Assessment of the Management of Information and Communication Technology (ICT) Infrastructure of Selected Cybercafes in Lagos State

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Abstract

Provision of public access to information through a well-managed internet café had been identified as a means to facilitating rapid socio-economic and technological development in any society.This paper examines the management of ICT infrastructure of selected cybercafés in Lagos State.A multi-stage sampling technique was used in this study. The population of this study was made up of one hundred and twenty (120) cybercafés in the selected LGAs (Shomolu, Mushin and Yaba) of Lagos State.Questionnaire was used as the instrument for gathering data for the study.One hundred and twenty (120) questionnaires were administrated to the managers/owners of cybercafés in three (3) selected Local Government Areas (LGAs) in Lagos State. Descriptive Statistics was used for the analysis of data generated for the study. The results of the study showed that ICT infrastructure were not well-managed. The study therefore recommends that a government regulatory body be mandated to set standard of the size of cybercafés, number of personal computers,structure,location, infrastructure and human resources, which are necessary to be put in place before setting-up a cybercafé business.

Keyword: *Cybercafé, Infrastructure, Administration, Management, Information and Communication Technology (ICT)*

Introduction

The internet has made changes in almost all aspects of our lives as it plays a role in most of what we discuss today about access to, dissemination and retrieval of information (Chachage,2001).Statistics showed that the use of the internet has grown in the most urban areas in Africa relatively rapidly in much the same way as the adoption of the mobile phone, which followed shortly after .

The internet has made it possible for individuals everywhere with a personal computer and functional telephone line to have access to millions of pages of information. According to them, the greatest impact this new information technology has had is the narrowing of gap between the information haves and have-nots, which was exacerbated during the print-media based information resources era, in which access to the print-media based information resources was very expensive and this increased the gap (Chen, et al 1998).

Cybercafés are places where internet public access services are provided by entrepreneurs for a fee. These cybercafés can be run as part of services provided in restaurants, hostels, e.t.c or could be places set aside wholly for public access internet services. Cybercafés are run in order to enable people who either do not have personal internet connectivity or are traveling to have access to the resources and services. Cybercafés have thus become very important in Nigeria, as the cost of having internet connectivity is so high that private individuals cannot afford it.

Nigerians, like most people living in developing countries depend on cybercafés for their internet access. This is chiefly because the cost of computers is still too exorbitant for most citizens. Another factor is that the cost of buying and maintaining internet access from telecom companies in Nigeria is still too expensive for most people .African Internet (2002)

Despite the huge demand for cybercafé services in Nigeria, quality of service that these cybercafé providers deliver still leaves a lot to be desired. This is because most users have the false impression that they have no choice. African Internet (2002)

Level of privacy and internet security risks are important issues that owner and internet users take with levity or are not aware of. Internet café being public places; one can never really guarantee privacy in a cybercafé. Some internet cafés in Nigeria do not even help matters, they cram so many PCs together (In order to maximize profit) making it impossible to have any resemblance of privacy. The threats of key logger ,A program virus or spy ware that monitors activities on the internet noting the websites visit and all keys pressed while in any website and pipelining the data to the hard disk or to a website designed for such a purpose is another security threat in cybercafés.

Many cybercafés in Nigeria are operating with antiquated infrastructure. This is attributed to the information and communication technology (ICT) resources found in cybercafés. The functionality of these resources cannot be guaranteed at anytime because of poor maintenance culture on the resources. African Internet (2002).

Power supply, an inherent problem in Nigeria is another factor in running a cybercafé. Some cybercafés may connect system units to Uninterruptible Power Supply (UPS), without connecting the Personal Computer (PC) monitor. This is a threat to data security. Although, one may not lose data in such a cybercafé, but, will not be able to use the computer until generator is turned on. African Internet (2002)

The increasing Cyber crimes have become a major issue which government and cybercafés are facing every time, because of the continuous patronage of internet fraudsters. The crimes which include chatting with fake identities, generation of credit card numbers, e-commerce frauds, pornography e.t.c have become popular in Nigeria with "Yahoo Boys". The numerous challenges facing cybercafé businesses are usually attributed to ineffective administration and management culture being imbibed by the cybercafé owners.

