and

ICTs and Development: Nature of Mobile Phones usage for SMEs Economic Development -An Exploratory Study in Morogoro, Tanzania.

Simon Rwekiza Melchioly

Øystein Sæbø

Mzumbe University - Tanzania

University of Agder, Norway

Abstract:

Small and Medium size Enterprises (SMEs) play a key role in the economic growth of any country. The application of modern Information and Communication Technologies (ICTs) can improve the performance of SME by reducing communication costs. Mobile phones technology has become the mainstream delivery mode due to the widespread reach to a majority of the African population. The mobile technology is considered to have transformative effect on SMEs, with an opportunity to grow through the simplified business information exchange. Still, little is known about the impact and use of mobile technologies by SME's in Tanzania. This exploratory research examines what role the usage of mobile phones play in terms of economic development and entrepreneurial opportunities. Based on the interviews we identify the nature and use of mobile devices reported, and respondents' view on added value concerning economic growth and entrepreneurship. We conclude by proposing some policy recommendations and identifying areas for further research.

Keywords: ICTs, SMEs, Mobile Phones.

1 Introduction

Since in early 1990s there has been a tremendous increase in ICTs usage and especially mobile phones usage by individuals and in businesses in many developing countries as well as in Tanzania. The rapid technological advancement that the world has witnessed in the recent years especially in the electronic industry has also changed the means of production around the world. This can be evidenced in the telecommunications sector where, since the introduction and evolution of the mobile phones, the ways and means of business information transfer have

[Simon Melchioly and Øystein Sæbø: ICTs and Development]

changed leading to more efficiency and productivity in both service and manufacturing sectors (ITU, 1996).

Mobile phones use have created a situation in which users carrying portable devices have access to a shared infrastructure independent of their physical location and which provides them with flexible communication with other people and access to networked services (Ling, 1999). In today's environment, the mobile phone may have socio-economic impact and has become an integral part of the daily lives of individuals as well as in organizations (i.e. SMEs) all over the world. Hence, mobile phones may potentially be an important technology for economic development (ITU, 1996). Mobile phones could offer SMEs the opportunity to grow through the simplified business information exchange, making it easier access customers, goods, services and other economic opportunities.

Despite an increasing awareness in the research literature on the importance of mobile technologies for SMEs in the development context (Heeks, 1999), there is still lack of studies on mobile phones adoption, usage and impact within SMEs in Tanzania as well as in other developing countries. There is a need to explore how their adoption and usage are improving economic development and the extent to which mobile phones usage is practiced within SMEs (Bugeja, 2005). Little is known about the impact of their use on contemporary organizations and enterprises in Tanzania; hence, there is a need to find out whether the mobile phone usage has had a contribution in economic development of SMEs. Tanzania, just like other developing countries, has embraced ICTs in SMEs as the catalyst for development. The need here is to investigate whether the utilization of the mobile phones can result as a key to success of SMEs entrepreneurs. To do so, we conducted an explorative study on the emergence, relevance and applicability of mobile phones in SMEs in Morogoro -Tanzania. The main objective of this research is to explore the role mobile phones usage play in business performances of the SMEs in Morogoro. Moreover, we aim to explore whether there are other opportunities to be acquired by the SMEs entrepreneurs through the use of the mobile phones in their business practices, but also the challenges that go hand in hand to ICTs business applications in general.

The paper is organized as follows. Next we introduce relevant literature in SMEs and mobile technologies, before introducing the case study and research methodology. Then empirical findings are presented and discussed, before discussing implications for practice and further research.

2 SMEs and Mobile Technologies

Information and Communication Technologies (ICTs) are considered today as powerful tools for socio-economic development around the globe. Small and medium sizes enterprises (SMEs) are often regarded to be a major source of productivity and contribute a larger percent of the many companies and firms and also forms a large share of the employment (Nielinger, 2003), being a important factor for social and economic development of the society. The adoption of fixed line or mobile phones allows the SMEs to

[Simon Melchioly and Øystein Sæbø: ICTs and Development]

communicate with its suppliers and customers without having to pay a personal visit to the individual or organization (Cooper & Zmud, 1990).

For SMEs to adopt e-business and e-commerce strategies and tools, benefits must outweigh investment and maintenance costs of the ICTs both in terms of knowledge and infrastructure. Business environment, commercial considerations and potential returns drive the ICTs adoption by the SMEs. Primarily the mobile phone technology and especially the SMS are catching up quickly in Africa and the potential of the technology has been shown by many SMEs and other organisations such as the Kenya Livestock Marketing Council, Malawi Agricultural Commodity Exchange (MACE), Foodnet of Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), Tradenet.biz in West Africa and Pride Africa (King, 2004).

