



Researching the adoption of ICT in Ethiopia: a case study of small hotels in Addis Ababa

Researching the adoption of ICT in Ethiopia

Wegene Demeke and Anthony Olden

519

School of Computing and Technology, University of West London, London, UK

Abstract

Purpose – The purpose of this paper is to analyse the difficulties encountered when researching the adoption of information and communications technology (ICT) by small hotels in Addis Ababa, Ethiopia, and to indicate how some of these difficulties were overcome.

Design/methodology/approach – The background and theoretical framework of the research project is described, and the research difficulties analysed in the context of the literature and of experience elsewhere in Africa. Issues such as informed consent are considered from different cultural perspectives.

Findings – The conclusion is that an understanding of the political, economic and cultural context is essential to the carrying-out of a successful research project in Ethiopia, and that these same factors are likely to have a major influence on the diffusion of ICT within the country.

Practical implications – An Ethiopian case study is of particular interest because unlike Tanzania, Kenya and much of the rest of Africa, the country's telecommunications industry remains in government hands, a broadband connection is very expensive, and the percentage of Ethiopians using the internet is very small – no more than 0.75 percent of the population in 2010 according to the figures of the International Telecommunication Union.

Originality/value – Little has been written about small hotels and other small and micro businesses in Addis Ababa, and little or nothing about the setbacks that can occur when researching them. This paper fills some of the gaps in the literature.

Keywords Research process, Information and communication technology, Small and micro-size business enterprises, Hotels, Ethiopia, Small to medium-sized enterprises, Hospitality services

Paper type Research paper

Introduction

Approximately 3 million out of Ethiopia's estimated population of 80 million live in Addis Ababa, capital of the one country in Africa that managed to escape European colonisation apart from five years (1936-1941) under Benito Mussolini's Italy. Today Addis Ababa hosts the headquarters of the African Union. ICT service is concentrated in the capital: 60 per cent of the country's telephone subscribers and 79 per cent of its broadband customers. Although the information and communication technology (ICT) industry has been liberalised in much of Africa, the Ethiopian Telecommunication Corporation (ETC) remains its country's sole provider.

According to International Telecommunication Union (ITU) statistics, Ethiopia had over 900,000 fixed telephone lines in 2010. As elsewhere in Africa, mobile telephone usage is increasing at an enormous rate: from 1.95 million subscribers in 2008 to 4.05 million in 2009 to 6.85 million in 2010. According to the ITU 8.26 per 100 inhabitants have a mobile cellular subscription. This may seem impressive until one looks up the



ITU figures for other countries in Eastern Africa: Tanzania has 46.8 subscribers per 100 inhabitants, while Kenya has 61.63. The percentage of people using the internet in Ethiopia is tiny (0.75 per cent) by comparison with the others: Tanzania (11 per cent) and Kenya (25.9 per cent) (ITU, 2012).

ICT's role in development and poverty reduction

National and international organisations have identified ICT's role for development and poverty reduction. The United Nations (UN) recognises this and passed resolution 56/258 (United Nations, 2001):

Information and communication technologies are among the critical determinants for creating a global knowledge-based economy, accelerating growth, raising competitiveness, promoting sustainable development, eradicating poverty and facilitating the effective integration of all countries into the global economy.

The World Summit on the Information Society (WSIS) (2003) declared its desire and commitment:

To build a people-centred, inclusive and development-oriented Information society, where everyone can create, access, utilise, and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights.

WSIS identified ICT as important in meeting the Millennium Development Goals (MDGs), which have the aim of halving poverty by 2015. It particularly identified the potential of ICT to generate employment in the developing world (UN, 2001). It also identified ICT as a tool for increasing human resource capacity. Ethiopia participated in both the 2003 and the 2005 WSIS summit conferences. Ethiopia had a five-year *Plan for Accelerated and Sustained Development to End Poverty* (PASDEP) for the period 2005/2006-2009/2010. This stipulated that ICT play a critical role to promote growth and reduce poverty (UNESCO, 2007). The ICT strategy identified five elements:

- (1) promoting human resource development in the ICT field;
- (2) mainstreaming the use of ICT in all sectors of the economy, in the administration of government, and in the education system;
- (3) developing the necessary telecommunication infrastructure;
- (4) promoting research and development through ICT; and
- (5) creating and enabling the legal and regulatory framework.