A Cybercafé is a place where internet applications are accessible to the public. Customers buy airtime in order to have access to the internet via PCs available in the internet café Local Area Network. The incessant closure of cybercafés in Nigeria is usually as a result of maladministration and mismanagement of cybercafé by owners and the lack of technical know-how of the employees. Cybercafé business is one of the commonest businesses found around in Lagos, and as such needs to well administered and managed with appropriate knowledge and skills. African Internet (2002)

The numerous challenges of the businesses can be solved by a way of periodic assessment of the cybercafés .The assessment if routinely done will afford the owners to gaining an increased level of business outputs and profit maximization. It will also enhance good quality of service to the clients, an enhanced organization and management of cybercafé, and increased level of competence in owners/managers and employees of cybercafés, Also, the cybercafé business if properly managed would transform Nigeria and Nigerians to a better information source. African Internet (2002)

At present, every capital city and major towns in Nigeria has Internet public access services. As indicated by a 2002 status report on the African Internet, as of mid-2002 the number of dial-up internet subscribers was close to 1.7 million in Africa, 20 per cent up from the previous year, mainly bolstered by growth in a few of the larger countries such as Egypt, South Africa, Morocco and

Nigeria; that shared/public access and the use of corporate networks is continuing to grow at greater rates than the number of dial-up users. The report further notes that there are now many thousands of cybercafés/business centres in the major cities of Nigeria run by small entrepreneurs who are allowed by the regulator to provide VOIP services as part of their cybercafé licence, which costs about $500 a year.African Internet (2002)

Three researchers at the Delta State University Library, Abraka Nigeria carried out a study on "A survey of cybercafés in Delta State, Nigeria.".The study was done in Delta state-one of the thirty six (36) states of Nigeria. The state comprises 25 local government areas in rural and urban settings which run along the delta of the River Niger and shores of the Atlantic.Delta state, the capital of which is Asaba, has vast industry centred on the presence of oil/petroleum. Esharenana,(2003).It was found that; majority of the cybercafés in Delta State 11(61.1 per cent), are owned by a single proprietor.Six cybercafés (33.3 per cent) are owned through joint partnership, while only one is government-owned;three (16.7 per cent) of the cybercafés have 15 personal computers, one (5.6 per cent) cybercafé that has just two PCs connected to the Internet, there is only one which has 25 PCs that are being used to provide Internet Services to its users;the more computers a cybercafé possesses to be able to provide services to its clients, the less congestion there will be in such an Internet café;A cybercafé, which is not well staffed, cannot provide the more demanding kind of assistance required by the clients that need to be assisted;the usage of each of the cybercafés depends on the total number of those who are aware of the services of the internet and have the need to make use of it;most of the cybercafé acquire and install stand-by electricity generating plants. These are switched on as soon as power cuts occur. African Internet (2002)

Most cybercafés render additional services which includes telephone services (Local and International), Public Relations, Publishing, Book binding. e.t.c.;As one might expect, the number of cybercafés which have ISPs located in Nigeria is greater than those whose ISPs are located overseas;Problems militating against cybercafé Internet services business includes High Cost of Internet Connectivity, Frequent/Occasional loss of Contact Signals with ISP, High Cost of maintaining equipment, frequent electricity black-outs, Low patronage from customers.Lack of search skills by some clients, e.t.c Virus attacks and technical problems.

The rise of the Internet and online games are the drivers of the current rapid growth of Internet cafés in Taiwan Dietz TL. (1998). Internet cafés mostly target adolescents and provide them with networked computer games, chat room services, and bulletin boards. However, most users were attracted by the rapid Internet connections and variety of computer games.1 Computer game content and space are widely believed to be highly gendered Bryce (2003) Nevertheless, the gender dynamics of Internet use and online game contexts have been changing; for example, Internet penetration rate for females is increasing, as is the popularity of MMORPGs (massively multiplayer online role-playing games) and the number of female gamers. The main purpose of this study is to examine the management of ICT infrastructure of selected cybercafés in Lagos State.

Methodology

A multi-stage sampling technique was used for purpose of this study.The first stage was selection of two divisions of Lagos State (Ikeja and Lagos).The second stage was the selection of three Local Government Areas(LGAs) which are Shomolu, Mushin and Yaba **.** In the third stage, forty (40) cybercafés were randomly selected from each local government areas which resulted to the administration of a total number of one hundred and twenty (120) questionnaires in the selected local government areas in Lagos State**.** One hundred and five (105) completed questionnaires were retrieved; hence sample size of the study is one hundred and five (105) respondents.

The population of this study is made up of one hundred and twenty (120) cybercafés in the selected LGAs (Shomolu, Mushin and Yaba) of Lagos State.

A structured questionnaire designed by the investigator and validated by the project supervisor and, was used for collecting data for this study.A copy of the questionnaire was administered to each of the cybercafés and filled by the proprietors/managers cybercafés. The instrument probes majorly managerial skills for cybercafé, employees' skills level, cybercafé security and challenges, and the Information and Communication Technology (ICT) infrastructure. Responses were measured accordingly to the nature and options for the questions.