Another example is the partnership between Kenya Agricultural Commodity Exchange (KACE) and Safaricom, which has established a cell phone service called "Kilimo Hotline" which mainly aimed in promoting agricultural products, for trade information through SMS. With this service callers can receive market information on who is selling what, at what price, who is buying; extension messages or place advertisement to buy or sell agricultural commodities through the service. In some villages, farmers have formed partnerships and are sharing cell phones. This is common in almost all the East African region although the significant level needs to be investigated (World Bank, 2006).

In other parts of Africa farmers that subscribe through the telecoms firm can also access real-time information on agricultural and fish prices on their cell phones. For example fishermen in Ghana and elsewhere in Africa are using mobile phones to communicate information on where to fish, weather condition, prices, among others (Davis, 1989). This helps also SMEs that are directly dealing with agro and fish processing to get the important market information through their mobile phones. On the other hand however, the farmers are experiencing challenges with mobile phones due to poor infrastructure such as electricity availability to charge phones batteries and network availability in rural remote areas (UNCTAD, 2004).

Contextual Overview 3

Tanzania is among the underdeveloped countries in the world with a Per capita income in 2004 estimated to be at around US\$290. Despite the economic and developmental challenges, it is noteworthy that Tanzania is politically one and among the most stable countries in Africa. With foreign debt in excess of 80% of GDP in the late 90's, Tanzania was one of the so called Heavily Indebted Poor Countries (HIPC). Due to macroeconomic objectives, the major focus of Tanzanian government policies during 2003/04 as set out in the Poverty Reduction Strategy (PRS) was to promote growth and strengthen poverty reduction policies, while consolidating and maintaining macroeconomic stability. During the period of the year 2000 agriculture accounted for nearly two thirds of GDP and over 80% of the workforce and export earnings (predominantly crops, fishing and livestock). Manufacturing contributes less than 10% to GDP, but growth is quite high relative to other ICT and Development - Research Voices from Africa. International Federation for Information Processing (IFIP), Technical Commission 9 – Relationship Between Computers and Society. Workshop at Makerere University, Uganda. 22-23 March 2010 [Simon Melchioly and Øystein Sæbø: ICTs and Development]

sectors, mainly due to a rapid programme of privatization of state assets under the direction of the Parastatal Sector Reform Commission (PSRC) of Tanzania.

Morogoro is one of the administrative regions in the mainland Tanzania. The capital of the region is also called Morogoro. Morogoro town is situated or lies at the base of the Uluguru Mountains, and is a centre of agriculture in the region, with the Sokoine University of Agriculture based in the city. A number of Non Governmental Organizations and missions are also based in the town, which do provide schools and hospital services. The city is believed to be the commercial and transportation centre for a region; producing sisal, sugar, coffee, and livestock also Tobacco is processed in the region.

4 Methodology

Due to lack of prior research on SMEs and mobile technologies in Tanzania we choose an exploratory qualitative research approach, collecting in-depth information through the interviews and discussions with the lower level employees on one side and the owners/managers of the SMEs on the other side. Exploratory researches are usually employed when one wants to clarify and define the nature of a problem in which later studies can be conducted, which is often the case when it is unclear what characteristics and relations are important regarding the research subject in hand (Emory & Cooper, 1991). The major aim of an exploratory study is to gather and explore as much information as possible regarding a specific subject or research problem, and is designed to identify and initialize a process for problem description and stating the criteria to judge the exploration successfully (Yin, 1994).

During the study 30 interviews were conducted, representing 15 SMEs. As different industry sectors have different needs in terms of technology adoption and usage (Van Akkeren & Cavaye, 1999), five SMEs were chosen in each category i.e. carpentry, metal fabrication and wood carvings. Every SME was represented by the owner/manager of the firm as they make all the management decisions relevant to the enterprise, including technology adoption and usage together with one employee.

The process of choosing the managers/owners was direct because in each SME the incharge person had to be interviewed but for the case of the employees, the choice was done at random. The face-to-face interviews were conducted through the interview guide and the respondents were coded as either manager/owner or employee. During the interviews the researcher wrote the notes from each and every respondent and then later the notes were transcribed into clear statements as the respondents originally gave them. To avoid confusion or miss-understanding some of the respondents' response, the data were transcribed instantly after the interviews. All the notes taken by the researcher were kept for future reference in case of any missing information

[Simon Melchioly and Øystein Sæbø: ICTs and Development]

5 Empirical Findings

Major findings from the exploratory case study can be divided into the categories: communication with suppliers and customers, market solicitation, social cohesion and operation cost reduction.

