Internet Cafés in Asia and Africa – Venues for Education and Learning?

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Abstract

This paper examines the use of Internet cafés in two developing countries; Indonesia and Tanzania. The research is based on surveys of some 500 respondents in total in the two countries, supported by in-depth interviews. The findings show that Internet cafés are used for competence development today, and that they have the potential to be suitable arenas for human resource development for a wide range of users. For the users, access speed and price are important obstacles to increased use. More research is needed to see how Internet cafés can attract new user-groups to help reduce the digital divide within a developing country.

1. Introduction

Major differences exist in Internet accessibility among countries and regions, reflecting a global digital divide and information poverty in parts of the world. In addition, within developing countries we see clear tendencies towards increased concentration of information flows to urban and central areas (Wong, 2002; Mwesige, 2004). Economically disadvantaged countries and rural and peripheral districts within these nations tend to fall further behind in human resource development as well as in economic progress and political participation.

Expansion of Internet access in poor areas is facilitated by arrangements for public use, such as Internet kiosks, cybercafés, or multipurpose community telecentres (Rogers and Shukla, 2001). The Internet café (or cybercafé) concept has been successfully spread to poor countries mainly because it combines reasonably priced access to the Internet with some food and beverage services together with the chance to socialise with fellow users and to pick up new knowledge and ideas on computer usage.

Internet cafés in developing countries thus offer opportunities for ordinary people to obtain access to information and opportunities to communicate. They might, however, also represent a threat to traditions and cultural values. Rathore and Alhabshi (2005) report from Malaysia that cybercafés have primarily emerged as entertainment hubs. The illicit activities in some of these cafés pose a cultural threat to the norms of the Malaysian society and the government has worked relentlessly to reduce the 'evilness' associated with cybercafés. In some countries, they are even regarded as a political challenge. In China, for instance, Hong and Huang (2005) report on people's growing interest in using Internet cafés and the authorities' dilemma as between promoting information and resisting democratization by this means. They also report an extensive use of Internet cafés by youngsters and even minors for commercial gambling, violent games, and viewing pornography. A high number of Internet cafés have been closed down by the Chinese authorities aiming to fight 'unethical' use of the Internet and to build a safer environment for young Chinese people.

On the other hand, cybercafés can function as centres for support, education and learning about new tools and therefore could help people to overcome skill deficits which would normally exclude them from access to information and new technologies (Haseloff, 2005).

In spite of the increasing importance of Internet cafés, very limited research has been reported on their diffusion, even in areas of Asia and Africa, where they represent a major means of access to digital information and communication. Internet cafés can be a vital venue for learning and thus developing human resources in poor countries. In this paper, we examine whether this is actually happening.

This paper is based on research conducted over a three year period on Internet café entrepreneurs and users in Indonesia, and corresponding research in Tanzania that started in 2004. We have found interesting comparisons between the two countries, which make further extensive research promising.

The main objective of this paper is to find out to what degree Internet cafés are used for human resource development today and if they have the potential for being important arenas for learning in developing countries in general. To meet these objectives, we have tried to find contextual explanations of similarities and differences in Internet café user patterns and frequency in Indonesia and Tanzania. Our aim is to present information useful for the arrangement and start-up of Internet cafés in information-poor areas of developing countries and to provide a motivation for including Internet cafés an element in national human resource development through individual competence building.

The article is organised as follows. After this introduction, we present the theoretical basis from relevant literature, followed by an overview of the socio-economic context and the spread of the Internet and Internet cafés in Indonesia and Tanzania. Section four describes the methodology and data collection. Our empirical findings are presented in section five. In section six we provide conclusions, limitations and prospects for further research.

2. Internet cafés in the developing world

Privately owned Internet cafés increasingly represent opportunities for ordinary people in economically poor areas to access the Internet. In such venues, computers are made available at various costs and connection speeds, enabling regular or occasional customers to search for, and process, information and to make electronic connections with others via e-mail and chatting. Internet café employees normally provide valuable guidance in computer use and information access to inexperienced users. The fact that it is mainly operational costs that have to be paid for by Internet users represents a huge advantage in an economically poor context. Fixed costs from the purchase of equipment and leased lines are left to the business owners and only charged to the users according to the time spent on-line.

