# Growth of Cyber Cafés in Kenya: Social perspectives

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Abstract. Information and Communication Technology (ICT) as a means of communication for social and economic development in Kenya is now an established fact. This is particularly evident in urban areas where the availability of information infrastructure (II) e.g. the Internet, provides an enabling environment for development of computer networks and cyber cafes. Users can access the Internet more easily and conveniently than before. Internet cafes have grown from a small number in late 1990s into a booming business. Research into their social implications however, remains low. This study aims at determining their social impact on the Kenyan society. To achieve this broad objective, a number of data collection instruments were designed and employed, including questionnaires, interviews and observation. Visits were made to 12 cyber cafes selected as case studies in seven urban areas including Nairobi. The analyzed data shows that cyber cafes have had a significant social impact. The e-mail, though considered lean in media richness theory, has become the preferred choice of communication to the postal services among young people. However, attendant challenges related to poor information infrastructure countrywide still persist. There are also opportunities for expansion of the sector in light of the increasing demand from an ever-growing population of new users and evolving wireless technology.

**Keywords**: ICT, cyber café, information infrastructure, media richness theory, e-mail, social development.

### 1. Introduction

The introduction of ICTs as any technologies often do, preceded social changes in Kenya. As Wijayanayake et al (1999) have observed, advances in telecommunication and computer technologies have made computer networking, e-mail, mobile phones, facsimile and teleconferencing much cheaper, faster and easier to use than before. These developments have influenced the way people in developing countries communicate for both social and other reasons. The e-mail, in particular, has become the preferred form of communication. It is also a method of choice when geographical distances become a factor between the sender and the receiver, and when there is less urgency attached to the communication.

Although research in the development and growth of cyber cafes in Africa is limited, Mutula (2003) provides an interesting insight into the origin of cyber cafe culture and the growth of this industry in Africa. He found out that the current status of the cyber café sector can be assessed by analyzing the Internet infrastructure and penetration, patterns of use of cyber cafés, impact of cyber cafés and the Internet in Africa.

### Development of the cyber cafes

Although the first known Internet access in Kenya was pioneered by Healthnet of the University of Nairobi (closely followed by Africa Regional Centre for Computing - ARCC) as far back as 1995, development of cyber cafes on a commercial scale started picking up only from 1998/1999 and continued to grow rapidly mostly in major urban centres. The cost of installing a cyber café at the time was quite high given the high cost of hardware and software available at the time and the scarcity of technical knowledge. Many of the entrants in the new business had no experience in the hitherto uncharted business waters, nor enough capital to run the business. But the business grew steadily as the demand for Internet access increased. Soon, they gained enough confidence to expand their businesses in terms of number and quality of personal computers (PCs) and software. Even organizations such as universities, postal services, and libraries decided to venture into business by setting up cyber cafes in their respective premises to provide outlets for students and staff and their regular customers to access the Internet. Tourists have been the most regular customers of cyber cafes wherever they have been found no doubt, out of the need to maintain contacts with families and friends in their home countries and to inform them of their stay in the host country. A number of Internet Service Providers (ISPs) also became active players in the business. These include Africa Online, UUNET, Global Telcomm, Multi-Tech, Simba Net, Swift Kisumu, Victoria Web Ltd, Kenyaweb, and so on.

Computer networking in *urban* Kenya has grown rapidly recently. As a consequence, there has been tremendous growth of cyber cafes as a new form of business. Initially, when tariffs for hardware and software were high, and there were only a few entrants into the business, the cost of the Internet access was as high as KShs. 5/= or more per minute in an average cyber cafe. However, as the tariffs have fallen and finally zero-rated in the 2006/2007 budget as well as the entry of new comers into the business, the cost of

Internet access has drastically dropped over the years and in some places it is now as low as KShs. 0.50 per minute. Moreover the speed of access has steadily improved as the cost of hardware and software decreased over the same period. However, much of Kenya still lags behind in the digital revolution mainly due to poor information infrastructure, and poor or non-existent computer literacy among the larger rural population. According to Adam (1996), connectivity problems in Kenya as much as the rest of Sub-Saharan Africa are the result of peculiar socio-economic conditions in the region. Many nations, including Kenya, continue to suffer from badly performing economies, high foreign debts, declining resources and social infrastructure, alarming population growth, increased dependency on foreign aid, degradation of the environment, and other debilitating ailments, which have had direct implications on the implementation of networking projects and the type of public policies that foster connectivity in Africa.