5.1 Communication with Suppliers and customers

Key economic impacts of the spread and use of mobile phones in business operations in SMEs is indirect, and can be realized through the transformed way in which individuals, businesses and the society in general works, interact and communicate. The simplified way of making the orders through mobile phones has been the impetus behind the success of businesses in SMEs where investment capitals are still very low.

"....one interesting fact is that we can nowadays contact the suppliers if we need some new products....this was not possible before....." (Employee, W, personal communication, 19th December 2008).

Mobile phones provide small businesses with the capability to contact new customers, suppliers or clients as it can be seen above with short period of time.

"....Mobile telecommunication contributes to equity by enabling the disadvantaged, including the poor, isolated rural people, and the disabled, to obtain information that would otherwise be very difficult or impossible to access if it were to rely on the fixed-line phones that in most areas are not expected to be in place soon......"(Employee, M, personal communication, 19th December 2008).

Mobile phones are used more often for keeping in contact with customers and clients compared to any other form of communication in most of the SMEs. During the study it has been found that in all SMEs explored used the mobile phone for this purpose, which means the SMEs used mobile phones either through calling direct or through SMS.

".....indeed since we started using the mobile phone in our business we managed to create a network of customers even in areas far from here..... they are very helpful....no matter how expensive they will be we must use the technology...."(Employee, C, personal communication, 19th December 2008).

The respondents estimates that due to increased mobile connectivity which is taking place since 2005 with more mobile telephony companies opening their branch offices in the research area then the rate of mobile phone usage by SMEs will increase hence to improve access to business information.

".....Today small business owners are used to compare prices of various commodities in nearby markets before selling, this allows them to get fair prices for their products and eliminates the use of local intermediate people who in most cases under pays the producers while making more profits, this also improves their products in response to market demand......" (Owner, M, personal communication, 19th December 2008).

Having knowledge of latest prices in different market places allows the improvement in price transparency for small business owners and entrepreneurs.

".....let us say I want to know the price of tinner.....why should I pay US\$ 5 for travelwhile I can just call......"(Employee, M, personal communication, 19th December 2008).

Mobile phones allows the SMEs owners to avoid the time and expense of a long bus trip or one that gives her information about availability and location of cheap goods but also reduces costs and saves time especially for business owners with very limited economic resources. Products sales can be guaranteed because of the pre information of customers' availability.

5.2 Market Solicitation

During the study it has been found out that the use of mobile phones in small businesses to obtain better prices of their products. Mobile phones are utilized in improving coordination of transportation of the goods from the suppliers and in finding new market places for their products. For example the SMEs in the wood carving category finds markets in the capital city Dar es Salaam through the use of mobile phones and at times they can send the products to Bagamoyo, where there are more tourists.

"... mobile phone helps a lot; some times we call our business partners in Bagamoyo to ask if there are many tourists, and if so we send one of our colleagues with the products and in many cases we happen to sell the entire batch of the products..." (Owner, M, personal communication, 19th December 2008).

The general trend of mobile phones utilization in new markets solicitation was seen to have a mixed picture among the SMEs explored. In the metal fabrication category, all of the SMEs respondents indicate to use the mobiles for the purpose, in the carpentry category many of the SMEs used the mobile phones for market solicitation and in the wood carvings category some of the SMEs used the mobile phones in searching for new markets and customers.

".....but the rate of use depends on many factors....there are issues like costs....."(Employee, M, personal communication, 19th December 2008).

[Simon Melchioly and Øystein Sæbø: ICTs and Development]

".....since we started using the mobile phones we have gained many benefits especially in expanding our market area....."(Owner, M, personal communication, 29th December 2008).

".....we have increased the number of customers outside our area...indeed mobile phones are good in simplifying the business information flow" (Emplyee, M, personal communication, 17^{th} December 2008).

".....even the geographical separation has been reduced due to the utilization of mobile phones...today we sell some of our products in remote areas because of easier communications" (Employee, C, personal communication, 20th December 2008).

The costs of making calls has remained the only problems that hinders the use of mobile phones in SMEs to solicit more markets for their products particularly for those SMEs with smaller financial capital.

".....some times it is expensive to call customers especially when you make calls and you do not reach a deal with the customer....then we are forced at times to just use SMS" (Employee, M, personal communication, 19th December 2008).