In Indonesia, two thirds of Internet users gain access through Internet cafés (Kristiansen et al., 2003), and policy documents from Tanzania indicate that Internet cafés are the main means of Internet access in Tanzania as well (Tanzania Ministry of Communications and Transport, 2003). Also in other developing countries, like India, cybercafés play an important role as public Internet access points. Almost 70% of Indian Internet users frequent cybercafés and these are the main access point for almost half of the users (Haseloff, 2005:9).

Other sources of Internet access are Telecenters and Internet Access Points. The differences between Telecentres and Internet cafés are mainly related to ownership, financing, and the variety of services. Telecentres operate mostly as 'not-for-profit organisations', relying on various sources of external funding. Internet cafés normally represent profit opportunities for the owners and are based on service fees above costs (Salvador et al., 2005). Internet cafés also normally offer additional bar or dining services, or ordinary convenience store businesses, but their main offer is concentrated around Internet use. Information Access Points are represented by an increasing number of terminals for short-term rent in shopping malls, airports and other public sites, especially in developed areas of the world.

Empirical studies of Internet users remain under-represented as an area of academic research (Lee, 1999). Even less research is conducted on users of Internet cafés, and very few reports are from developing countries. Mwesige (2004: 84) notes that "the world-wide boom of Internet cafés has not seen (a) corresponding inquiry into this form of public access to the Internet". Some works on Internet cafés in Africa have recently been published, however. Mutula (2003) provides an overview of cybercafé culture and the growth of this industry in Africa, while Sairosse and Mutula (2004) have mapped the users and use of cybercafés in Gaborone City in Botswana. They found that cybercafés are increasingly playing a social role as well as being centres of communication through e-mail. They also found some educational use through e-learning. Chachage (2001) reports that the main use of the Internet in Internet cafés were e-mail and that the majority of Internet café users and staff in Tanzania lack knowledge in using Internet resources.

Numerous studies have been conducted, however, on the adoption of the Internet technology in a global context (Madden et al., 2000; Kiiski and Pohjola, 2002; Grubesic, 2002). The majority of cross-national work on this topic has been limited to OECD countries, while some studies have also been conducted with a specific focus on the developing world (Zhu and He, 2002; Wilson and Wong, 2003; Wolcott and Goodman, 2003). An extensive study of Internet diffusion is being executed by The Mosaic Group through The Global Diffusion of the Internet (GDI) Project (http://mosaic.unomaha.edu/gdi.html) where nearly 30 countries have been studied over a period of time. Per capita income seems to be the overall most important factor explaining global inter-country differences in the Internet usage rates. Other technological and economic determinants of statistically significant value include telephone and personal computer densities (Beilock and Dimitrova, 2003) and Internet access cost (Kiiski and Pohjola, 2002).

The extension of infrastructure for the use of the Internet in developing countries has generally been much slower than in economically rich parts of the world. This is mostly due to low demand and thereby low profitability of ICT businesses. However, the disparity in the intensity of ICT adoption among countries is wider than the disparities in their GDP per capita, indicating that the digital divide is also increasing and likely to become even more severe in the future (Wong, 2002).

Kling (1999) argued that Internet use is a question of social as well as technological access. Technological access refers to infrastructure and the physical availability of computer hardware and software, while social access refers to the mix of professional knowledge, economic resources, and technical skills required for the use of ICT. It appears that the use of the Internet in developing countries in general and of Internet cafés in particular is dominated by young and relatively

wealthy people, mostly well educated and predominantly male citizens of urban areas (Robbins, 2002; Mwesige, 2004).

To study the adoption of Internet, researchers have used established theories from the Information Systems literature. Davis' (1989) concepts of 'perceived usefulness' and 'perceived ease of use' still have a dominant position in the stream of theories and models on ICT user acceptance. As regards Internet use, Oyelaran-Oyeyinka and Adeya (2004) have documented that 'ease of use' is regarded as a major constraint even for academics in Kenya. Quibria et al. (2003) have found that Internet use and tertiary education show significant statistical association in Asian countries. The ease of use variable normally becomes less significant with increased experience among users (Szajna, 1996). This suggests that Internet use may increase when users gain knowledge and experience.

