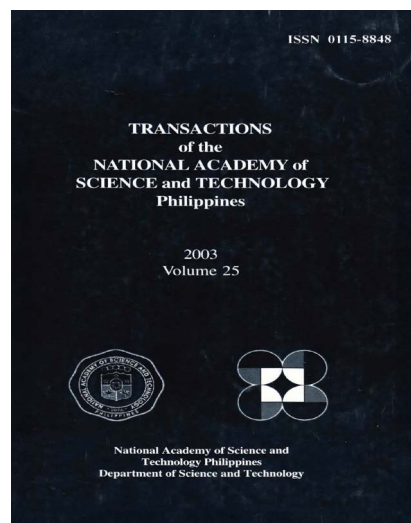


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Using the Capabilities Approach to Analyze Access to Information and Communication Technologies (ICTs) by the Poor

Erwin Alampay

National College of Public Administration and Governance (NCPAG),
University of the Philippines Diliman
Institute for Development Policy and Management (IDPM),
University of Manchester

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USING THE CAPABILITIES APPROACH TO ANALYZE ACCESS TO INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTS)

Erwin A. Alampay

National College of Public Administration and Governance (NCPAG),
University of the Philippines Diliman
Institute for Development Policy and Management (IDPM),
University of Manchester
erwin_gaspar.alampay@up.edu.ph

"If the object is to concentrate on the individual's real opportunity to pursue her objectives, then account would have to be taken not only of the primary goods the persons respectively hold, but also of the personal characteristics that govern the conversion of primary goods into the person's ability to promote her ends" (Sen 1999: 74).

Abstract

The capabilities approach was utilized to analyze access to information communication technologies (ICTs) such as radio, telephone (both landline and mobile), computer, and email in Puerto Princesa City, Palawan. This study showed that radio and TV are still the most accessible ICTs although access to cellular or mobile phones is rapidly increasing. The young, the highly educated people in urban areas and those with higher incomes are the most likely beneficiaries of access to ICTs. The study also revealed no significant difference between women and men's use of cell phones and computers and knowledge about the email. The use of ICT was shown to be influenced largely by perceptions of how relevant they are in the users' lives. Further, educational attainment influences positive perceptions on their need and usefulness. Lastly, the study showed that people set priorities based on their own set of values and understanding of what is important in their day-to-day lives.

Key words: capabilities approach, ICTs, Philippines, Palawan, access

Introduction

Access to information and communication technologies (ICTs) is viewed as critical in society today largely because of the potential opportunities that it provides. In our globalized world, ICTs are needed for people and communities to remain competitive and connected. As such, universal access to ICT policies can be seen as policies that expand people's freedoms. However, many of the policies on universal access to ICTs looks at ways of providing access without considering the differences in people's goals, and the way people value and use them.

It is in this regard that the Sen's capabilities approach was utilized with respect to the access and use of ICTs. The following were investigated: who had access to ICTs, the characteristics of people who made use of it, how and for what ends they were utilized.

The capabilities approach is first discussed followed by issues pertaining to its operationalization. There will be focus on key concepts in Sen's approach, particularly functioning, capabilities and freedoms. Afterwards, how functioning, capabilities and freedoms apply to ICTs and how the concepts were operationalized in the research are discussed. Lastly, findings on how different demographic characteristics affect the access and use of ICTs based on my survey in Puerto Princesa, Palawan are presented.

Sen's Capability Approach

In the capability approach, "the analysis of development... treats the freedoms of individuals as the basic building blocks. Attention is thus paid particularly to the expansion of "capabilities" of people to lead the kinds of lives they value - and have reason to value... Having greater freedom to do the things one has reason to value is (1) significant in itself for the people's overall freedom, and (2) important in fostering the person's opportunity to have valuable outcomes... Greater freedom enhances the ability of people to help themselves and to influence the world, and these matters are central to the process of development." (Sen 1999)

There have been much discussion on the issues this approach raises and ways for applying its principles. Its operationalization is the first step to its practical use. One difficulty with its operationalization, however, is capabilities approach's "theoretical underspecification and inclusive view of operationalization which contests not only the evaluative but also the practical foundations of utilitarianism" (Comim, 2001). Another problem is how its key concepts, namely functionings, capabilities and freedoms are 'obscurely' or interchangeably used (Gasper, 2002).