5.3 Social cohesion

The study explored how mobile phones are also being used to bring the people together in various social interactions. The findings show that the same mobile phones used for both business and personal/social issues the only difference is the time spent on business and personal communications.

"....in fact it is not easy to separate the use.....at times I find myself in a situation where I have to use the office mobile phone for my personal use....even for family use because at this level running more than one mobile phones it is extremely expensive....Social interactions also are crucial so sometimes there is need to communicate with our loved one....and this is the phone to use...." (Owner, M, personal communication, 18th December 2008).

".....mobile phones are good tools in bringing people together but the nature of use depends much on who is using and for what....they very helpful in businesses as well as for social interactions....."(Employee, M, personal communication, 19th December 2008).

Regardless of the fact that SMEs should strictly use the available resources such as mobile phones for bossiness development but it is again a fact that it is not that much easy to separate completely social interactions from the business arena, and this is the case mostly in developing world; "... you know poverty is a key factor here....so we are forced to use this office mobile for the family issues especially when there is an emergency" (Employee, M, personal communication, 17th December 2008).

5.4 Operational Cost Reduction

Respondents from the SMEs that were explored in three different categories; metal fabrication, carpentry and wood carvings, showed that many of the SMEs in metal fabrication category indicated to have reduced their operations costs as a result of using mobile phones in business communications. The carpentry and wood carvings categories, some of the respondents within the SMEs indicated to have reduced operations costs through the use of mobile phones.

".....much of the work which had to involve travelling have been reduced as someone can just inquire the information through the phone....." (Employee, M, personal communication, 18th December 2008).

".....price information is available just in your fingers..... so what you need to do is to request the required information from other partners who are closer to the markets...." (Employee, C, personal communication, 17th December 2008).

Apart from the transportation costs, the time that was being spent in finding the markets, goods and raw materials is now utilized in production and hence increasing productivity within the SMEs. Asked whether the use of mobile phones has an impact in reducing operations costs, one respondent replied:

"... in fact mobile phones have helped a lot in reducing the operations costs... because if I want to know the prices of goods from Dar es Salaam I just call or even send an SMSin doing so I will have saved twelve thousand shillings.....in reality these mobile phones have helped much in simplifying things....."(Owner, M, personal communication, 20th December 2008).

[Simon Melchioly and Øystein Sæbø: ICTs and Development]

6 Discussion

In the following section our empirical findings are analyze and discussed towards previous studies and current knowledge in the research area.

6.1 Communication with Suppliers and customers

The mobile phone can act as the 'gatherer and disseminator's of information for microentrepreneurs. The findings showed that most SMEs in the region are using the mobile phones for communicating with suppliers and the nature of use depended much on the economic capability of the individual SME (Donaghue, 2004).

The findings explored the apparent conundrum on the expected responsiveness in the adoption of the mobile phone as an economic and entrepreneurship enabling tool, against the commonly belief that the mobile phone only contributes little to business building for the small business enterprises (SMEs). It has been demonstrated that the mobile phone is regarded as a catalyst for productivity, networking and information gathering tool in the SMEs, minimizing the need for travel or to have face-to-face meeting to complete a business deal (Romano, 1990). Mobile phones provide small businesses with the capability to contact new customers, suppliers or clients as it explained above, with short period of time. Mobile telecommunication contributes to equity by enabling the disadvantaged, including the poor, isolated rural people, and the disabled, to obtain information that would otherwise be very difficult or impossible to access if it were to rely on the fixed-line phones that in most areas are not expected to be in place soon.

The findings underscore the important role of mobile phones in maintaining customer relationships are important for the survival of the business in this era of information and communication technologies. Mobile phones are used more often for keeping in contact with customers and clients compared to any other form of communication. The mobile phones telecommunication can be substituted for travel, resulting in significant savings in personnel time and travel costs.

We therefore tend to believe that mobile phones usage in SMEs is crucial for the betterment of the economic performance of the SMEs and the society in general. Other facts remain unchanged that: although it is tempting to assume high levels of mobile phones use in expanding SMEs, it can be difficult to separate the effects of new technology use from other factors and it should be understood that all fast-growing SMEs are not necessarily high mobile phone users in their business (Locke, 2004). Therefore success of the SMEs in their businesses as the return of mobile phones usage will depend primarily on the continual perception that mobile phones are better economic enabling tools.