Demographic factors, like gender and age, were not included in the original technology acceptance models (e.g. Davis, 1989). Venkatesh et al. (2003) have assessed the dominating information technology acceptance models and developed a 'unified theory of acceptance and use of technology' (UTAUT), where four main factors empirically are found to dominate the speed and rate of adoption. The four factors are 'performance expectancy', 'effort expectancy', 'social influence', and 'facilitating conditions'. In addition, their model comprises demographic factors. Age and gender significantly moderate the basic variables in explaining ICT user intention in their studies. Therefore, in the following we shall concentrate on contextual and socio-economic explanations for variations in Internet and Internet café use between and within developing countries.

3. Socio-economic context and it infrastructure in Indonesia and Tanzania

Today, both Indonesia and Tanzania are multiparty democratic republics. Indonesia achieved independence from the Netherlands in 1949 while Tanzania, a merger of Tanganyika and Zanzibar, became independent from the UK and was formed in 1964.

Indonesia, the fourth most populous and largest Muslim country in the world with close to 240 million people, still suffers from the severe Asian economic crisis of 1997, and the country is at a critical stage in the process of democracy building. More than 40 million people are unemployed (Jakarta Post, 2003). Disparities are huge between rich and poor and between 'inner' and 'outer' parts of the country. There is a concentration of economic activity and political power on the island of Java. Information asymmetry follows disparity, and entry barriers into business as well as politics are persistently higher among the poor and peripherally located. The rapidly increasing numbers of Internet users represent a potential step in the direction of more equitable access to information.

With 37 million people and an area of 945,000 square km, Tanzania has 15% of Indonesia's population on 50% of the land mass. Tanzania remains one of the least urbanised African countries—urban population is only one-third of the total. The per capita GDP is estimated to be less than one-fifth of Indonesia's, but is probably understated because of the size of the informal sector. According to the Tanzania national website (2004), 2.3 million people are unemployed, but the majority of people are self-employed and most work is seasonal in the agricultural and informal sector. SIDA (2001:7) concludes:

> 'Tanzania is a country of paradoxes. On the one hand the economic climate has improved, but on the other hand severe poverty persists. Multi-party democracy has been introduced, but poor people still have few chances of influencing their own futures'.

Some national statistics, describing Indonesia and Tanzania are depicted in table 1, below. The difference between them, regarding social, financial and technological status is significant; Indonesia appears far more developed than Tanzania. The size and per capita GDP have been mentioned above. The age structure, life expectancy, literacy rate, poverty and health problems (e.g.HIV/AIDS) clearly favour Indonesia.

The population of Tanzania is far younger than that of Indonesia, with more than 44% of Tanzanians younger than 15 years. The average age in Tanzania is calculated to be 17.6, compared to 26.1 years in Indonesia. While people in Tanzania can expect to live to be 44.4 years, statistically, Indonesians have a life expectancy of 69.3 years, almost 25 years older. Both countries have a large proportion of poor people, one quarter in Indonesia and one-third in Tanzania. The literacy rate is also higher in Indonesia, but the difference is rather small. Compared to its neighbouring countries, Tanzania has a relatively high literacy rate. It is worth noticing, however, that there is a significant difference in literacy between men and women in Tanzania.

In Indonesia, 88% of the people are Muslims. Less than 10% are Christians and there are small minorities of Buddhists and Hindus. The Tanzanian population is divided into three large segments, Muslims, Christians and indigenous believers. The UK Foreign and Commonwealth Office (2004) estimates the religious distribution in Tanzania to be 45% each of Muslims and Christians and 10% traditional believers.

Both Indonesia and Tanzania have their lingua franca. Bahasa Indonesia is the dominant and official language and is spoken all over Indonesia. In Tanzania most people have their own, local languages, often quite distinct from each other. However, Kiswahili has become the lingua franca of eastern Africa and is the official language, spoken by all Tanzanians. From secondary school level, all teaching is in English, the second official language of Tanzania.