However, there are new initiatives at various stages of development spearheaded by among others New Partnership for African Development (NEPAD), Africa One, which are aimed at ensuring that Africa as a whole is connected to the Information Super Highway.

#### 2. Social perspectives

In order to achieve the objectives of this study, a theoretical model of selection of lean communication media, such as the e-mail, advocated by Sproull et al (1996), was adopted. According to this model, there is a relationship between the choice of a communication media and contextual factors, individual characteristics and social influences.

### Social context

Sproull et al (1996) maintain that social context influences information exchange through perception, cognitive interpretation, and communication behavior. Social context barriers, for example differences in social status are not an influential factor if sender and receiver are not aware of the differences. Moreover, the effect of geographical location can indeed be overcome through perception. Closely related to this model are the static and dynamic cues. Static cues are often associated with peoples' appearances and their immediate surroundings, for example their manner of dressing, looks, and the room in which they are seated. On the other hand, dynamic cues are associated with peoples' non-verbal behavior that changes in the course of a communication, for example, facial expressions. The theory states that people do perceive social contexts and these cause them to create cognitive interpretations and cause emotional changes. And in response to these changes people may adjust their tone as well as content of their communication according to their interpretation of the situation. Further, it has been observed that the telephone considerably reduces both dynamic and static cues since it cuts out visual information, while the e-mail reduces static cues and totally eliminates dynamic cues. This contrasts sharply with teleconferencing, which has both static and dynamic cues. From this observation it can be hypothesized that people prefer using e-mail to reduce or eliminate both static or dynamic (or both) cues and focus on the essentials of the communication.

#### Social influence

According to the same theory, an individual's choice of a communication medium is influenced by his or her superiors or colleagues who use the same medium, and that the use of ICTs in particular arises from complex social interactions. It further suggests that the effect of any medium varies from one individual to another and from one context to another, and that even a lean medium like the e-mail can be very effective in communication.

### Media richness

According to Daft et al (1986), oral communication is richer than say, written media. Moreover, synchronous communication media such as face-to-face communication are richer than asynchronous communication media such as e-mail. Thus, in order of increasing media richness, media classification range from numeric documentation (poorest), memos and letters, facsimile, e-mail, telephone, teleconferencing, to face-to-face (richest). Highly complex and ambiguous communication tasks such as settlement of arguments and disputes require communication media rich in information content such as face-to-face since they provide immediate feedback, while less complex and unambiguous tasks low in equi-vocality such as house plans, can be performed using media that are less rich in information.

Sahay et al (1994) argued that since ICTs were increasingly being implicated in organizational transformations, the meanings attached to these technologies by individuals and groups provide the key to unraveling these change processes, and that such theoretical frameworks provide powerful analytical lens to examine and understand issues around the introduction of new ICTs in multi-stakeholder settings.

### 3. Other perspectives

Besides social perspectives considered in this study, issues of interest include economic issues in particular the opportunities for employment for young people provided by cyber cafes in a country with a high unemployment rate (58 per cent), returns on business investment for those who have invested in the new type of business, and their overall contribution to the economic development of the country.

#### Job opportunities

Unemployment (58 per cent) and poverty levels in Kenya are high. More than 60% of the population lives on less than US\$ 1 a day. The traditional forms of employment do not generate enough jobs to absorb a growing number of young graduates from universities and tertiary colleges. Thus a novel sector that promises to provide jobs and in particular information technology can attract much attention from and raise much expectation among the unemployed. It can also influence many young people to tilt towards technical training in the hope that they can meet the requirements for the jobs in the new technology. Development of cyber cafes thus represents a new way of thinking.