The New Partnership for Africa's Development (NEPAD) is an initiative instituted by the African Union. It identified ICT as having the potential to reduce poverty and bring about sustainable growth and development for Sub-Saharan Africa. It formed an e-Africa programme with the task of developing policies, strategies and programmes on a continent-wide base (Nepad, 2009). One programme is to connect 20 African countries with a broadband network, with a view to providing further integration of the continent and facilitating more ICT use for development and poverty reduction.

Research on ICT diffusion in Ethiopia

An exploratory field visit was made to Addis Ababa in 2009 (two more visits have taken place since then) to get a sense of the extent of ICT use by different sectors of the economy and to find out how much research was conducted. At Addis Ababa University both the Economics and Informatics departments were visited, including their libraries. No significant study appears to have been conducted in either department on the adoption of ICT in small and micro-size business enterprises (SMBEs). The Forum for Social Studies and the Ethiopian Telecommunication Institute were also visited. The result was the same: no significant studies on the diffusion of ICT in SMBEs. However, in the Ethiopian Telecommunication Institute there are some studies on the distribution of internet use by companies. In addition, secondary data were collected from the Ethiopian Telecommunication Corporation and the Ethiopian Central Statistics Agency.

Theoretical framework

There are several models explaining the diffusion of technology in society. Rogers' diffusion of innovation theory is used in this investigation. According to Rogers diffusion of innovation is a social process whereby new ideas or practices are communicated through certain channels to a particular social group through time, and as a result the innovation is adopted or rejected by individuals or organisations (Rogers, 2003). The main four concepts of the theory are the innovation itself, the communication channel, time and the social system. The innovation characteristics that determine the rate of the diffusion adoption are its relative advantage, compatibility, complexity, trialability, and observability.

The limitations of this theory (first published in 1962) were noted as early as 1971, especially its bias towards pro-innovation stance: that the assumption of new innovations have positive outcomes and need to be diffused and adopted by all members of the social groups (Rogers and Shoemaker, 1971).

Despite its limitations, the theory is more robust in explaining the adoption/rejection of ICT systems than any other. The suitability of the theory and its application and use in diffusion studies in different academic fields such as economics, sociology, communication, education, public health, marketing and geography shows its strength. Rogers develops his theory of diffusion in different socio-economic settings when compared to developing countries. However, he argues that innovation diffusion researchers in developing countries should focus on equity (Rogers, 2003). Many African researchers agree that more emphasis need to be given to equity rather than to diffusion study (Kiplang'at and Ocholla, 2005). It is not ICT as an innovation that matters, rather, it is the socio-economic factors compounded by human resource capacity, politics and culture that has the great effect on the diffusion process. Furthermore, Kiplang'at and Ocholla emphasise the need for further study on the effects of these factors for the diffusion of ICT in developing countries. In addition to their work on the diffusion of agricultural research in Kenya there is a study on the diffusion of ICT in Library and Information Science education in Sub-Saharan Africa (Minishi-Majanja, 2007).

Problem for investigation and research questions

According to Patricof and Sunderland (2006), small- and micro-size business enterprises are the engines of wealth creation in both developing and developed countries. If ICT does have a role in development and poverty reduction, what impact is it having on SMBEs in

Addis Ababa? Why is its diffusion so limited? There is a gap in our knowledge here, and this investigation aims to gather, analyse and interpret data from one particular sector (small hotels) that will go towards filling it. The main research question is:

RQ1. What is the relationship between political, economic, and social factors and the adoption and use of ICT by the small hotel sector in Addis Ababa?

Subsidiary research questions include:

- What factors in Ethiopia influence the diffusion of ICT?
- What impact do local ICT policies have?
- What economic factors are holding back the adopters in the small hotel sector?
- What are the facilitating and resistance agents?