Table 1: Country statistics

	Indonesia	Tanzania
Area (sq. km.)	1,919,440	945,087
Population (mill.)	238.5	36.6
Labour force (mill.)	100.5	13.5
Age structure (%) 0-14 years: 15--64 years: 65 -> years	29.4 65.5 5.1	44.2 53.2 2.6
Life expectancy at birth (years)	69.3	44.4
Religion (%) Muslim Christian *Other*	88 8 4	38 30 32
Literacy rate (% of people aged 15 and over that can read and write) Total Male Female	88.5 92.9 84.1	78.2 85.9 70.7
GDP; purchasing power parity (PPP, billion $)	758.1	21.6
GDP (PPP) per capita ($)	3,179	590
Population below poverty line (%)	27	36
Official unemployment rate (%)	10.5	12.9

Sources: CIA (2004) and Tanzania national website (2004)

The telecommunications and ICT infrastructure, as described in table 2, shows significant differences between the two countries, as well. In spite of modest ICT expenditures and a low number of Internet hosts, the use of the Internet in Indonesia is growing quickly. The number of Internet service provider (ISP) licenses issued increased from one in 1994 to 180 by the end of 2002 (Purbo, 2002; APJII, 2004). The number of Internet users increased by more than 770% between 1998 and 2002, from 512,000 to 4,500,000. APJII (2004) predicted that the number will be 12 million by the end of 2004. Given Indonesia's large population, the density of Internet users is still low, slightly more than 2%, and lower than the density of phone lines (3%) (Directorate General of Post and Telecommunications, 2001).

The Tanzania Communications Commission (TCC) has licensed nine companies to provide data communication services including Internet bandwidth. As a result of their policy, Tanzania lacks cheap and high capacity connections to the global Internet, and there is a large unsatisfied demand in the country for Internet access (Tanzania Ministry of Communications and Transport, 2003). The number of ISPs in Tanzania increased from one in 1993 to 23 in 2002, servicing between 10,000 and 15,000 subscribers (Tanzania Ministry of Communications and Transport, 2003). The number of Internet users however has been difficult to identify. The CIA (2004) estimates the number to be 80,000 in 2002. This gives a density of Internet users of 0.2%, or one-tenth of Indonesia.

Wahid et al. (2004) estimate the number of Internet cafés in Indonesia to be around 2000. The cafés are highly concentrated and the vast majority are found in the larger cities on the centrally located and densely populated island of Java. Other major agglomerations include the tourist sites of Bali and Lombok.

There are no reliable statistics on the number of Internet cafés in Tanzania. Tanzania Ministry of Communications and Transport (2003) reports that there are reputed to be over 1,000 cybercafés, more than any other sub-Saharan African country, while SIDA (2001:17) states that:

> '*The number of Internet cafés in operation in Tanzania is hard to assess. Estimates from "insiders" range from 100 to 1,000, with the most realistic estimate being 300-400*'.

Chachage (2001) estimates the number to be about 100. Other sources (e.g. web-directories and our own experience) indicate that SIDA's number (300) is an upper limit.

Table 2: Telecommunications and Internet statistics

	Indonesia	Tanzania
Telephones – main lines in use (mill.) - 2002	7.8	0.2
Telephones – mobile cellular (mill.) - 2002	11.7	0.7
Teledensity – (lines per 100 people) - 2002	3	1.2
ISPs – 2002	180	23
Internet hosts – 2002	61,279	1,731
Internet subscribers	667,000	14,000
Internet users – 2002	4,500,000	80,000
Television broadcast stations - 1999	41	3
Internet cafés – 2002	2000	300-400

Sources: Directorate of Post and Telecommunications (2001), Tanzania Ministry of Communications and Transport (2003), APJII (2004), SIDA (2001)

4. Data collection and methodology

This paper is based on recent surveys of users of Internet cafés in the city of Yogyakarta in Indonesia and in five towns in Tanzania. Previous in-depth interviews with business owners as well as with users prepared the ground for developing a questionnaire. Draft versions of the questionnaire were tested on a number of respondents in Indonesia before the final version was decided upon. This questionnaire formed the main research instrument for this study.

In Indonesia, the questionnaire respondents were all customers whom we physically met in Internet cafés in Yogyakarta during November - December 2003. Yogyakarta is a university city, a provincial capital, and has approximately 500,000 inhabitants. For our purposes, Yogyakarta city was divided into five geographical clusters based on main lines of demarcation. In each cluster, we randomly selected three Internet cafés. The number of venues for data collection thus became 15, which is 10% of the total number of Internet cafés in the city. In order to get the most realistic picture of Internet use, questionnaires were distributed at three different times of day. Within each time period we collected responses from six Internet café users at each venue. The total number of respondents is 270.