Below are some of the highlights discussed by some scholars about the concepts:

Functioning

The concept of functioning “reflects the various things a person may value doing or being” (Sen, 1999). They are “components of how a person lives” (Gasper 2002). Evaluating it requires the identification and weighing of valuable things that people are able to be or to do.

Capabilities

A person’s capability is the set of alternative functionings vectors a person could attain, or in other words the extent of one’s positive freedoms (Gasper, 2002). Capabilities could mean actual things that a person has done, as well as things they can possibly do.

Capabilities approach also points out that people differ in how they transform the same bundle of goods into opportunities for achieving their goals. Differences can be due to people’s abilities, and in their social status in the community (Biondo, 2002).

Freedom

Freedom “involves both the processes that allow freedom of actions and decisions, and the actual opportunities that people have, given their personal and social circumstances.” (Sen 1999:17). Central to this concept is choice (Gasper, 2002, Comim, 2001). Even if people are provided the opportunity and have the needed capabilities, they still have the freedom to decide whether the opportunity is worthwhile to them

Now, how can capabilities approach be used with respect to access to ICTs?

Applying the Capabilities Approach to the Access Use of ICTs

As with the human development index, it is becoming apparent that policies must coordinate the construction of both human and technological capabilities in order to benefit from the potential applications of new ICTs. The United Nations Commission for Science and Technology for Development for instance, aside from infrastructure, includes, experience, skills and knowledge as critical components in the development of information societies (Mansell, et al 1998). These components are the capabilities that are needed to function effectively in today’s information society. Hence, it is not a leap to argue that capabilities approach can be applied to ICTs.

Functioning, Capabilities, Freedom and ICTs

Sen says that “the evaluative focus of this ‘capabilities approach’, can be either on the realized functionings (what a person is actually able to do) or on the capability set of alternatives that she has (her real opportunities). The two give different types of information — the former about the things a person does and the latter about the things a person is substantively free to do” (1999).

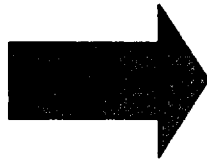
How then can realized functionings or capability set of alternatives be operationalized in the access and use of ICTs?

Realized (and unrealized) functionings

According to Sen (1999) “the assessment of capabilities has to proceed primarily on the basis of observing a person’s actual functionings, to be supplemented by other information. There is a jump here (from functioning to capabilities), but it need not be a big jump, if only because the valuation of actual functionings is one way of assessing how a person values the options he has.” Actual or realized functioning therefore can pertain to actual use of ICTs (Figure 1).

**Differences
Among people**

- Age
- Income
- Gender
- Motivation
- Profession
- Mobility
- Skills/Education
- Location
- Perceived Importance of ICTs



CAPABILITIES

Knowledge/Experience to use ICTs
Types/Source of Access to ICTs



FUNCTIONINGS

Actual Use
Where ICTs are accessed

Figure 1: Applying the Capabilities Approach to access to ICTs

Because this research was also specifically concerned with universal access to ICTs, realized functioning with respect to the use of ICTs considered recent use of ICTs. A time frame with respect to the use of the technologies was considered. For this research, I asked respondents about their use of ICTs over the past year. While it is important to know how people transform a bundle of goods (in this case ICTs) by knowing how and for what purpose they use them, this was not extensively covered by this research.

On Capabilities

The difficulty with operationalizing capabilities approach is the fact that some capabilities are harder to measure than others, and this explains the limitations with respect to gathering the needed data that can be used to apply the approach.

Given that a person's capability is the set of alternative functionings vectors a person could attain or what a person has done, as well as things they can possibly do, this was operationalized by asking people whether they knew how to use telephones, cellular phones, and computers.

Real opportunities for using ICTs are also dependent on the technologies or ways access is provided in the communities they belong. Thus, sources of accessing ICTs (whether public or private, in school or at offices, through PCOs or telecenters, landline or cellular etc.) were asked. They were also asked which "source" they used.