Research design

A preliminary list was prepared of the likely main stakeholders in adopting ICT in Addis Ababa. During the exploratory fieldwork in 2009 the following were visited:

- Ethiopian Telecommunication Corporation.
- Ministry of Culture and Tourism.
- ICT for Development Agency.
- Ministry of Finance and Development.
- Central Statistical Agency.
- Micro and Small Enterprise Development Agency.

The aims were to get a sense of the impact the stakeholders have on ICT diffusion, to find out how willing the organisations would be to participate in the research, and to form personal contacts. Although some organisations did provide secondary data it proved extremely difficult to secure interviews: a foretaste of problems to come. Small- and micro-size business enterprises from different sectors of the economy were also visited:

- manufacturing (five);
- retail (four);
- hotels (five);
- tourism (four); and
- education (three).

There was a notable difference in the level of cooperation between private and public sectors: getting the public sector to collaborate in the research proved challenging, although some public organisations provided limited cooperation. The private sector was much more helpful. The exploratory field visit indicated that the use of ICT in Ethiopia was very limited, and that variations occurred from sector to sector.

The following criteria were used to help determine the sector(s) to be included in the research:

- the likely cooperation of key informants in organisations;
- the adoption and use of ICT in the sector, particularly mobile phones, computers, and internet and wireless systems;

- the use of applications requiring adoption of ICT systems that support the business, for example accounting and payroll; and
- a population that includes non-adopters of ICT in their businesses, in order to get an insight into resistance factors.

Why the small hotel sector? Obviously Addis Ababa has a Hilton and other prestigious and expensive luxury hotels in which well-off tourists and senior African diplomats stay. These hotels have the best ICT that the country can provide, because their guests are used to high standards and expect them. However, over 70 per cent of Ethiopians are trapped in poverty, and Ethiopians visiting their capital city, if not staying with friends or relatives, want somewhere more affordable, even those who are getting their expenses paid. Many small hotels are privately owned, and the sector's adoption and use of ICT was found to be higher than that of other privately owned and run small and micro-size business enterprises. In addition, it seemed likely that there would be sufficient participants to survey.

The doctoral research on which this paper is based is not yet complete, and its findings will be published later. This particular paper looks at the difficulties that the research encountered in the view that such a discussion is likely to interest others conducting research in Ethiopia and elsewhere. As the first author is Ethiopian by background, and an Amharic speaker, the magnitude of these difficulties was not anticipated.

Government monopolies and control

Successive Ethiopian governments have kept major organisations under public ownership, including telecommunications, electricity, airlines and shipping services. Their profits go directly to the government treasury. As a result of their monopoly these organisations become very powerful and are able to set expensive tariffs and provide poor customer service. At one stage in Ethiopia the price of broadband service was the second most expensive in the world. Interruption of the telephone system is a regular occurrence and this is also true for electric power. Through hoteliers pay their monthly subscription for the broadband system, there were times that there is no broadband service, as a result of a fault. This can last a week or two. No refund is provided by the telecom operator, nor is there demand for one from the hoteliers. Rectifying telephone faults can take months. As one frustrated hotelier commented:

When the telephone lines start giving out a cracking noise, it is a sign that the telecommunications manhole down the road is filling up the water. If the water is not pumped out then service interruption will occur. I send my staff to pump out the water from the manhole. The pump cost me around 7,000 birr (approximately £350 Sterling).

Internet service is critical for the operation of hotels. Without the internet customers will check out and move to the next hotel, where they can get access.

Most hotels are required to use the same software (C-net) by the government, the exceptions being luxury ones such as the Hilton and the Sheraton. Even in small coffee houses the till system is connected to the government tax office, so that a transaction as small as the purchase of a cup of coffee is recorded for value added tax purposes. The authorities know exactly how much money goes into the tills. If foreign hotel guests pay the bill in foreign currency this goes to the government and the hotel will receive

the equivalent in local currency. If a till stops working and the fault is not reported immediately to the authorities the outcome could be prison.