[Simon Melchioly and Øystein Sæbø: ICTs and Development]

6.2 Market Solicitation

Poor transportation links between urban and rural areas prevent businesses from accessing information that is becoming increasingly important in the production and marketing of commodities. Today, with mobile phones, rural communities and small businesses once separated geographically and time wise has developed new virtual relationships uninhibited by conventional notions of distance and road or railway transportation links. Among the economic benefits of mobile phones is the opportunity the technology offers for producers to track price information and gaining new marketing opportunities. Increased mobile connectivity improves access to information (Vodafone, 2005).

As the findings indicated, the use of mobile phones helps SMEs to obtain better prices of their products. Mobile phones are used to improve coordination of transportation of the goods from the suppliers and in finding new market places for their products. Moreover, timely delivery of information on current market prices is critical for high value perishable agricultural products such as fresh fish, fruit and flowers. Improved coordination of transportation is also important in the marketing of perishable products (Saunders et al, 1994). As for the case of SMEs in Morogoro, the sales revenue of most SMEs increased as the result of mobile phones usage, this indicates that mobile phones use by SMEs in business transactions have a positive impact.

The costs of making calls have remained an inhibitor that hinders the use of mobile phones in SMEs to solicit more markets for their products. But in general the SMEs' owners were able to use the mobile phones to search for new markets and the above results shows the level of achievement. Many SMEs operators has realized the benefits of using mobile phones in reducing information asymmetry in which they have gained higher returns in producing for the local markets as well as to the external markets.

6.3 Social cohesion

Social cohesion can be defined as "an instantiated informal norm that promotes cooperation between two or more individuals. The mobile phones are used to bring people together in various social interactions. The findings showed that the same mobile phones used for both business and personal/social issues the only difference is the time spent on business and personal communications. It has been pointed out that initially the mobile phone serves as a tool for business management but as the times goes on mobile phones serve as a tool for social connection, in other words, managing social relationships (Bugeja, 2005). It is not possible to understand the use of mobile technologies in SMEs strictly from a business perspective, without considering the social interaction, since these two parts are highly intervened.

[Simon Melchioly and Øystein Sæbø: ICTs and Development]

6.4 Operational Cost Reduction

Within the explored SMEs it has been revealed that one of the advantages they gained through the use of mobiles is the reduction of transportation costs, this leads to household expenditure drops and consumer surplus increase. Based on the finding described in the previous sections, improvements in the information flows through the use of mobile phones between buyers and sellers allow for the efficient trading of information without the travelling. This is particularly significant and extremely crucial in rural areas where business men and women would have needed to travel to urban areas to check for demand and negotiate on price, all these business issues are now conducted on the mobile phone. Moreover, in certain circumstances, mobile phones can allow the 'middle man' to be cut out (Jenson, 2001).

Economic activities in the research area depends heavily upon agriculture and the extraction and processing of natural resources for development, therefore distance from markets where the goods are sold has traditionally been an obstacle for entrepreneurs to access business information. Poor transportation links between urban and rural areas prevent SMEs operators from accessing information that is becoming increasingly important in the production and marketing of products (Donner, 2004). The utilization of mobile phones offer promising opportunities for producers and retail sellers to track price information, both in rural as well as urban areas.

Productivity gains from the utilization of mobile phones can also be substantial for reducing operations costs and improving revenue. This can be realized through a range of factors, e.g., the number of workers reliant on a mobile phone and the revenue or time savings that making use of mobile phone may come up with. Mobile phones may reduce the cost of operating and starting up businesses. Improvements in the information flows between buyers and sellers, allow for the exchange of information without travelling and this is the major step that is being utilised by the SMEs in the research area to reduce the operations costs (Deloitte, 2008).

7 Conclusions

The exploratory case unveils a rather optimistic picture of the potential impacts mobile phones may have for SMEs in Morogoro, Tanzania. The research findings show that many respondents in SMEs in the research area claimed to have improved their economic efficiency as a result of using mobile phones in business operations and they also claimed that this was possible due to the subsequent free flows of business information. Research findings also indicated that utilization of mobile phones by SMEs enhanced productivity and economic growth within the SMEs. Mobile phones seemed to have become powerful enablers for the SMEs, whose impact can range from enhanced financial transactions, wealth generation and its distribution due to the simplified information flows.