In Tanzania, the survey was executed during two periods in 2004, based on the same questionnaire as in Indonesia, translated into Kiswahili. In January/February, the survey was administered in three towns, Iringa, Songea and Mbeya, in the south-western part of the country, along the main road from Dar-es-Salaam towards Malawi and Zambia. The three cities are all mid-sized, with between 100,000 and 250,000 inhabitants each. None of them are typical university-towns or tourist sites. All the seven Internet cafés that we found in the three towns were visited, three in Mbeya, three in Iringa, and one in Songea. This resulted in a sample of 63 respondents. In September 2004 we carried out the second phase of the survey in Morogoro and Dar-es-Salaam. Morogoro, 220 km east of Dar, has 260,000 people some industry and a number of educational institutions, including two small universities. We collected 41 questionnaires in four of the six cafés in town (no selection criteria) from all customers, at different times (morning and afternoon) on two days. Dar-es-Salaam is the biggest city in Tanzania, with 2.5 million people. Through our own mapping, combined with various other sources, we found close to 40 Internet cafés, mainly in the Kinondoni and Ilala areas. From this list, we selected 12 of the cafés, based on an even distribution across the two areas. In some cases, we did not get permission from the managers to distribute questionnaires to the customers and in those cases we went to the next, nearby café. Half of the cafés were visited in the morning, half in the afternoon. All customers present were asked to fill in the questionnaire and all together 161 valid answers were collected in Dar. The total number of respondents in Tanzania is 265.

A number of additional in-depth interviews with customers in Yogyakarta and Lombok and in Morogoro and Dar-es-Salaam have helped us in interpreting statistical findings. Some quotations from the in-depth interviews are presented in our empirical discussion.

5. Empirical findings and discussion

Table 3 presents the user statistics. It shows that one main difference between the research sites in Tanzania and Indonesia is the role of Yogyakarta as one of the main university sites of Indonesia. This was reflected in the composition of the respondents. Fully three quarters of the Indonesian respondents were students, compared to less than

40% in Tanzania. Some of the differences among users can therefore (partially) be explained by this, for example average age, marital status and monthly expenditure.

One-third of the Indonesian Internet café customers were women, which is a substantial percentage in a poor, predominantly Muslim society. In Tanzania the female share is a little higher, 37%. These numbers illustrate the difference in public participation between the two genders in developing countries, in general. One challenge within this context, i.e. to increase the number of female users, will be to make the Internet cafés more presentable and suitable for women. Saidi, a teacher from Zanzibar, Tanzania explained that:

> *"Women feel shy for the boys when they visit an Internet café, that's a cultural obstacle. They need arrangements for sitting for themselves to feel comfortable.'*

The age difference looks marginal between the two national user groups, and might, to some extent be explained by the population composition (see above). But, looking at the age distribution of the total population, where Tanzanians are, on average, more than 8 years younger than Indonesians, we observe that the Tanzanian Internet café users are older than we could expect.

Table 3: Descriptive statistics – the IC users

	Yogyakarta in Indonesia	Tanzania
Number of respondents	270	265
Gender distribution, Male/Female (%)	68/32	63/37
Age - average	22.2	25.6
Marital status – single (%)	92.6	77.6
Education		
Elementary (6-7 years)	4.5	8.9
High school (junior/senior; 9-12 years)	58.2	58.6
University (Diploma/Bachelor/Master; 13 years +)	37.3	32.3
Employment		
Students	72.2	38.1
Self employed	9.3	15.5
Governmental	.7	9.8
Private company	12.2	26.3
Unemployed	4.4	10.5
Monthly total expenditure (USD)	62.20	200.95
Monthly spending in Internet cafés (USD)	6.51	11.60
Internet café fees, price per hour (USD)	0.29-0.35	0.50-1.14
Skills and knowledge		
Computer knowledge	2.80	2.78
Internet knowledge	2.75	3.10
English proficiency	2.73	3.73
Frequency of use of Internet cafés – days/month	9.1	13.2
Time spent per Internet café visit - hours	2.6	1.8
Alternative places to access the Internet		