The research process: setbacks and successes

Government organisations

As mentioned above, attempts to interview staff of government departments and government-run organisations were unsuccessful. There is fear that the opinion of the participant may be taken as a criticism of the government, and that this could result in the loss of employment or some other undesirable consequence. Although the research was an assessment of the organisation, by implication it was taken to be an assessment of the participant. Managers generally referred the request for an interview to a more senior manager, although the researcher was asked to liaise with the public relations officer in some instances. Such “gatekeepers” allow what they think is appropriate or do not allow it if they think the result will be negative publicity for the organisation.

Strategies used by managers to deny access included trying to dictate what the interview should focus on: “only operational matters of the ICT issues of the organisation. If you want to conduct [an interview] on issues of ICT policy then you have to go to the Minister’s office”. Some managers stated that they would co-operate and facilitate the interview, and will telephone the researcher after arranging appointments with more senior managers. However the arrangement was never made and the response to repeated requests was always the same: we will contact you in due course. They never did. Other managers made demands on the researcher that were impossible to fulfil. In one particular case the researcher was requested to bring a letter of endorsement from the British Embassy in Addis Ababa, as well as one from Ethiopian Embassy in London. This was in addition to providing a copy of the researcher’s passport, address in the UK, a list of the research questions, a report on the aims of the proposed interview, and ultimately a copy of the final thesis. Other managers simply refused to participate at all.

The reluctance to participate was not limited to government organisations, but also occurred in a number of private ones. Free expression is limited, particularly if it is considered to be a criticism of the government. Opinions and comments can be taken out of their context and can result in termination of employment or in the worst case being sent to prison. For this reason many government employees avoid participation in research. Furthermore, it is difficult to know how one’s opinion might be judged by government officials in changing circumstances.

Hotels

All financial institutions, private hotels, tour operators, and travel agencies in Ethiopia were nationalised in 1979 by the military government in power at the time. The Ministry of Cultures and Sport still owns and operates the majority of these hotels. When the hotel managers were approached for interviews the researcher was asked to get a letter of endorsement from the Ministry. But amongst other things the Ministry wanted the names of the intended participants before issuing the letter. This had ethical implications (it compromised anonymity for one thing), and it was clear that a change of direction was required if enough data was to be collected.

Some private hotels were built in the years after the fall of the military government in 1991. Aware that owners and managers of private hotels would be more accommodating,

contact was initiated in advance of another fieldwork visit to Addis Ababa. A total of 55 hotel e-mail addresses and telephone numbers were gathered from travel guidebooks, the web sites of international organisations (ones running seminars and meetings in Addis Ababa), Yellow Page directories, and from the hotels' own web sites.

In total, 55 e-mails went to owner/managers of hotels requesting an interview, but just four replies were received. The researcher then made a number of telephone calls to hotels to speak to the owners/managers. Even though he speaks the local language, Amharic, this did not result in any participants either.

After travelling to Addis Ababa, the researcher visited hotels in person. As a result 29 managers/owners agreed to be interviewed, one declined. One of the managers who agreed remarked that that he had received the e-mail request two months earlier. He went back to his office and returned after a few minutes and said that he had just replied to it! Thus, face-to-face approaches were found to be most effective in convincing potential interviewees. On the other hand, managers/owners do not have regular working hours when they can be found in their offices. Furthermore, diaries are not much used. It often took two, three or more visits before the interview took place. Not everyone who agreed to participate in an interview actually did so because of personal commitments, or simply because they changed their mind. In one particular case three meetings were arranged: at the first the manager did not turn up, at the second he said he did not have the 30 minutes to spare, and at the third he again failed to turn up.

Locating the premises

In the exploratory visit the researcher went to the Micro and Small Business Development Agency, the Ethiopian Central Statistics Agency, and the Chamber of Commerce of Addis Ababa to gain the number and distribution of small and micro-size business enterprises by sector in Addis Ababa. The Chamber of Commerce had 6,000 registered members. In Addis Ketema (sub-city administration) there are 15,000 registered traders. However, these lists are rarely up-to-date or accurate (Curran and Blackburn, 2001).

