

SOCIOCULTURAL BARRIERS TO E-GOVERNMENT

**An Analysis from a
Poverty Perspective**

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Sociocultural Barriers to E-Government: An Analysis from a Poverty Perspective

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Summary

To date, e-government studies have focused on the capacity of governments to implement information systems and networks, web sites and portals. Few studies have researched e-government from the perspective of citizens, much less lower-income users. In response to this need, this study analyzes the sociocultural barriers that prevent excluded populations in Chile from accessing online information and performing online transactions.

The results of this research will be presented together with recommendations and public policy proposals for e-Government implementation strategies in Chile. It is hoped that these findings also will be useful to other governments that wish to include the demand of excluded populations in their analyses of policies and programs designed to bring their countries into the information society.

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Introduction

The changes resulting from advances in information and communication technology are not limited to economics. On the contrary, they affect the entire spectrum of social interaction. Manuel Castells states that networks, "...constitute the new social morphology of our societies and the dissemination of networking logic substantially modifies the operation and outcomes of productive processes, experience, power and culture. While the networking form of social organization has existed in other times and spaces, the new information technology paradigm serves as the basis for its expansion throughout the social structure. "

According to Castells, society is undergoing a structural transformation, out of which new spatial forms and processes are emerging. It is a society built on flows: capital, technology, organizational interaction, images, sounds and symbols.

From this perspective, "there is a new spatial form characteristic of social practices that dominates and constitutes the Network Society: the space of flows."

By *flows*, Castells means "purposeful, repetitive, programmable sequences of exchange and interaction between physically disjointed positions held by social actors in the social, economic and symbolic structures of society."

Employing the Space of Flows theory, we can begin to understand the distance between those who form part of the Information Society and those who do not. In other words, the generation of new forms of social exclusion. The digital divide, which refers to more than just a lack of access to technology infrastructure, must be addressed in order to overcome this exclusion.

According to the [Human Development Report \(Chile, 2006\)](#), the digital divide has three principle dimensions. "The first involves the gap in access to material, the second involves differences in usage for subjective reasons, and the third refers to limitations arising from social hierarchies of users." In this report, a key dimension of the divide in Chile is associated with differences in **subjective skills**. These are related to "the difference in individuals' ability to capitalize on new technology, which is related, in turn, to personal and cultural perceptions. These perceptions predispose individuals to distinct forms of relating to them. In large part, these predispositions are not related to freely chosen orientation and valuations; rather, they depend on life experience and the cultural environment."

This study analyzes this dimension of the digital divide and how it occurs in the development of e-government. Helen Margetts and Patrick Dunleavy (2002), in their book *Cultural Barriers to E- Government*, address the differences in subjective abilities with respect to e-government, and identify cultural obstacles to the building of e-government,

from the perspective of both supply and demand. Sociocultural aspects associated with e-government include issues such as illiteracy, training, expectations, trust and language, among others.

Modern telecommunications and information and communications technology infrastructure and new management theories provide the means for long distance cooperation among citizens, businesses and the public administration. According to Rivera (2003), "E-government is not simply a matter of building a web site. It represents a different way of doing things, which makes it possible and necessary to change work processes and reorganize public entities. New technologies offer immense possibilities for the effective, efficient functioning of government; however, their incorporation and effectiveness depend on their acceptance by individuals and organizations."

The objective of this study is to analyze sociocultural barriers that affect the access to and effective use of e-government in Chile, particularly demand-based factors from a poverty perspective. To this end, researchers organized several discussion groups with members of poor communities. To complement their perspectives on the problem, people in charge of automating services and putting public information online were interviewed. Finally, recommendations and proposals were made for improving the implementation of e-government services and increasing their use among lower-income sectors.

E-government in Chile

E-government in Chile was developed as part of the innovative public policies of the last eight years, which have become increasingly relevant.² Consensus exists that Chile has made remarkable progress in e-government in terms of the technologies and digital networks accessible to citizens and businesses. This is not only the result of technological change -- it is closely associated with changes in the Chilean public administration and government modernization efforts.

Through the Reform and Modernization Project, the government has defined its e-government strategy as a way to "improve and simplify services and information offered to citizens; improve and simplify processes of institutional support; and create technological channels that permit increased transparency and citizen participation." (www.modernizacion.cl).