home	5.9	4.6
At work place	11.1	9.0
At school/university	23.7	8.5

1 USD = 1,050 Tanzanian shillings (Tsh) = 8,600 Indonesian rupies (Rp)

Based on the background of the high proportion of students among Indonesian users, we find surprisingly small differences when it comes to educational level between the two countries. Around one-third of the users in both countries have some university education. The main impression is that the Internet café users are well-educated, which is also well documented in the literature (e.g. Chachage, 2001; Mwesige, 2004; Haseloff, 2005). Less than one out of twenty Indonesian users have only completed their primary education, while in Tanzania close to 10% of the users have only elementary (6-7 years) education, which is a little higher than might be expected. This finding suggests the need for closer study into finding ways to attract a wider range of user groups to Internet cafés in general.

While there were almost no governmental employees among the Indonesian users, 10% of the Tanzanians had governmental positions. One explanation could be the lack of alternative places to access the Internet for this group. According to SIDA (2001:28),

> '… the level of automation (in the governmental sector) is low and is exacerbated by shortage of skills, equipment and money'.

There is a surprisingly high share of unemployed people among the Tanzanian users (10%), considering the relatively (compared to per capita GDP) expensive Internet café fees.

Tanzania is categorised as one of the poorest countries in the world. Even if Tanzanians, on average, are poorer than Indonesians (one-fifth of the per capita GDP), the Internet café users there spend three times more money as a total and 80% more on Internet café fees than the Indonesians. There are various potential explanations for these numbers; the most obvious is the users' employment position, where the Indonesians are dominated by students, while there is a large portion of professionals (more than 40%) among the Tanzanians. Our impression is that all users spend a surprisingly large amount of money on Internet café fees. Tanzanians spend more than 5%, while Indonesian Internet café users spend as much as 10% of their monthly expenditures on Internet café fees.

Users in Tanzania visit the cafés more frequently than Indonesians in Yogyakarta, but they spend a shorter time per visit. Altogether the two groups spend almost exactly the same time in the Internet cafés during one month.

As mentioned above, the educational level is remarkably similar between the two national groups of users, and the two groups have an almost parallel perception of their own computer knowledge. The Tanzanians' perception of their Internet knowledge is a little higher than the Indonesians and there is a clear difference in the understanding of their own English language proficiency. On a scale from one to five (five is best), the Tanzanian users score as high as 3.73 on average, compared to 2.73 among Indonesians. The explanation is, most probably, the wide use of the English language in the Tanzanian school and society.

When looking at the various types of use of Internet cafés from table 4, one main finding from our surveys is that the Internet cafés, to a high degree, are used for competence development. Seeking information (rank 1) and research (rank 5/4), both fall into that category, while e-mail, reading news, downloading information and software for professional use, and doing business all may contain important elements of competence building. The correspondence between the two rankings is more striking than the differences, suggesting that the use of Internet cafés is somewhat similar even in the different context in the different countries.

Through in-depth interviews, we have tried to trace the change, or development, in Internet café use for various user groups. Many, especially young people, star with pure entertainment and socialising, such as through chatting, games etc. We found however, that the use changes over time, being more 'serious' or useful after a period of time. Gaspar, the manager of an Internet café in Dar-es-Salaam, had noticed about his customers:

> '… at first (they) use e-mail only. After a while, instead of only waiting, they start to read news, seek other information and sometimes end up with more professional uses. Young people who come for entertainment – after they have played games for some time, seek information for their school work and now or then print the information for later use'.

Purnomo, the owner of an Internet café in Yogyakarta told us:

> 'After the economic crisis – users are more selective in their spending. Generally, there is a change in motivation for using the Internet café among students. They used to use the Internet for entertainment, but today they use it for specific purposes, such as searching articles to support their thesis or for communication'.

Donny, running the B@yonet Internet café in Yogyakarta, similarly related that:

> 'We see that students (including high school pupils) now search information in the Internet, not in libraries anymore.'