In evaluating the impact or improvement with respect to universal access to ICTs, both realized functioning and actual opportunities were investigated. Knowledge to use an ICT did not always mean they were using the technology. Geographical access to the technology, did not always translate to its use. *In this sense, actual opportunities may or may not translate to realized functionings. It is realized functionings, which actually translates to demand for ICT services, and this may influence the provision by private corporations of these services to unserved and underserved communities.*

Differences among people and importance of choice

An important issue raised by CA is that while access to a basic good, in this case ICTs, is a prerequisite to use, individual differences, capabilities and choice also play a role on whether people make use of these goods, how they apply them, and how they are valued.

The common measures for access to ICTs are teledensities (as far as telephones are concerned) or the number of Internet users (as far internet penetration is concerned). Traditional measurement of access does not usually look into the variations in the use of (whether in amounts or for purpose) these resources by different people.

How were the differences in people with respect to ICT use operationalized for this research? This study looked at the differences primarily in terms of gender, age, education, socio-economic income, the location of their home (urban/rural), as well as mobility (or migration patterns, indicated by having "multiple" homes or addresses) (Figure 1). Differences in preferences and perceived value of ICTs were also considered. This is because individual choices to use a basic commodity, can be affected by a person's perceived value of the good in terms of how it can be used or affect their lives, whether at home or at work and

whether positively or negatively.

Finally, people may know how to use a commodity (ICT), recognize its importance and value it, and want to use them but are unable to use them. For our purposes, this could be defined as “unrealized functionings.” Unrealized functioning is premised on the fact lack of access to a bundle of good inhibits the person from that life choice, which also captures Sen’s concept of “unfreedom.” This was measured by asking people whether they consider certain ICTs to be important at work or at home, why they considered them to be important and was analyzed against their actual knowledge and use of the ICT. The reasons that prevent people from using or accessing ICTs, are issues government policies on universal access should address.

The Case of Puerto Princesa City

This research was based on survey information randomly collected from individuals in Puerto Princesa City, Palawan. A total of 269 respondents were selected from eighteen randomly selected barangays (9 urban and 9 rural). They were surveyed about their knowledge and capability to use various information and communication technologies. The survey was given alternately to husbands, wives and other members of the household who were 12 years or older. The age of the participants ranged between 12 and 80, with a mean age of 35 years ($SD = 14.4$). Approximately 58% of the participants were female, and 39% had at least some college education. Forty-three percent (43%) of the respondents reported having household incomes less than PhP 5000 a month, implying that majority of the sample were poor.

Respondents were asked which forms of ICTs they possessed and where they accessed their basic telephone services, or cellular phone service. Their perceptions on whether they considered the telephone and cell phone important to have at home or at work were also taken. They were also asked why it was or was not important to learn to use the computer. Understanding their reasons has implications on how ICTs are used and what prevents them from utilizing it. The research also investigated whether location, gender, educational attainment, income and age influence the use of ICTs, such as telephones, cell phones, text messaging, personal computers (PCs) and email.

Puerto Princesa is one of the larger cities in the Philippines. Despite being a city, many of its barangays are still rural. The barangays are very diverse, with some located in the coast, some in farm lands, and others in mountainous areas. In selecting this site, the research intends to capture varying conditions that strategies for universal access should be able to overcome.

Ownership of and Access to ICTs

The most accessible means for communications in Puerto Princesa are radio and television (TV) (Table 1) and access to cellular phones comes next. The absence of electricity in some rural barangays makes ownership of a radio practical. More people say they own a cell phone, compared to those who actually have a landline at home, and this reflects the national trend.

Table 1. ICT ownership, Puerto Princesa (n=269)

ICT	Number who own	%
Radio	215	80
TV	167	62
Cable TV	35	13
PC	14	5
Landline Telephone	19	7
Cellular Phone	63	23

Landline Telephone

While 63% said having a phone in the house was important, only 19% said they have had a phone in the house, and only 7% said they still have one at home. This shows that even though they recognize the importance of having a phone, it does not necessarily translate to actual ownership. This also suggests that demand for landline phones is actually contracting.

Some of the reasons given for having their landline disconnected was the inability to manage the costs, poor service of the provider, and difficulty to monitor its usage. Others already consider cellular phones as a better alternative.

