	0.16	0.134	0.42749	0.025	5.691	1	193	0.018	2.011

a) Predictors: (Constant), inap_law
b) Predictors: (Constant), inap_law, comp_ill
c) Predictors: (Constant), inap_law, comp_ill, lac_of_exp
d) Predictors: (Constant), inap_law, comp_ill, lac_of_exp, lac_of_inf
e) Predictors: (Constant), inap_law, comp_ill, lac_of_exp, lac_of_inf, lac_of_pri
f) Predictors: (Constant), inap_law, comp_ill, lac_of_exp, lac_of_inf, lac_of_pri, lac_of_sec
g) Dependent variable: ineffi_e_Commerce

Where:

R - Values of multiple correlation coefficients, R^2 – Outcome variability, F – Frequency, df- Difference, Sig-Significant

The next part of the output contains an analysis of variance (ANOVA) that test whether the model is significantly better at predicting the outcome than using the mean as a 'best guess'. Specifically, the F-ratio represents the ratio of the improvement in prediction that results from fitting the model (labeled 'Regression in the table'), relative to the inaccuracy that still exists in the model ('Residual' in the table). This table is again split into six sections: one for each model.

The regression model is much greater than the inaccuracy within the model then the value of F will be greater than 1 and SPSS calculates the exact probability of obtaining the value of F by chance. For the initial model the F– ratio is 18.764, which is very unlikely to have happened by chance ($p<.001$). For the second model the value of F is 9.808, which is also highly significant ($p<.001$). The value of F- ratio of third, fourth, and sixth models are 9.285, 7.263, 6.079, and 6.137, which are also highly significant ($p<.001$). we can interpret these results as meaning that the final model may count as significant to predict the outcome variable.

Table 4. Analysis of variance (ANOVA).

Model		Sum of Square	df	Mean Square	F	Sig.
1	Regression	3.636	1	3.636	18.768	.000 a
	Residual	38.364	198	.194		
	Total	42.000	199			
2	Regression	3.803	2	1.902	9.808	.000 b
	Residual	38.197	197	.194		
	Total	42.000	199			
3	Regression	5.226	3	1.742	9.285	.000 c
	Residual	36.774	196	.188		
	Total	42.000	199			
4	Regression	5.446	4	1.362	7.263	.000 d
	Residual	36.554	195	.187		
	Total	42.000	199			
5	Regression	5.689	5	1.138	6.079	.000 e
	Residual	36.311	194	.187		
	Total	42.000	199			
6	Regression	6.729	6	1.122	6.137	.000 f
	Residual	35.271	193	.183		
	Total	42.000	199			
a) Predictors: (Constant), inap_law						
b) Predictors: (Constant), inap_law, comp_ill						
c) Predictors: (Constant), inap_law, comp_ill, lac_of_exp						
d) Predictors: (Constant), inap_law, comp_ill, lac_of_exp, lac_of_inf						
e) Predictors: (Constant), inap_law, comp_ill, lac_of_exp, lac_of_inf, lac_of_pri						
f) Predictors: (Constant), inap_law, comp_ill, lac_of_exp, lac_of_inf, lac_of_pri, lac_of_sec						
g) Dependent variable: inefficient e-Commerce						

The next part of the output is concerned with the parameters of the model. The first step in the hierarchy included inappropriate laws and although these parameters are interesting up to a point, it is more interested in the final model because this includes all predictors that make a significant contribution to predicting relationship between predictors and inefficient E-Commerce in Tanzania. It will actually look only at the lower half of the table (Model 6).

In multiple regressions the model takes the form of an equation that contains a coefficient (b) for each predictor. The first part of the table gives us estimates for these b values and these values indicate the individual contribution of each predictor to the model.

The B values tell us about the relationship between inefficiency and each predictor. If the value is positive it can tell that there is a positive relationship between the predictor and the outcome whereas a negative coefficient represents a negative relationship. For these data predictors have positive b values indicating positive relationships. So we see that the more inappropriate law the more inefficient will be the state of E-Commerce and affect outcome if the effects of all other predictors are held constant.