It is always believed that changes are inevitable especially with the introduction of new technologies that are of massive sizes in terms of infrastructure, investments, ICT and Development - Research Voices from Africa. International Federation for Information Processing (IFIP), Technical Commission 9 – Relationship Between Computers and Society. Workshop at Makerere University, Uganda. 22-23 March 2010 [Simon Melchioly and Øystein Sæbø: ICTs and Development]

businesses, and employment amongst others. Mobile telephony is an example of such new technology, one that is continuously representing more added-value to individuals and organizations rather than functioning as a simple communication device. Mobile telephony in Tanzania has offered access to people, goods, and services, and has led to economic opportunities on a scale that is regularly increasing promising changes in the way business is being developed and conducted. The impact of the nature of use of the mobile phones will be governed by the economic stability and level literacy in respective SMEs.

The reported case study increases our empirical understanding of the use of mobile technologies by SMEs in Tanzania. More research is clearly needed to further expand our understanding of enablers, inhibitors and potential impact such use may have. Based on our explorative study, quantitative studies could be designed and conducted, as well as comparative studies to further understand the importance of contextual elements.

8 References

Bugeja, M. (2005) "Interpersonal divide", New York, NY: Oxford University Press.

- Cooper R.B and Zmud R.W. (1990) "Information Technology Implementation Research: A Technological Diffusion Approach", Management Science, 36(2):123-139.
- Davis F. D (1989) "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology", MIS Quarterly, 13:319-340.
- Deloitte & Touche LLP (2007) "Economic Impact of Mobile in Bangladesh, Malaysia, Pakistan, Serbia, Thailand & Ukraine"
- Donaghue, K. (2004) "Microfinance in the Asia Pacific", Asian-Pacific Economic Literature, 18 (1), 41-61, May 2004.
- Donner, J. (2004) "Micro-entrepreneurs and Mobiles: An Exploration of the Uses of Mobile Phones by Small Business Owners in Rwanda", Information Technologies and International Development, no. 1: 1–21.
- Emory, C. W. & Cooper, C. R. (1991) "Business Research Methods", (4th ed.), Homewood, Illinois, USA.
- Heeks, R. (1999) "Information and Communication Technologies, Poverty and Development", The Development Informatics working paper series, Institute for Development Policy and Management, University of Manchester, Manchester
- ITU, (2006) "World Telecommunication/ICT Development Report 2006: Measuring ICT for Social and Economic Development", <u>http://www.itu.int/ITU-</u> <u>D/ict/publications/wtdr_06/index.html</u> [accessed on 28 December 2008]

- Jenson, R. (2001) "Information, Market Performance and the Well-Being of the Poor: Evidence from South Indian Fisheries", Harvard University (working paper)
- King, B M. (2004) "Text messaging empowers Kenyan farmers", from <u>http://www.interaction.org/ict/success_text_Kenya.html</u> [Accessed January 30, 2009,]
- Ling, R. (1999) "Restaurants, mobile phones and bad manners: New technology and the shifting of social boundaries", Human Factors in Telecommunications, 17th International Symposium. Copenhagen, Denmark.
- Locke, S. (2004) "ICT Adoption and SME Growth in New Zealand", Journal of American Academy of Business, March 2004:93-102
- Nielinger, O. (2003) "Fact Sheet: ICT-utilisation of Small and Medium Enterprises (SME) in Tanzania", April 2003, <u>http://www.ourtanzania.com/smes%20ICT%20utilisation.pdf</u>, [accessed 21/03/2008]
- Romano, C A. (1990) "Identifying Factors Which Influence Product Innovation: A Case Study Approach", Journal of Management Studies, 27 (1), 75-95.
- Saunders et al (1994) "Telecommunications and Economic Development", 2nd ed., Baltimore: Johns Hopkins University Press.
- UNCTAD (2004) "ICT as an Enabler for Growth, Development and Competitiveness", Plenary session, June 17, [online], http://www.unctadxi.org/templates/Event 69.aspx [13 March 2008]
- Van Akkeren, J. K. & Cavaye, A. L. M. (1999) "Factors affecting entry-level interact adoption by SMEs: An empirical study", Proceedings of the Australasian Conference in Information Systems, 2, 1716-1728.
- Vodafone (2005) "Africa The Impact of Mobile Phones", Vodafone Policy Paper Series, Number 3, March 2005.
- Vodafone (2005) "Africa The Impact of Mobile Phones", Vodafone Policy Paper Series, Number 3, March 2005.
- Yin, R. K. (1994) "Case Study Research Design and methods", 2nd edition, Applied Social Research Methods Series, Volume 5, Sage Publications Inc., Thousand Oaks,
- World Bank (2006) "Financing Information and Communication Infrastructure needs in Developing World", Washington, World Bank