As defined in the E-government Strategy in Chile, to achieve a government at the service of its citizens through e-government, the following must be addressed: e-³:

² These policies address public access to new technologies and promote computer literacy through different initiatives ranging from increased community Internet access to the infocenter network.

³ Ministry of the Presidency, Proyecto de Reformas y Modernización del Estado. *Ministry of the Secretary General of the Office of the President, Government Reform and Modernization Project, Republic of Chile.*

- Customer service: including the establishment of new forms of citizen/government relations through the use of ICT,⁴ which enables the government to provide services in an efficient, effective manner regardless of physical location.
- Good governance: to achieve the establishment and introduction of new internal methods and processes in the government administration that permit the integration of different service systems, sharing of resources and improvement of their internal management.
- Development of democracy: to use ICT to create mechanisms enabling citizens to play an active role in the administration of the country, permitting new venues and types of participation to develop.

The e-government strategy of recent years has considerably increased online services, forms and transactions for the general public and the business sector.

In the late 1990s, online transaction services were practically non-existent. In 2002, there were 34; by 2004, there were 220, and by the end of 2005, more than 300.

According to the Human Development Report (UNDP Chile, 2006), more than 65% of survey participants agreed, or strongly agreed, with the statement that “new technologies give people more information, with which they can better monitor public officials.” Fifty-one percent believe that new technologies have contributed to improving relations between the public and government officials.

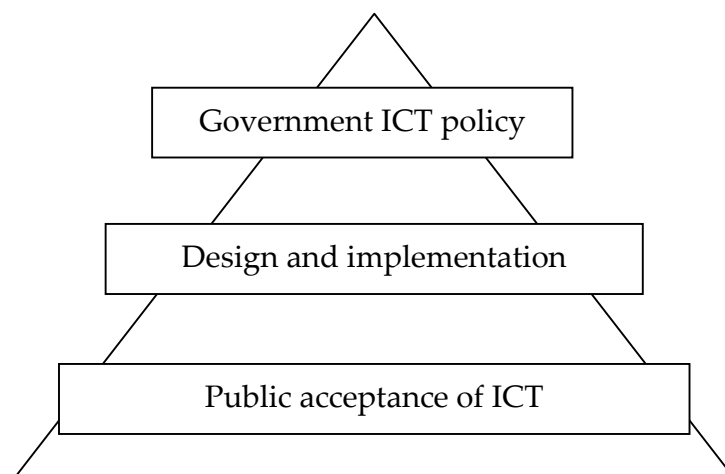
These advances have been internationally recognized in the Global Competitiveness Reports, as well as in the 2003 and 2004 Global E-Government Readiness reports of the United Nations, which rank Chile among the top 25 countries in e-government services, making it the leader in Latin America and even surpassing developed countries such as Israel, France, Italy, Spain and Portugal. Since the pioneering experience of the Internal Tax Service, a growing number of online public services have become available, including some of municipalities, which have made intensive use of the new technologies and digital networks to deliver better services to the public and the business sector.

Most studies on Chile’s incorporation into the information society have generated quantitative information (rate of Internet service availability, percentage of the population with telephone lines, cellular telephony, computers, etc.). Available information on e-government and its measurement in international rankings also relies heavily on quantitative research. In addition, studies have focused exclusively on the capacity of governments to implement networks and information management systems, as well as to create web sites and portals. No studies have been carried out from the perspectives of citizens, particularly of those living in poverty.

⁴ Information and communication technology.

E-government implementation problems

In their e-government strategies, governments may face problems at three different levels:



Government ICT policy: This refers to all measures implemented by a government in the areas of information and communication technologies to benefit the country. The lack of a government ICT policy is the primary barrier to the development of e-government. If public ICT policies are precarious, problems will occur in the design and implementation of e-government services, and public acceptance of these services will be limited.

Design and implementation: Problems at this level are associated with the way in which government institutions adopt ICT and provide these e-government services to citizens. Design and implementation problems in e-government become apparent in the way the government is modernized internally as well as in the delivery of services and information to citizens.