Table 5. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.360	.084		16.114	.000
	inap_law	.158	.036	.294	4.332	.000
2	(Constant)	1.395	.092		15.119	.000
	inap_law	.184	.046	.342	4.022	.000
	comp_ill	-.038	.041	-.079	-.930	.354
3	(Constant)	1.245	.106		11.768	.000
	inap_law	.183	.045	.340	4.075	.000
	comp_ill	-.065	.041	-.136	-1.578	.116
	lac_of_exp	.076	.027	.193	2.754	.006
4	(Constant)	1.165	.129		9.050	.000
	inap_law	.181	.045	.337	4.027	.000
	comp_ill	-.065	.041	-.135	-1.566	.119
	lac_of_exp	.077	.027	.196	2.794	.006
	lac_of_inf	.029	.027	.073	1.084	.280
5	(Constant)	1.084	.147		7.355	.000
	inap_law	.179	.045	.333	3.985	.000
	comp_ill	-.060	.042	-.125	-1.449	.149
	lac_of_exp	.078	.027	.200	2.849	.005
	lac_of_inf	.024	.028	.059	.867	.387
	lac_of_pri	.035	.031	.078	1.140	.256
6	(Constant)	.988	.151		6.539	.000
	inap_law	.166	.045	.308	3.705	.000
	comp_ill	-.050	.041	-.105	-1.224	.222
	lac_of_exp	.059	.028	.151	2.100	.037
	lac_of_inf	.024	.027	.060	.893	.373
	lac_of_pri	.018	.031	.041	.593	.554
	lac_of_sec	.065	.027	.169	2.386	.018

Each of these B values has an associated standard error indicating to what extent these values would vary across different samples, and these standard errors are used to determine whether or not the *B* value differs significant from zero. Therefore, if the t-test associated with a *B* value is significant (if the value in the column labeled sig. is less than 0.05) then that predictor is making a significant contribution to the model. For this model 6, inappropriate law is equal to (3.705), *sig*<.01, lack of experts is taken as equal to (2.100), sig<.05 and lack of security is equal to (2.386), *sig*<.05 which are all significant predictors of inefficient E-Commerce. From the magnitude of the t-statistics we can see that the inappropriate law had more impact than lack of experts and lack of security.

The standardized beta values (β) are all measured in standard deviation units and so are directly comparable: therefore, they provide a better insight into the 'importance of predictor in the model the standardized beta values for inappropriate laws (.308), computer illiteracy (-.105), lack of experts (.151), lack of infrastructure (.060), lack of privacy (.041) and lack of security (.169).

It reveals except for computer illiteracy all other variables are positive. Therefore, interestingly the computer illiteracy is not a good predictor of inefficiency of e-Commerce in Tanzania.

6.   Recommendation for Solution to the Problems

Since Tanzania is developing country and private organizations are not organized enough to provide with IT infrastructure government should initiate programs to reduce the barriers. Some of recommended initiatives could be establishing a task force at the government level to coordinate the ICT related activities to different stakeholders. As a long-term investment government should invest in basic and higher education to reap the real benefits of ICT [13].

The E-Commerce innovation programme will build capacities in Tanzania to small and medium ICT enterprises to make a business with ICT utilizations. E-commerce innovation aims to encourage the growth of Tanzanian ICT industries and SMEs, particularly in selected regions, Dar-es salaam, Arusha, Mwanza, Morogoro and southern regions through three main actions: Strengthening and improving security models for e-commerce in Tanzania in banking systems, fostering SMEs groups use of ICT and supporting innovative local applications i.e. websites sustainability and Single government institution managed portals development.

An effective telecommunications infrastructure to facilitate export oriented IT services is to be taken as a must at the moment. Government should subsidize utility expenses for IT companies and declare tax holiday for IT and IT education enterprises. Level of English education is to be upgraded to the communication skills of the human resources. Tanzanian skilled diasporas can be encouraged to return to the country and/or collaborate with Tanzanian entrepreneurs.

The growth of e-commerce depends on broad and affordable access to infrastructure, enabled by convergence of technologies, forward looking telecommunications policy, robust network infrastructure, sufficient bandwidth and support for targeted applications. The infrastructure foreseen for e-commerce in Tanzania, against the background of globalization, should be capable of handling many services and applications. The utilizations of telecommunications infrastructure available and the availability of and access to broadband infrastructures will be important in driving the necessary innovation in e-commerce services.

The lack of e-payment system is one of the main hindrances to e-commerce. Most of the IT activities particularly transactions with other countries require e-payment system badly. For example a single Paypal would be a great aid to solve the payment systems problems but surprisingly enough to date Tanzania is not Paypal's list.

E-Commerce is growing for several reasons. Despite many advantages there is a dilemma for vendors to really capture and rip the benefit of it. In

this part of the paper we have outlines simple steps to take to ensure the success of an E- Commerce business:

- Reducing Consumer Reluctance for Online Shopping,
- Careful selection of products to offer in the virtual stores in terms of nature and price of the products,
- Product standardization,
- Educating consumers about the ease and benefits of online shopping,
- Considering the value that the customers consider while delivering goods about the benefits the consumer gets from possessing and using a product and the associated costs for acquiring the product [11],
- Substantially enhancing transaction security and product quality, showing the customers that the company cares and shares about buyers' well-being is instrumental to enhancing customer loyalty [12] and to help them understand that virtual shops are safe and legitimate,
- Building effective distribution channels namely postal service, direct delivery, third party delivery, and alliances with other established companies,
- Removing any obstacles that hinder the effective methods of both online and offline payment systems,
- It is imperative that the WTO support barrier-free e-commerce and the WTO rules and disciplines are applied, and where necessary adapted, to ensure effective execution of e-commerce. Adopting and implementing the WTO Information Technology agreement on financial services and the WTO agreement on basic Telecommunications are essential for international business relating to e-commerce (Worldwide Coalition Calls for WTO Policy Agenda to Enhance Growth of E-Commerce).