All the returned questionnaires were found useful. Statistical Package for Social Science (SPSS) was used for data analysis. Descriptive statistics i.e (frequencies, percentages and chart) was employed in the analysis.

Results and Discussion

The cybercafé as a place where the public access for internet use has to properly administered and managed for efficient and effective service delivery.Three (3) local government areas of Lagos state understudied were; Yaba, Mushin and Surulere.A total number of one hundred and five (105) questionnaires were collected for data processing and analysis, out of the one hundred and twenty (120) questionnaires administered in the selected areas.

It is a known fact that different managers and workers in any cybercafés have methods, techniques and approaches in achieving their business goals and objectives. Some of them have been greatly affected by the growing levels of technologies in the business area.

A number of factors were taken into consideration in the design of the questionnaires; to capture the objectives of the study.

Information and Communication Technology (ICT) Infrastructure of Cybercafes

The ICT Infrastructure that are necessary to be available for use in any cybercafés include personal computers, switches, hubs, billing and management software, and others software and hardware necessary to bring efficient and effective service delivery in a typical cybercafé.

Availability of Personal Computers (PCs) in Cybercafés

The number of PCs that are made available for use affect the return on the cybercafé business .The PCs could either be used for Internet and Non-Internet services in any cybercafé. It is normal to have at least two functional PCs in a cybercafé**.** The result of the study revealed that 41.9 % of the cybercafés made less than ten(10) PCs for use,57.1%(between ten(10) and twenty(20)) and 1% (between twenty-one(21) PCs and thirty(30) PCs.The table below shows the result.

Table 1: Availability of Personal Computers (PC) in Cybercafés

Number of PC	Frequency	Percent %)
Less than 10	44	41.9
10-20	60	57.1
21-30	1	1
Total	**105**	**100**

The number of PCs in any cybercafé for use could be as result of the size of cybercafés i.e micro, small, medium and large .The result above posed a serious implication on the return on the cybercafé business financially.

Number of Personal Computers with Internet Connection in Cybercafes

In most cybercafés, the number of PCs with Internet connection could be as result of size of the cybercafés, logical or financial reasons. At times, the owners/managers separate the PCs that are meant for Internet and Non-Internet services. The number of PCs that are Internet –Ready affects the users that are willing to surf the Internet at a point in time. It was revealed that 58.1% of the cybercafés understudied had less than ten(10) PCs with Internet Connection while 41.9% of the cybercafés had between ten(10) and twenty(20) PCs with Internet Connection.The table below shows the result.

### Table 2: Number of Personal Computers with Internet Connection in   Cybercafés

Number of PC	Frequency	Percent (%)
Less than 10	61	58.1
20-Oct	44	41.9
Total	**105**	**100**

Billing and Management Software in Cybercafes

For an efficient and cost-effective service delivery to clients and security purposes, owners/managers usually installed and use billing and management software. In this study, it was found that all the owners were using the software to enhance productivity. This was against the days when cybercafés were managed manually.

There are many billing and management being used today. The software could be bought over or written locally by software developers. The sophistication of the software has been helpful in curbing cybercrimes both in Nigeria and abroad. It has also enhanced the operation of computer-related activity in cybercafés. In this study, the ones that were being used in the cybercafés are presented in the chart below.

Chart 1: Chart Showing the Number of Billing and Management Software in   Cybercafés
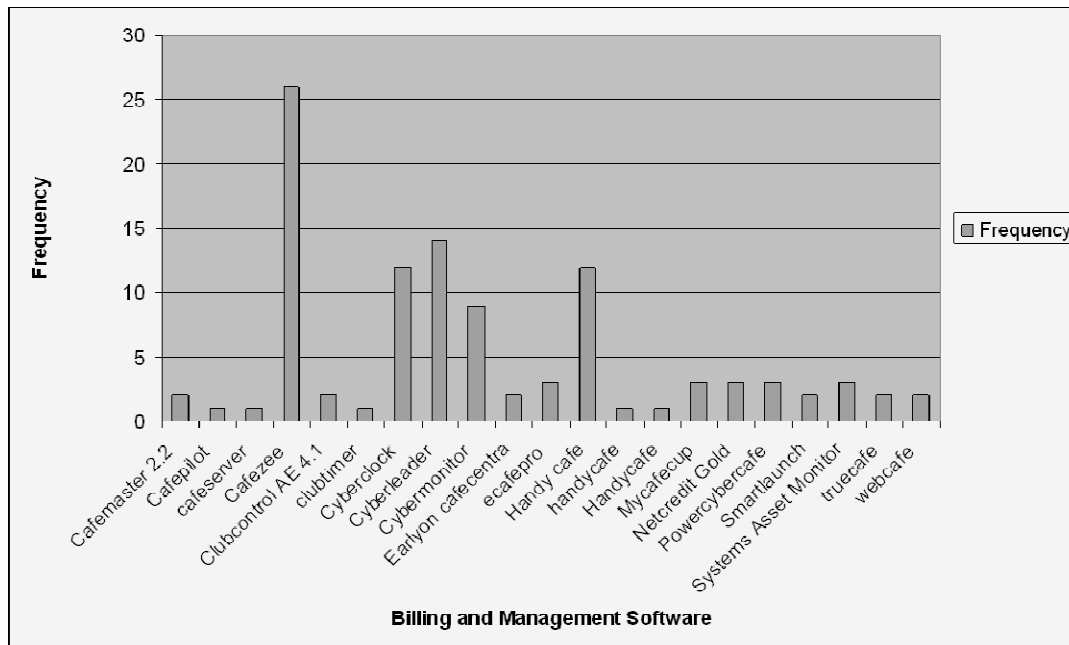
Internet Connection in Cybercafés