### Investment returns

In order for investors in cyber cafes to stay in business in an environment of stiff competition, they have had to carefully adjust their rates for customers. Initially the rates were quite high. For example, in the UK when the first cyber café called *cyberia*, was introduced in 1995 the Internet access cost about  $\pounds 3$  per hour. In Kenya, a few years later Internet, access cost about KShs. 600.00 per hour even though the speed of access was so slow. It was possible to break even and thus it was profitable to enter into the business as there were few competitors. But as more and more people entered the business, competition became unbearable for some and the returns on investment started dwindling. Many people had to abandon the business altogether and change to other businesses.

### Contribution of cyber cafes to the economy

Many entrepreneurs have invested heavily in cyber cafes in terms purchase of business licenses, furniture, hardware and software; payment of rents for premises, electricity and telephone bills; and fees payable to ISPs. Added to this are the wages for staff who must manage the cyber cafes, serve the customers (many of who require assistance almost on a 1-1 basis), and maintain the local area networks (LANs). Given that the number of cyber cafes has been increasing rapidly in urban areas in the recent past, the cumulative contribution to the national economy is significant.

#### 4. Research Methodology

In order to carry out the research, the procedure for obtaining a permit from authorities to conduct research in Kenya was followed. A number of instruments were designed and implemented, including questionnaires (both open-ended and closed), interviews (both structured and semi-structured), and observation. The purpose of using multiple techniques was to triangulate and verify the data collected. A schedule for data collection and work plan was also designed and followed as much possible. A total of 12 cyber cafes were selected from the following seven urban areas for study: Nairobi, Nakuru, Eldoret, Kitale, Kakamega, Bungoma, and Kisumu.

As Vreede (1995) states, any research undertaken to study a phenomenon must have a theoretical underpinning to determine to a great extent the kind of knowledge to be gained. There are many research methods available for researchers to choose from, however, the most common distinction between research methods is whether they are quantitative or qualitative. In Wanyembi (2002), it is observed that quantitative methods are predominantly applied in the natural sciences to study natural phenomena. Qualitative methods or *naturalistic* methods, on the other hand, were developed in the social sciences to enable researchers to study social and cultural phenomena, and include case study methods, action research, and ethnography. According to Yin (1994), the case study research is the most commonly applied qualitative method in information systems. The case study can be seen to satisfy the three tenets of the qualitative method: describing, understanding, and explaining. Based on these reasons, the 12 cyber-cafes were selected and treated as case studies as this afforded the researcher the opportunity to study them more deeply than would be the case if several cases were selected. Following Morgan (1983) and Orlikowski and Baroudi (1991), it can be stated that the application of multiple instruments is a suitable strategy to use in case study research. For this reason too, three instruments, interview, questionnaire, and observation methods were used.

#### Interviews

The interviews were aimed at collecting data from owners and users of cyber cafes. The users provided input related to the economic and social benefits derived from use of the cafes. The questions were designed to provide information related to the set-up, use, and challenges faced by the new entrepreneurs in a market sector with little information on their volatility. Both closed and open-ended questions were used.

#### Questionnaires

The questionnaires were primarily aimed at the owners of cyber cafes with the objective of collecting information on the infrastructure, i.e. when they were established, the hardware, software, Internet Service Providers (ISP), and user satisfaction. Questions on the average numbers of customers they serve daily, the rates per minute, and the number of employees, were designed and administered. Where possible, repeat visits were made to collect completed questionnaires. Other completed questionnaires were returned as attachments to e-mail messages from respondents. The return rate was high (100%) as all the forms were filled and returned.