Table 2. Accessing telephones in Puerto Princesa (n=269)

	Daily	Weekly	Monthly	Occasionally	Total	Total (%)
From friend/neighbor	6	5	3	45	59	22
Public phone	2	4	1	80	87	32
Office/school	6	0	0	13	19	7
Own house	12	2	0	8	22	8
Has to go to town center	1	2	2	69	84	31

The most used form of access was public phones (Table 2), which includes public calling offices (PCOs) located at the city center. Most of the responses that mentioned using public phones pertain to occasional usage. While occasional usage may indicate that people do not need ICTs regularly, it may also reflect that it is difficult if not inconvenient to access public sources of telephone access. Majority of those with phones in their own homes use their phones everyday.

Perceived importance of the telephone

Telephone at home. A majority of the respondents (63%), say they consider having a telephone at home important. There was no significant difference even if age, gender, educational attainment, household income or their “mobility” was considered.

People said a phone was important primarily for convenience. It saves people time, money and effort for important communications to be sent out. Telephone access is also important because it is a prerequisite for some for access to the Internet.

Most respondents also said a phone in the house was needed in case of emergencies. It can be used to keep in touch with family especially in cases where the members no longer live in the same house or they work in other regions. Some also see the telephone as useful for business especially for those who work from home. The perceived use of the phone was also connected to staying in touch with the office from home and vice-versa. For some students, it is important in order to be more aware about school and if there are any assignments.

There’s also a social function to having a telephone at home. It keeps people entertained, and allows people to talk to friends and neighbors.

People who said the phone was not important to have in the house argue that it is not a necessity since you could always personally visit the person you want to talk to. Its use is also difficult to monitor. Some rank the phone lower in their priorities, compared with food, water and electricity, especially when they consider that they might use it sparingly.

Absence of Connections. They say that they don’t have anyone to call.

Complicates their lives. They argue that it could be a distraction to their children’s studies. Bills are inaccurate and a hassle to pay. Others complain that many people, especially neighbors, use the phone and make controlling expenses a problem.

Alternative access. Some prefer using the cell phone, or access the phone at the office.

Cost/Expensive – Aside from some not having money to have a phone subscription, some still consider having a telephone as a luxury. With others, it won't be cost effective to have one.

Others. Some also say they don't need it, or that it does not fit their lifestyle.

Telephone at work. People recognized the importance of the phone at work in terms with dealing with their co-workers, employers, and subordinates. It makes transactions more efficient and saves time and money, especially with transportation expenses. It is useful for coordinating with suppliers and dealers and is an important service for clients. It allows them to monitor what's happening at home.

Those who said the phone was not important at the workplace gave the following general reasons: (1) They have alternative communication technologies which they find more useful; (2) The nature of their work does not entail staying in an office, or require having a phone; (3) Their house is located near their workplace; and (4) they couldn't maintain the expenses entailed with having one at work.

Only educational attainment was statistically significant with respect to the phone being needed for work. Those with higher education, particularly those who reached college-level education, were more likely to consider the telephone as crucial to their work.

Cellular Phone

In Puerto, 23.4% of the sample owned their own cell phone, and 29% borrow the cell phone they use. The primary reason for not having a cell phone was cost. Either people couldn't afford one or could not maintain its regular use. A few argued that they have a cell phone they could borrow or they already have a landline. Only one person said that there was no signal in their area, although in general, many of the rural barangays surveyed did not have acces-

Table 3: Accessing cellular phones in Puerto Princesa (n=269)

	N	%
Own	63	23
Relative	61	23
Friend	14	5
Officemate	3	1
Office issued cell phone	1	negligible

*frequencies for others mentions were reclassified into relatives (3), 1 (officemate)

Among those who use a cell phone in Puerto, a majority said they used SMART (72%). The primary reason given for preferring SMART was signal quality, the fact that SMART was in Palawan first, and cost.

Of the payment options, 100 said they used prepaid, and only 3 said they had fixed payments. With prepaid cards, they feel they have more control with their expenses, and payment is easier because there's no problem with monthly bills. However, with prepaid cards people are less aware of whether they are being charged correctly for their calls.

It is interesting that demographic differences exist in people's perceived need for a cell phone, whereas no significant differences were noted of people's perceived need for a home phone (Table 4). Perceived importance of the cell phone was significantly different ($p < 0.05$) with age, educational attainment, household income and with respect to people having more than one place to go home to.