Table 4: Internet café use (during <u>this</u> visit) in Indonesia (n=266) and Tanzania (n=265)

Type of use	Indonesia			Tanzania		
	n	% of sample	Rank	n	% of sample	Rank
Seeking information	256	94.8	1	192	72.5	1
E-mail	238	88.1	2	191	72.1	2
Chatting	191	70.7	3	161	60.8	3
Reading online news	179	66.3	4	136	51.3	5
Research	150	55.6	5	152	57.4	4
Computer games	103	38.1	6	98	37.0	6
Downloading software for professional use	102	37.8	7	87	32.8	8
Downloading software for amusement	102	37.8	7	86	32.5	9
Downloading music	95	35.2	9	94	35.5	7
Visiting pornographic sites	74	27.4	10	46	17.4	12
Doing business	73	27.0	11	57	21.5	11
E-shopping	52	19.3	12	61	23.0	10
Gambling	43	15.9	13	34	12.8	13

Our findings are in line with those of studies in other parts of Africa. Odero (2003) investigated why students in Pretoria, South Africa, used the Internet café and found that postgraduates tended to use the Internet as an educational resource, while undergraduates used the Internet to chat, listen to music, send free SMS, and other forms of entertainment.

Where do people learn to use the Internet? Table 5 shows that only a few of the Internet café users have learned to use the Internet at school or through formal courses. Most of the training has taken place in the cafés, where the users have learned by themselves supported by friends and staff. Almost half of the Tanzanian users have learned from the Internet café staff, while most of the Indonesian users have learned to use the Internet by themselves combined with help from their friends in the cafés.

Felix, a 20 years old student in Morogoro used the Internet for the first time one year ago: '*I learned it from myself and from the staff – they are most helpful and have helped me very much.*' The manager of the Sea Boys Internet café in Dar-es-Salaam has more than 50% regular customers. '*They become my friends and then I advise them on how to use the computers and access the Internet'.* Sheila, a 19 years old high school student in Yogyakarta is using the Internet 3-4 times a week. She learned it by '*… asking friends of same age. Many friends knew a lot of the Internet'.*

Table 5: How did you learn to use the Internet?

Source of knowledge	Indonesia		Tanzania	
	n	%	n	%

Formal course	29	10,90	79	29,81
Self-learning	169	63,53	66	24,91
Asking friend	176	66,17	78	29,43
Internet café staff	62	23,31	118	44,53

Finally we looked at barriers to Internet use in Internet cafés (see table 6) and found that users from Indonesia and Tanzania look differently at the obstacles to increased use. Tanzanians rank cost as the most important factor. More than 50% of the respondents would have used the Internet more if the price was reduced. Looking at the national differences between general economic level (table 1) and the Internet café fees (table 3), this is easy to understand. The price is two to three times higher in Tanzania than in Indonesia.

While infrastructure quality (access speed) is ranked as obstacle number one in Indonesia, this is only the third most important hindrance in Tanzania. In Indonesia, there are only marginal differences between the three highest ranks. In Tanzania, costs have a much higher score than the other barriers. We have included some quotations from in-depth interviews to illuminate the cost and infrastructure issues:

Arafa, a 24 year old female Internet café customer in Dar-es-Salaam thought that:

> 'In Tanzania it is very expensive to use the Internet and lack of cash is the first and most serious limitation to my use of Internet cafés, then comes spare time'.

Bambang is a 28 year old engineer from Yogyakarta. He has been using the Internet since 1998 and says that the reason he uses this specific Internet café is the access speed.

> 'The connection is fast. Usually big Internet cafés have good bandwidth. Small Internet cafés with limited budgets often lease only limited Internet bandwidth. The rental price is not my main consideration, as long as the rate is compensated by the speed of access.'

Sheila, a female student in Yogyakarta, also feels that bad infrastructure is a problem for her:

> 'I don't like to open Indonesian websites. It takes too much time to download because of the quality of the servers they use. Because of that, I use English 90% of the time when accessing the Internet and I'm sure I would use the Internet even more if it was equally easy to access the Indonesian websites'.