6.1.   Suggestions to the Banks and Policy Makers

Although the Tanzania Government and Central Banks has not taken the lead in publishing its position on electronic money, it is proposed that the following issues to be investigated.

- Many countries are currently in the process of adopting "digital cheques" purporting to fulfill the same function as traditional paper based cheques. Tanzanian and central Bank should also find the possibility of applying to and/or regulating to "digital cheques". The Tanzania inability of applying to digital cheques constitutes a material barrier to E-commerce due to the absence of adequate consumer protection and commercial certainty of payment provided. The Banks however should be of the opinion that the use of credit pushes instruments for low value retail payments should be encouraged instead of debit pull instruments. With "credit push" the payer initiates the transfer of funds to the payee whereas the "debit pull" requires the recipient to collect the funds from the payer's bank.
- The Prevention of Counterfeiting of Currency in its current form is incapable of being applied to the "counterfeiting" of electronic money.

- The issuance of electronic money may fall outside the definition of "business of a bank". Accordingly, issuers of electronic money may find themselves "unregulated" and consumers "unprotected". However, only banks would be allowed to issue electronic money from now on. Primary and intermediary issuers of electronic value will therefore be subject to regulation and supervision by the Tanzanian Central Bank. Although single purpose schemes will generally fall outside the definition of electronic money, the Tanzanian Central Bank will determine whether multi-purpose schemes fall within the definition or not.

6.2. Questions for Policy consideration

Section 6.2 of the paper is aimed at policy makers who are involved in the development or management of programmes in the ICT sector in developing countries. It provides a 'snapshot' of the E-Commerce interventions questions that should be considered in the E-Commerce sector development and the policy debates during E-Commerce discussions. It draws from the experience of use in both the North and South of Africa, but with a focus on applicability in Tanzania to identify the most effective and relevant way to reinforce E-Commerce to the country,

1. What steps need to be taken to further upgrade and integrate national financial services infrastructure so as to facilitate E-commerce?
2. How can basic banking services be extended to the broader population, to allow use of electronic payments, credit, and funds transfers?
3. What types of electronic payment systems and technology are most appropriate and practical? How can these be developed effectively on a national level, in co- ordination with international industry efforts?
4. How should the government support these development efforts, both logistically and financially? Which agencies should be responsible? Are these legislative actions that need to be considered?
5. Should non-banking institutions be allowed to issue e-money? How can the Central Bank ensure that such non-banking institutions are licensed, regulated and prudentially secured?

7. Conclusion

Despite a few stumbles, the future is bright for e-commerce. The 20th Century, shaped by the Industrial Revolution, became the age of the automobile and the television. The 21st Century, shaped by the Technological Revolution, is the age of globalization. The Internet massively impacts all aspects of business. In the 21st century, e-business is no longer an option for businesses; it is a necessity.

In the study the authors intended to examine the existing and prospective barriers to e-commerce to the successful operation of e-commerce in

Tanzania and suggest some strategies to overcome these barriers. Companies that market to Tanzania customers on the internet need to devise some unique ways to overcome the constraints that suit indigenous environment.

Today, e-commerce is an ever-expanding consumer industry. For an e-commerce site to succeed it must understand its customers' mindset. Although price is always an issue, it is rarely the primary motivator for buying a product online. Customers are looking for convenience, and/or products they can't find elsewhere. Vendors should not wait until the removal of the current obstacles in the online business environment. The effort is to be exerted towards the development of appropriate e-commerce model that is suitable for the products being marketed. The business model has to encompass the three major factors: attracting potential customers, timely delivery, and comfortable payment methods.

Tanzania is an agricultural country. The country should take the approaches to e-commerce holistically and would exert efforts to the proper utilization of ICT particularly, agricultural e-Commerce.

Small websites that cater to niche markets have the best chance of prospering. That is, as long as you take care to ensure that your customers' shopping experiences aren't marked with too many potholes. The Entrepreneurs can come together to let companies and government know that they won't tolerate the artificial barriers that limit choice and raise prices. They can work with industries, professional associations together and realize the promise of e-commerce and not to blocking it.

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