### Observation

This method was used widely as the authors are themselves frequent users of cyber cafes. Each time they visited a cyber café, they took the opportunity to make subtle observation on the strategic locations and activities of the cyber cafes, the number and types of customers, the quality of service provided, and any such features such as the environment and related services provided.

### 4. Data analysis

Puri (2006) observes that reflections over what interviewees said and the discussions held with stakeholders can assist in understanding the interpretations of the results. Further, Myers (2004) suggests that text derived from field notes, interviews, and document analysis reflects social action.

### Hardware and Software

The results show that most cyber cafes have between 7 - 20 PCs mostly clones, which are cheaper but less reliable, and between 1-2 network servers which are mostly branded and perceived to be more reliable and hence more expensive than clones.

The topology used for Local Area Networks (LANs) vary from star, ring, bus, to tree. Apparently there is no preferred topology adopted as a standard.

Modems with speeds ranging from 14 K from 128 K are still in use in some places, but as the changeover from the analogue to the digital system proceeds, the situation is changing fast.

The mode of access is mostly through leased line, but dial-up connections are still in use. With the liberalization of the sector by the government through its regulatory body Communication Commission of Kenya (CCK), some cyber cafes are currently exploring the possible use of VSAT (Very Small Aperture Terminal), which will free many ISPs from relying on the *Jambonet*, which is restrictive due to its design, as the only gateway. A second gateway is contemplated in the near future; thus the speed of Internet access is likely to increase dramatically.

The most preferred Internet software is MS Internet Explorer followed by others such as Netscape, Mozilla and Opera. The operating systems software varies greatly between MS Windows 95, '98, 2000, XP and Linux. Unix is also used but less frequently.

#### Social and Economic benefits

The data analysis shows (see Table 1) that the most frequent users (56.3%) of cyber cafes fall in the age group 21 - 30, with steadily decreasing numbers in age groups above 31. This is significant in the sense that it is the age group 21-30 that have been exposed to computers and are thus said to be computer literate. They also have much need for effective communication media for social and economic reasons. The age groups below 21 who are mostly primary and secondary students have yet to become computer literate and / or have no need for access to the Internet for either social or economic reasons. In demographic terms, users were largely urban dwellers.

Age group	% distribution		
Below 20	0.0		
21-30	56.3		
31-40	31.3		
41-50	6.3		
Over 50	6.1		

#### Table 1: Distribution of users by age group

When asked what customers use the cyber cafes for, the responses varied widely. The most common reason given however, as Table 2 shows was the e-mail (29 per cent) followed by surfing the Internet (19.5 per cent), this despite the fact that e-mail is considered leaner than face-to-face communication.

Use of cyber café	% distribution		
e-mail	29.3		
Chatting/message board	7.3		
News groups	9.8		
Job searching	7.3		
Search for Higher education	14.6		
Business	7.3		
Surfing the Internet	19.5		
Entertainment	4.9		
Other (specified)	0.0		

### Table 2 Percentage distribution of uses of cyber cafes

Other reasons were also given and they seem to be fairly evenly distributed.

### User satisfaction with services provided by cyber cafes

For a range of uses of cyber cafes in Table 1, users responses indicated that overall they were either satisfied (55.4%)) or very satisfied (18.5%), on the 5-point Rickert scale, with the services provided by cyber cafes. Interestingly, 20 per cent of respondents indicated they were not sure, perhaps pointing to lack of a standard in this sector. A small percentage (6.2%) indicated they were dissatisfied with the services.

On communication between respondents and family, friends, and colleagues, the results (see table 3) show that communication tended towards high (with family) and very high (with friends and colleagues).

## Table 3 Percentage distribution by categories of correspondents

Correspondent	Very	Low	Moderate	High	Very high
	low				
Family	0.0	2.8	5.6	19.4	5.6
Friends	0.0	0.0	5.6	8.3	19.4
Colleagues	0.0	0.0	5.6	11.1	16.7
% distribution	0.0	2.8	16.8	38.8	41.6

The implication of this result is that communication with the three categories is mostly for social and economic reasons.