Table 4: Multiple residence and perceived need for ICTs

Has other places of residence	Need cellphone (%)	Needs a home phone (%)
Yes (n=92)	72.83	65.22
No (n= 170)	55.88	61.18

Most of the usefulness associated with the telephone was also mentioned with respect to the cell phone. It was useful for emergencies, and keeping in touch with friends and family. But there were also unique features and uses of the cell phone that was brought up:

1. **More control** in terms of personal use and controlling expenses.
2. **Added convenience.** It allows a person to call and be reached anywhere at anytime (provided there is a signal).

3. Keeping up with the times. Some say they need the cell phone just to keep up with the times and to be “in” or as some say to be “hi-tech”. Some feel the need to be part of this, lest they be left behind or miss out on the opportunities it provides.

There were others who remained unconvinced about the advantages of having a cellular phone of their own. Their reasons include, the imperfection of the technology, their lack of skills, its cost, and privacy issues among others:

1. **Imperfect technology.** Many still complain about the technical problems of the cell phone. Foremost is the absence of reliable cell signals or altogether no signals in their place of residence.
2. **Lack of skills.** They don't know how to use one, or have poor eyesight.
3. **Privacy.** Some complain about 3rd parties, or unnecessary intrusions into their privacy
4. **No one to call.** Some mention that they really have no one to call.
5. **Cost.** They have no money to buy one, and find it too expensive to use or to maintain.
6. **Availability of other sources or indirect access.** They already have a phone, or they could borrow a cell phone from someone else.

Location and ICT Use

The data (Table 5) shows that as far as ability to use ICTs are concerned, more people use phones and cell phones compared to personal computers and email.

Table 5. Knowledge to use ICT in Puerto Princesa (n=269)

Mail	Phone	Cell phone	SMS	PC	has email
57.2%	68.8%	51.7%	41.6%	24.5%	8.2%

It is apparent that while more recent technologies have yet to take a hold on the population, sending letters via post has already been superseded by voice communications. In Puerto Princesa, where access to the ICT infrastructure is not yet well developed, access and use is lower for the more modern technologies. The use of mail, however is lower than use for phones because some communities still do not have reliable postal services.

Rural/Urban disparities

The disparity between urban and rural areas (Table 6) is pronounced and highlights the disparity in the infrastructure development in the place. In rural areas, despite postal services being less reliable, or non-existent, more people have sent letters/mail rather than place a call. This simply shows the inconvenience of accessing the nearest phone for those living in Puerto's rural barangays.

Using a phone, cell phone, and a personal computer was significant with respect to location. People in urban areas had a distinct advantage with respect to capability to use these technologies versus their rural counterparts.

Table 6. Location and ICT use in Puerto Princesa

ICT know-how	Urban (n= 120)		Rural (n=149)	
	Yes	%	Yes	%
Sends Post/Mail	71	59.2	83	55.7
Telephone	106	88.3	79	53.0
Cell phone	87	72.5	52	34.9
Knows SMS*	74	61.7	38	25.5
Computers*	48	40.0	18	12.1
Has email	20	16.7	2	1.3

Gender and ICT Use

The results (Table 7) reveal that women were more likely to be using telephones, cell phones, computers, the Internet and email. Furthermore, the chi-square test showed that the differences were significant ($p < 0.05$) with respect to use of cell phones, computers and knowledge about the email. The differences were not significant with respect to telephone use. The number who used the internet and had email accounts were too small to be significant.

Women having more access to ICTs bodes well for development, because they are more likely to transmit these benefits to their family and community. This also has implications as far as using women as conduits of information and knowledge, or as intermediaries for spreading know-how found in the Internet.

Table 7. Gender and ICT use in Puerto Princesa

ICT know-how	Male (n= 113)		Female (n=156)	
	Yes	%	Yes	%
Telephone	72	63.72	113	72.44
Cell phone	49	43.36	90	57.69
Computers	21	18.58	45	28.85
Knows email	10	8.85	28	17.95
Has email	6	5.31	16	10.26
Uses Internet	10	8.85	16	10.26

Education and ICT use

The level of education is statistically significant in the use of all the ICTs surveyed and the skills associated with it (Table 8). Those with higher educational attainment tend to know and make use of ICTs more than people with less education.