The Ministry of Trade and Industry and the Ministry of Culture and Tourism were approached to get the size of the hotels and associated businesses. The data from the former's lists provide the business owner's name and address, and the year in which the licence was renewed. However, the data did not show the business name or the business address. Furthermore, the data also shows that 25 per cent of the businesses on the list had not renewed their licenses for the last six years. Therefore, it was difficult to establish if the business was still operational. Obviously, lists of businesses and their physical location are essential if one is to collect data. The available map from the Ethiopian Mapping Agency (EMA) did not provide a detailed location map by house number. The level of detail on the map is limited to the demarcation of the sub-cities administration level. To locate a particular business physically, even if one has the full address, requires assistance from the local administration office that has knowledge of the house numbering layout. In most cases addresses are given with reference to distinguishable landmarks. To take a large luxury hotel as an example, directions to the Hilton are listed on its web site as follows:

From Bole International Airport, head north for Africa Avenue, then turn right towards St Stefanos Church and right again onto Menelik II Avenue. The Hilton Addis Ababa hotel is opposite the Ministry of Foreign Affairs (Hilton, 2012).

Ethical issues

Ethical standards must be applied to research, but processes such as the securing of written consent are not necessarily appropriate for all survey populations, for example for refugees or for residents of countries such as Ethiopia, where there is a high level of significance attached to the signing of a document. A request for a signature can imply that a low-level of trust exists between the parties. In exceptional circumstances it can even imply that there are ulterior motives, such as that one of the parties might benefit from the document in the future. Handing out consent forms is culturally questionable and is likely to create a state of distrust between the researcher and the potential participant. An Ethiopian may be taking some level of risk by participating in research. To minimise the risk, and to maximise the contribution to the research, trust between participant and researcher is essential. The nature of the topic, the participant's own background and experience of the world, and his or her face-to-face assessment of the researcher will all come together in a decision to participate or not. E-mails and telephone calls from London – even in Amharic – will not suffice, nor will the distribution of consent forms for signing.

Consent forms are an indication that an individual is participating in research of his or her own free will. They protect those who are under study, but they also protect the researcher and the researcher's employer. Israel and Hay (2006) argue that the strict application of informed consent, which is mainly designed for biomedical research, is not applicable for all social science research. Murphy and Dingwall (2007), writing about the conduct of ethnographic research in healthcare settings, argue that the nature of risks for participants is very low when compared with biomedical research. They maintain that "informed consent in ethnography is neither achievable nor demonstrable in the terms set by anticipatory regulatory regimes that take clinical research or biomedical experimentation as their paradigm cases" (Murphy and Dingwall, 2007, p. 2225). Surveying owners and managers of small hotels in Ethiopia differs from conducting ethnographic research in hospital wards or out-patient clinics in the UK, but the same reservations about biomedical-type informed consent apply. Two experienced Ethiopian researchers were consulted for a local perspective on the place of informed consent in non-biomedical research. In their opinion consent forms showed a lack of sensitivity and created tension between researcher and participant, the usual result being that the participant opts out. Also, they believed that there was a hypocritical element to such forms: they exist more for the protection of Western researchers and research institutions than for the protection of the Ethiopians under study. In the interviews conducted for this project, participants were given full details of the research and gave verbal consent for their participation.

Conclusion

All research projects encounter obstacles, but some are more daunting than others. Research with refugees, for example, presents "a unique set of methodological problems" according to Bloch (1999, p. 380). Olden (1999) got no responses when he wrote to the numerous Somali refugee associations in London, just as this research project got none from the 55 e-mails sent to small hotels in Addis Ababa. An e-mail survey would never have worked for this project. Indeed, some participants refused to allow their interviews to be audio-recorded: "I do not know what you are going to use it for [even though this had been explained]. What if the recording falls into other people's hands? I do not believe it will be secure and I do not want to take the risk".

Certain countries present difficulties for non-nationals, or indeed for their own nationals who have resided elsewhere for some time. The Soviet Union was not a welcoming destination for US researchers during the Cold War. African countries are often understandably wary of researchers (particularly foreign researchers) investigating sensitive topics. Research clearance at national level may be required, for nationals as well as for foreigners. The Tanzania Commission for Science and Technology is the relevant body in Tanzania, and a formal application has to be made and a fee paid. A link with a local university or other research institute is often required in Africa, together with a topic that the country considers relevant to its development, evidence that research skills will be passed on to locals, and an undertaking that regular reports on work in progress will be made and copies of the final doctoral thesis, research report or publications deposited.