There are many internet connections being used in cybercafés today. It could be wired or wireless connection .The choice of connection could be personal or Internet Service Provider (ISP) recommendation. They include Very Small Aperture Terminal (VSAT), Radio, Dial-up and wireless connections. It was found out that 46.7% of cybercafés were using radio connection, wireless (22.9%) , dial-up (16.2%) and VSAT(14.3%).The table below shows the result.

Table 3: Internet Connection in Cybercafés

Internet Connection	Frequency	Percent (%)
Very Small Aperture Terminal.	15	14.3
Radio	49	46.7
Wireless	24	22.9
Dial-up	17	16.2
Total	**105**	**100**

Maintenance of ICT Infrastructure in Cybercafés

The need for maintenance of ICT Infrastructure cannot be over-emphasized. The software and hardware have to be constantly maintained for better productivity and performance. In most business organizations, the maintenance checks that are being performed on equipments/systems are preventive, corrective and routine maintenance. The inefficiency in business operation of some businesses or inadequacy of equipment/tools could be one of the reasons while most of the businesses engage in corrective maintenance rather than preventive maintenance.

In this study, it was revealed that majority of owners/managers performed corrective maintenance on the ICT infrastructure i.e about 85% of the cybercafés understudied while 15.2% of the cybercafés performed routine maintenance.

The results indicate that less attention was paid to routine maintenance which generally reduces maintenance cost.The table below shows the result.

Table 4: Maintenance of ICT Infrastructure in Cybercafés

Type of Maintenance	Frequency	Percent (%)
Corrective maintenance	89	84.8
Routine maintenance	16	15.2
Total	**105**	**100**

Functionality of Hardware and Software in Cybercafés

It is always a good thing to determine the performance of the various hardware and software in cybercafés. This could be done at a specific period of time. It was revealed that the performance of hardware and software of the 64.8% of cybercafés understudied was fair, performance of 31.4% of cybercafés was good and performance of 3.8% of cybercafés was poor. The table below shows the result.

Table 5: Functionality of Hardware and Software in Cybercafés

Rating of Performance	Frequency	Percent (%)
Poor	4	3.8
Fair	68	64.8
Good	33	31.4
Total	**105**	**100**

Conclusion

Majority of cybercafés practice corrective maintenance on their infrastructure, which is not a good practice to sustain the growth of any business.The functionality of hardware and software of cybercafés understudied was fair.Majority of the cybercafés understudied had a few PCs connected to internet.It was concluded that effective, efficient and sophisticated methods are still needed to manage and maintain the infrastructure in the cybercafés. This will further increase the efficiency and lifespan of infrastructure.

In view of the findings of the study, the following recommendations are made for policy formulation.

- Cybercafés should be registered as corporate body members of Computer Professional of Nigeria (CPN).The necessary knowledge and skills required to manage cybercafé business

could be gathered by attending regularly the seminars, workshops and conferences being organized by the CPN .The information to improve and upgrade the business could also be sourced from other organizations/professional bodies.

- A regulatory body with specific mandate on staff, users, infrastructure, ethical issues should be set-up by the government. The body should be mandated to regulate the activities in the business.The body should also set minimum standard in the size, number of Personal Computers (PC), structure, location, infrastructure, human resources necessary to be put in place before a cybercafé could be set-up .This will go a long way in sanitizing the business and improve its organization, so as to attract the local and foreign users.

- The stakeholders of such regulatory body should periodically schedule meeting with the management of cybercafés, so as create a platform for exchange of views, ideas and information.Also, it will afford them opportunity of integrating partnership and collaborations to discuss challenges and possible solutions.

- An experienced technical manager should be employed to manage the ICT resources of cybercafés.

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