Eighty-eight percent (88%) of the sample who reached college have been able to use a phone, compared to only 34% for people with primary schooling. The same disparity can be said with the use of the cell phone and the computer. Fifty-two percent (52%) of those who have finished college know how to use a computer versus none for those who finished elementary schooling.

Table 8. Educational attainment and ICT use in Puerto Princesa

ICT capability	Educational Attainment		
	Elementary N= 50	High School N= 98	College N= 104
Telephone	17 (34%)	64 (65%)	92 (88%)
Cell phone	10 (20%)	37 (38%)	80 (77%)
SMS	6 (12%)	29 (30%)	69 (66%)
Personal Computer	0 (0%)	8 (8%)	54 (52%)
Knows email	0 (0%)	3 (3%)	33 (32%)
Has email account	0 (0%)	1 (1%)	20 (19%)
Knows Internet	0 (0%)	9 (9%)	36 (35%)
Used Internet	0 (0%)	3 (3%)	22 (21%)

The survey also reveals that the proportion who knew how to use computers and knew about the email and the Internet increases with the level of educational attainment. This was also true with respect to the proportion who knew the email and Internet and actually used them. For instance, only 33% of people who reached high school and know about email have an account, versus 60% of those who reached college and know about email.

This suggests that better educated people are able to have a greater appreciation of the applications that ICTs provide.

Income and ICT use

Table 9 indicates that close to 70% of those with incomes less than P5000 per month have used a phone and 62% have used a cell phone. This proves that poor households have use for these technologies.

Table 9: Income and usage of ICTs (per cent), Puerto Princesa

Monthly House Hold Income	Sends Mail (%)	Has Used a Phone (%)	Has Used a cellphone (%)	Can Send SMS (%)	Has Used a PC (%)	Has email account (%)
Less than 5000 (n=117)	51	55	35	25	11	1.7
5001-10000 (n=66)	58	82	56	45	26	6
10001-20T (n=26)	69	92	88	65	46	23
More than 20T (n=14)	79	79	100	86	64	36
Does not know (n=2)	50	50	100	50	0	0
No Answer (n=39)	62	74	51	51	38	13

Household income was statistically significant ($p < .05$) in the use of the telephone, cellphone, PC and the corresponding computer skills. The survey revealed that the capability of people to use ICTs increases with individuals in households with higher incomes. This implies that the affordability of these services are crucial to their use. While competition has brought down prices to some extent, some people still consider the cost of using telephones, cell phones and computers prohibitive.

Age and ICTs

The oldest group in the sample was less likely to use telephones, cell phones and computers (Table 10). The differences were significant ($p < 0.05$) with respect to telephone use, cell phone use, knowledge of SMS, computer use, knowledge about email, use of an email address, and use of the Internet. In all these cases, the younger groups tend to know more and are more capable in using ICTs.

Table 10: Age and use of ICTs in Puerto Princesa

	12-21 yrs old n=54 (%)	22-34 yrs old n=102 (%)	35-44 yrs old n=48 (%)	45 and above n=64 (%)
Sends mail	50	50	63	56
Telephone	78	74	65	58
Cell phone	74	56	44	31
Knows SMS*	74	47	33	13
Computers*	43	32	17	3
Knows email	32	14	13	1.6
Used Internet	26	11	2	0
Has email address	20	10	2	0

For the elderly and less educated, what may be key is indirect access to the technology, and to the information and knowledge that comes with it. Indirect access occurs when there are other people in the household who use the ICT and who, in turn, serve as intermediaries for those who do not know how to use them. For example, some people ask their children to email or text for them, and in return, some people send messages through these same people who then relay them back to the "non-users." In some cases, other users within the household may actually help bring the older people to embrace and learn to use the ICTs on their own.

Computers

Ownership does not guarantee that a person knows how to operate equipment, and this is evident with personal computers (PC) (Table 11). However, it also shows that ownership of a PC makes a person more likely to know how to use them, than if they did not have a PC in the house. But, more people who know how to use a computer don't possess a computer of their own. This suggests that a majority have access to computers through schools, the office, public Internet cafes or computer rental shops.

Table 11. Ownership of computer vs. knowledge to use PC

Owns a PC	Can operate a PC?	
	Yes	No
Yes	30	10
No	112	352

Only a slight majority of those who know of email and the Internet actually possess an email account or have tried using the Internet. As mentioned previously, one significant factor in moving from knowledge of an application, like email and the Internet, to actually trying them is the level of education.