Cultural awareness and sensitivity are crucial for the successful conduct of research in Africa, and even insiders who ought to know better can make errors and face setbacks at times. In the 1960s and 1970s some US academics believed that the approaches that had proved so successful in the sciences could be replicated in other disciplines (Goldhor, 1972), and that the steps that had made their country so wealthy were the steps that other countries must follow. Such naiveté is long gone, but even today some Western academics believe that “one size fits all” and that the appropriate size is the Western one. Researching in Ethiopia would seem to indicate that this is not the case, and we hope that a sharing of our Addis Ababa research experience will be of interest to others.

References

- Bloch, A. (1999), “Carrying out a survey of refugees: some methodological considerations and guidelines”, *Journal of Refugee Studies*, Vol. 12 No. 4, pp. 367-83.
- Curran, J. and Blackburn, R.A. (2001), *Researching the Small Enterprise*, Sage, London.
- Goldhor, H. (1972), *An Introduction to Scientific Research in Librarianship*, University of Illinois, Graduate School of Library Science, Urbana, IL.
- International Telecommunication Union (2012), “Key 2000-2010 country data”, available at: www.itu.int/ITU-D/ict/statistics/ (accessed 30 May 2012).
- Israel, M. and Hay, I. (2006), *Research Ethics for Social Scientists*, Sage, London.
- Kiplang’at, J. and Ocholla, D.N. (2005), “Diffusion of information and communication technologies in communication of agricultural information among agricultural researchers and extension workers in Kenya”, *South African Journal of Library & Information Science*, Vol. 71 No. 3, pp. 234-46.
- Minishi-Majanja, M.K. (2007), “Integrating ICTs in LIS education in sub-Saharan Africa”, paper presented at the 73rd World Library and Information Congress (IFLA), Durban, 19-23 August.
- Murphy, E. and Dingwall, R. (2007), “Informed consent, anticipatory regulation and ethnographic practice”, *Social Science & Medicine*, Vol. 65 No. 11, pp. 2223-34.
- Nepad (2009), “NEPAD e-Africa Programme”, available at: <http://nepad.org/regional/integrationandinfrastructure/infrastructure/ict> (accessed 10 May 2009).
- Olden, A. (1999), “Somali refugees in London: oral culture in a Western information environment”, *Libri*, Vol. 49 No. 4, pp. 212-24.

Patricof, A.J. and Sunderland, J.E. (2006), "Venture capital for development", in Brainard, L. (Ed.), *Transforming the Development Landscape: The Role of the Private Sector*, Brookings Institution Press, Washington, DC.

Rogers, E.M. and Shoemaker, F.F. (1971), *Communication of Innovations: A Cross-cultural Approach*, Free Press, New York, NY.

Rogers, E.M. (2003), *Diffusion of Innovations*, 5th ed., Simon & Schuster, New York, NY.

UNESCO (2007), "Plan for accelerated and sustained development to end poverty (PASDEP)", available at: <http://webapps01.un.org/nvp/frontend/policy.action?id=53> (accessed 4 August 2009).

United Nations (2001), *The World Summit on the Information Society*, available at: www.itu.int/wsis/index.html (accessed 11 May 2009).

World Summit on the Information Society (2003), "Declaration of principles, building the information society: a global challenge in the new millennium", available at: www.itu.int/wsis/docs/genesva/official/dop.html (assessed 30 May 2012).

Further reading

United Nations, General Assembly (2001), "Resolution No. 56/258", available at: www.itu.int/wsis/docs/background/resolutions/56-258.pdf (accessed 30 May 2012).

Corresponding author

Wegene Demeke can be contacted at: wegene.demeke@uwl.ac.uk

To purchase reprints of this article please e-mail: reprints@emeraldinsight.com
Or visit our web site for further details: www.emeraldinsight.com/reprints

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.