Public acceptance of ICT services: problems at this level involve the public's level of access and effective use of available ICT tools. Acceptance levels of e-government services vary.

This study analyzes the problems occurring in e-government at this third level by focusing on the barriers that hinder acceptance among excluded population sectors.

E-government from a poverty perspective

Currently, the Chilean government runs the risk of believing that by simply making technology available, it will capitalize on its potential for its proposed goals. As with all

technology, the Internet only acquires value in terms of its instrumental, significant use by users. In this regard, governments have a major responsibility in guiding Internet users to strengthen democracy.

The concept of e-government “encompasses all activities based on new information technologies, particularly the Internet, that the government develops to increase the efficiency of the public administration, improve services offered to citizens and provide government actions with a much more transparent framework than the current one in both internal and external applications of information and communications technologies in the public sector” (Grosvald; 1999). This implies two basic types of communication. On the one hand, governments obtain considerable data on the population and on the other, they generate basic information in the decision-making process. As Manuel Castells states (2001), governments of most countries have welcomed the Internet as a symbol of modernity and development but also are deeply distrustful of its use by citizens because of its potential for free horizontal communication.

However, for people living in poverty, e-government does not represent a timely opportunity in the decision-making process. As mentioned, low-income sectors require more information on social policies and programs, and they experience greater difficulty in accessing the benefits of the development of e-government. This contradiction deepens considering the limited use of e-government services by low-income sectors in Chile.

For this reason, this study seeks to explore the problem of the effective use of public information by people living in poverty, those who lack government information and consequently have greater difficulties in accessing information on social policies and programs. The problem is especially serious considering that the populations most affected by these phenomena are also the most frequent users of government services.

This research is designed to answer the following questions: What barriers do people living in poverty face to actively accessing the benefits associated with e-government? Should other mechanisms be created to facilitate access of excluded sectors to e-government benefits? What factors would prevent the effectiveness of e-government in low-income sectors?

In recent years, different initiatives to promote universal access to ICTs have been launched. There has been a tendency to believe that spontaneously achieving universal access will ensure greater efficacy of e-government.⁵ The programs for universal ICT access seek to guarantee a set of assets to people, communities and institutions. However, different experiences and projects indicate that the technologies themselves are not synonymous with progress.

⁵ Something is considered effective when it achieves what it is designed to do. Thus, effectiveness (or efficacy) is based on the achievement of expected results.

Several factors determine ICT access and usage. As proposed in the first book of the Regional Dialogue on the Information Society, the concept of **digital poverty** is understood as the under use and consumption of ICT due to insufficient access, knowledge or income. Consequently, it is a multidimensional concept. Considering digital poverty solely from the perspective of access, it is observed that high-income groups are following a pattern of consumption similar to that of developed countries. However, given the highly unequal income distribution in Latin America, this trend is unlikely to extend to the rest of the population. If this situation continues, Internet access may decrease and even stagnate. In 2003, 42.2% of the wealthiest fifth of the Latin America population used the Internet whereas only 1.3% of the poorest fifth of the population used it.⁶ Consequently, addressing the problems of people and communities living in poverty has become increasingly relevant. Considering the gap in access and the persistent problems in computer literacy that threaten the effectiveness of e-government, this study approaches the problem from the perspective of cultural barriers associated with demand and which impede the Chilean government from achieving its e-government goals.

Cultural barriers to accessing e-government

To date, in Chile, most efforts and resources to incorporate and assimilate Internet into politics have focused on improving the government administration in an effort to enhance the quality of and access to services, as well as to significantly reduce costs.

This has implied ignoring sociocultural factors present in the relationship between the public and e-government. These factors are present from the initial perception that a person has of public services (utility, proximity, confidence) to the capacity to use available online information efficiently. In effect, each citizen has a “personal history” with the government administration (traditionally face-to-face) that affects the way he will demand information, services, responses, etc. Sociocultural aspects take on an important role given the absence of physical contact in online communication. Public policy on e-government must incorporate sociocultural factors to improve its effectiveness among excluded population sectors.