#### Number of customers per day

The number of customers visiting cyber cafes per day seemed to vary from month to month and also from one part of the month to another. However, on a typical day, over 40 customers were not uncommon, even though this also depended on the part of the day. Mornings, evenings and lunch breaks seemed to register more customers than other times of the day. These are the times when customers, most of whom are employees can spare time to check their mail boxes and/or send mail.

#### Period of usage time spent per customer

The average time a user spent in a cyber café seemed to depend on the urgency of the communication as well as the amount of money one had to spend. Overall 41.7 per cent of customers spend less than 20 minutes while 50 per cent spend between 20 and 40 minutes. Very few customers (less than 8 per cent) can afford to stay longer than 40 minutes.

### Number of employees in cyber cafes

The number of employees in cyber cafes varied from 1-5, with 2 or 4 employees being the norm. Both young men and women can be found occupying positions that seem to combine both managerial and technical tasks. The help desk is often the place for customers to present their problems and also pay for the services received. Owners of the cyber are young entrepreneurs in the age group 25-40 with a keen interest in the new technology.

#### Rates of Internet access per minute

As mentioned earlier, the rates of Internet access have been falling steadily over the years as competition among cyber cafes increased. The results show that the rates have fallen from KShs. 5/= per minute to KShs. 1.00 or less per minute. the consequence of this development has been improved services for those cyber cafes which have chosen to remain in business so that they can attract customers while some cyber café owners have quit the business altogether for other business.

#### 5. Summary and conclusion

Cyber cafes as a form of business in the developed world are a thing of the past. Their decline is attributed to two factors: public libraries started offering free e-mail accounts as a means of encouraging readership, and many users acquired their own PCs and got connected to the Internet. In Kenya, however, cyber cafes seem to be increasing instead. Moreover, they have become a vital means of communication for both social and economic reasons.

On the social dimension, this research examined the use of cyber cafes as a means of communication through the e-mail. The primary use of cyber cafes is to communicate through the electronic mail (e-mail). The other purpose is to access the Internet for purposes of accessing information stored at various websites. In media richness theory, e-e-mail is considered lean compared to other the telephone, however, in Kenya it is preferred choice of a communication medium for its novelty, low cost, convenience and

transparency. As Sein et al (2004) have observed in Musa (2006), the e-mail has had the first-order or primary effects (where there is simple substitution of old technologies by new ones). In this regard, the old postal services have largely been overtaken by the new e-mail service. Although this appears to contradict Sproud's theory on the choice of a communication medium, the finding does not seem surprising.

Further, as Oyelaran-Oyeyinka et al (2002) have also observed, exposure to information sources such as the Internet tends to be correlated to income and socio-economic status. Having an e-mail address does confer upon one a social and economic status in the eyes of one's superiors and peers.

On the economic dimension, the study examined the use of cyber cafes as a new form of business in which entrepreneurs have invested their capital and which contributes to solving the problem of unemployment and thus help reduce poverty levels in Kenya. employment to young people. As a hi-tech business it contributes to the economy of the country in many ways, in particular payment of taxes to the exchequer. Furthermore, an effective and efficient means communication improves performance both in public service and in private business. However, the highly competitive environment in which the changes in technology are so dynamic implies that those in the cyber café business must expect to meet stiffer challenges in the near future. With *wireless* technology now being presented as the technology of choice over the *wired* technology, change must always remain an important factor to consider in the hi-tech sector. The poor state of and lack of suitable infrastructure in much of the rural areas, particularly the supply of electricity and telecommunications, imply that a significant part of the population will not be able to benefit from the new technology. Thus compared to the developed world where cyber cafes are becoming rare, cyber cafes in Kenya are likely to grow and expand into those rural areas where the infrastructure is developed. The driving force behind this is the high demand for the Internet service from a growing population of young people looking for jobs and new entrants into the business eager to put fresh ideas into the new type of business.

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