The significance of the amount of useful information being identified is interesting to examine more closely. This has higher relevance in Indonesia than in Tanzania, where less than 10% of the respondents have pointed to this factor as an obstacle to increased use. One explanation could be their English language proficiency (see table 3). From our detailed numbers, we can see that the Indonesian users use English and Bahasa Indonesia equally when accessing the Internet, while the Tanzanians use Kiswahili to a very limited degree (less than 20%). Although some Indonesian users prefer to use English when they access the Internet, many still regard a lack of useful information in Indonesian as an obstacle to increased Internet use.

Independent of their language knowledge, the amount of web-based information in their own language is an interesting issue in this connection. The Tanzania Ministry of Communications and Transport, (2003:4) states that:

> 'While there are many Tanzanian websites, most of these are in English ... However, an encouraging phenomenon is that Kiswahili is recognised as being the African language with the greatest web presence'.

Table 6: Factors limiting Internet use

Obstacle	Rank of perceived severity	
	Indonesia	Tanzania
Access speed	1	3
Cost	2	1
Spare time	3	2
Amount of useful information/services	4	5
Personal skills	5	4

The barriers to Internet use in Internet cafés corresponds to a certain degree with some of the general theory we presented in section 2. Access speed is clearly linked to "perceived ease of use" and amount of useful information to "perceived usefulness" in the Technology Acceptance Model (Davis, 1989) and UTAUT (Venkatesh et al., 2003). Kiiski and Pohjola (2002) point to the importance of Internet access cost as an explanation of differences in Internet usage.

6. Conclusions

In our study, we show that Internet cafés are today the main access point to computers and to the Internet for people in developing countries such as Indonesia and Tanzania. If they are spread further into rural areas, they have the potential to be important tools for bridging the digital divide within such countries and to level the information asymmetry.

For a wide range of users, we have shown that Internet cafés are perceived as suitable and economically acceptable sources of information and knowledge. Tanzania and Indonesia are two developing countries at very different levels of development. We found, however, that the users of Internet cafés and their use are so uniform that we find it natural to draw general conclusions. The cafés are, to a large extent, used as arenas for human resource development, through research, information seeking and other professional use, and we found that users are willing to spend a high proportion of their income on Internet café fees.

In this paper, we have tried to describe the Internet café as a 'classroom' for learning, both to use computers and to access information on the global Internet. Our study shows that today, Internet cafés act as Internet training schools, places for learning, and that they will have a potential to extend this training to a broader area of knowledge with increased competence and contribution from the Internet café staff. Today, the users are, in general, well educated. For the Internet cafés to become more attractive for ordinary, less educated people in developing countries, it is important to raise the competence and to increase the awareness of the Internet café staff. Then they will be able to help and guide the users in a more effective way. Training courses, combined with practical use, could be a valuable source for additional income for the Internet café business, and is a useful way to extend the customer base and the market.

Sending and receiving electronic mail is the most common use of the Internet among all Internet café users. The Internet café use pattern seems to change over time. New and young users start their 'career' with entertainment and socialising, like chatting and playing games. After a while, more serious use, like information retrieval and research takes over.

Due to the English language's dominant position on the World Wide Web, English language proficiency plays an important role for users in obtaining full benefit from their Internet café use. Tanzanian users derive advantage from the extensive use of English language in Tanzanian society.

Low infrastructure quality (access speed) is the most important obstacle to increased use among Indonesian users, while costs are considered most important among more than half of the Tanzanian users. All together, access speed and price are the highest ranked factors limiting Internet use in Internet cafés. These two factors are linked together, and must be important government challenges in supporting improvements in and the spread of affordable Internet access.

A limitation in our study is the lack of information about non-users. To make interesting comparisons between users and non-users, this study might be followed up by collecting data from a sample of non-users in the same social and economical contexts.

Another interesting question is to see how Internet cafés can attract new groups of users to develop their competence. In Tanzania, one café was visited regularly by local classes of students (from college and high school). We want to investigate if such 'official' use of Internet cafés, or other initiatives, might raise their status and remove culturally based prejudices and obstacles against Internet café use, and thereby increase their importance for the spread of information and competence in rural and information poor areas of developing countries. Mtumwa, a female manager of a small Internet café in Zanzibar, Tanzania, told us that:

> *'People from Zanzibar don't like Internet cafés very much – because you can watch dirty sites. They think that's the only reason for people to use the Internet, but that's not true!'*

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