Of the respondents who said they have email accounts, fourteen (64%) said their account is provided by their office or school and the remainder say they have an Internet-based account (e.g. yahoo, hotmail). This indicates the important role organizations (e.g. schools, workplaces, community organizations) can play in connecting the digitally excluded.

Perceptions on the importance of the computer

Some people are interested to learn the computer purely out of curiosity. Some want to learn in order to teach it to their children, while others say they do not want to be left behind with the knowledge, or that they remain ignorant about it.

But, there are also people who want to learn because they have specific applications in mind. In particular, they want to learn to send email. There are also others who want to be more prepared for the future. They see it as an “in-demand” and important skill to have. They perceive the computer as a tool that can help make-work more efficient. Some people recognize how the nature of work is changing and see knowledge about computers as crucial to their competitiveness for future employment.

The common themes about why people find it unnecessary to learn the computer, were age, motivation and time.

Age. They say that because they are old, they would be hard to teach. Associated with this are their “physical “limitations” of not having good eyesight, or inability to go out of the house to learn. Older respondents also have the perception that the computer is just for the young.

Motivation. Some people say that they’re just not interested, nor have the patience and motivation to learn.

Time. People are too busy with their work and have no time to learn the computer.

Implications

First, the impact of ICTs is dependent foremost on access to it. While access to ICTs is increasing, people must always bear in mind which ICTs are most accessible and used by people in rural communities. Radio and TV are still the most accessible ICT, although access to cellular phones is rapidly increasing.

Second, the research indicates that the young, the highly educated, people in urban areas and with higher incomes are the more likely beneficiaries of access to ICTs. Filipino women, on the other hand, are not disadvantaged in the use of communication technologies. Efforts must then be made to bridge the digital divide across these demographic differences. Although new wireless and satellite-based technologies are slowly making this possible, the issue of how to provide the infrastructure to rural areas and keep the cost affordable and manageable remains. The popularity of prepaid cards for cell phones and the use of SMS show that ordinary households value control over their budgets and the use of their ICTs. It also shows that demand exists in economically poorer households.

Third, using an ICT is influenced largely by their perceptions of how relevant they will be in people's lives. Educational attainment is one of the statistically significant variables that influence positive perceptions on the need and usefulness of ICTs. This suggests that the education of people on the advantages and opportunities that ICTs can provide must be integrated with strategies to provide more access to it. Only then would ICTs become relevant to more people.

Last, people set priorities based on their own set of values and understanding of what is important in their day-to-day lives. It is important for us to know the kinds of information people consider crucial if we are to influence their use of ICTs in the future.

Conclusions

This paper has shown that it is possible to apply the capabilities approach to analyzing access to ICTs at the local level.

Access to ICTs is often measured in terms of geographic access and affordability. However, access to ICTs, and basic needs in general, are not solely limited to this, but should also factor in the capabilities of people to make use of them. Considering the advancements in technologies, the reduction in prices of services, and the increasing ubiquity of ICTs, one issue that persists is what prevents people from using them.

Even with the liberalization of the telecommunications industry and the development of new information and communication technologies, universal access will remain an important concern of government. Government should remain vigilant, because new technologies are no assurance that groups long disadvantaged would finally gain access to crucial information and new knowledge. It is even likely that those who gain access to newer technologies are the same groups who already have access to older technologies. In the end, access to new ICTs could simply mirror the divide that exists with respect to access to older ICTs.

Although newer technologies are able to overcome some of the technical limitations of the telephone, access to its use goes beyond this. For everyone in society to have equal opportunities to reap the benefits that ICTs could bring, we must also address the socio-economic and cultural barriers to its use, and develop people's capabilities to use them. People must be made more aware of the applications and opportunities that new ICTs bring. In this way, a more integrated approach has to be developed, in order to make sure policies and strategies for universal access to ICTs are not wasted and lead to human development. An integrated approach means a number of things. It means integrating efforts between the government, private sector and civil society, as well as an integrated approach as far as providing access, marketing, applications and content development, training and capability building. It also involves linking the various forms of ICTs that are available in the community.

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