The barriers to the development of e-government not only originate in the governmental institutions that implement it, but also from the demand side. Helen Margetts and Patrick Dunleavy (2002) addressed this issue. The authors identify the lack of confidence in demand as an obstacle, which is accentuated when information is delivered and received by electronic means. In addition, citizens’ low expectations with respect to the government lead to the limited use of online information and services. These and other sociocultural barriers should be analyzed in an effort to strengthen strategies to

⁶ “Information System on Equity and Social Indicators (EQxIS),” Department of Sustainable Development, Inter-American Development Bank.

ensure that people and communities living in poverty have access to e-government services in Chile.

According to the Human Development Report (UNDP Chile, 2006), half of the population believes they belong to the world of new technologies whereas the other half does not. These perceptions go beyond the effective promotion of access to technological tools. Factors inhibiting or facilitating the use of e-government refer to material access (computer, connectivity) as well as to citizens' use and perceived usefulness of e-government.

In order to identify demand-side barriers, discussion groups with low-income populations were organized. The groups were divided between Internet users and non-users in three communities: Palmilla, La Pintana and Lampa.

Drawing on the results, researchers identified a series of barriers. However, some barriers may be associated with others, for which reason there may be some overlap. In all cases, overcoming barriers requires a change in behavior of citizens. In addition, government modernization programs must focus on improving the effectiveness of online information.

1. Social exclusion

Social exclusion is the most evident barrier in the demand for e-government. It is the product of persistent problems of unequal access to the Internet. Although Internet access has been on the rise in Chile, the country still faces the challenge of closing the existing digital gap.

Users perceive lack of access to Internet centers and services as a problem. The distance to urban centers is without a doubt a factor that affects the timing of Internet access, especially when users decide when and where to perform a transaction. Centers of public and community Internet access have played a key role in increasing access to Internet service to populations in remote areas.

Users also perceive time savings as a key factor, especially those living in remote areas. The considerable time needed to reach an Internet access point clearly becomes a factor for evaluation in terms of the effective use of this tool. Users report that carrying out a transaction at a public institution in person is time-consuming, for which reason an important benefit of e-government is to avoid real-life bureaucracy. In rural areas, respondents reported that online services offered the possibility of eliminating the transportation costs inherent in traveling to a government office.

“...since they live there, we asked them to get the information there and bring it here.” (Man, Palmilla, not connected)

“..very few of us have access and we are very far away because we live many kilometers from here.” (Man, Lampa, not connected)

“to go to Santa Cruz to carry out a transaction...you have to depend on the transportation schedule, at what hour it runs, in order to return home.” (Man, Palmilla, connected)

“to view a bill... is fast, because before we had to travel to Santiago or San Bernardo and stand in line.” (Man, Palmilla, connected)

Participants also report that accessibility in terms of availability of computers with Internet access influences Internet usage. For example, the Internet service offered by schools in the community is suspended during vacation periods and weekends.

“...they brought PCs to the school, but we cannot use them during vacations or on weekends.” (Woman, Palmilla, connected)

Discussion participants also report that the lack of incentive to use the technologies is a factor. As Easterly (2003) indicates, nothing happens when technology is available but the incentives to use it are not present. For example, agricultural production is a rural economic activity that relies little on information technologies. Thus, employers in rural areas have few incentives to provide training in the use of new technologies.

“...this is not a large enough community to have greater access to the technology,... I don't think these farms around here train their people.” (Man, Palmilla, not connected)

“They only train permanent employees.” (Man, Palmilla, not connected)

In addition, the poor quality of education in rural areas diminishes the possibilities of qualitatively closing the digital divide. On the contrary, better-educated individuals are more likely to access and use these technologies.

“..when you ask a girl (in the 11th grade) how do you conjugate a verb?, she won't know.” (Man, Palmilla, not connected)

“..I am an accountant and the Tax Service was a pioneer in offering online services.” (Man, Palmilla, connected)

Another aspect that widens the digital divide and that makes it difficult to effectively use technology is the often unfavorable attitudes towards learning. These attitudes were voiced mainly by the study group without Internet access. Although

participants acknowledge the good supply of free training courses (municipal, telecenter, etc.), they made excuses for not attending these courses. The testimonies reveal the contradictory responses of participants with respect to their perceptions on available training services.

"..I did not attend (training) because it was raining, and I had so many things to do..." (Woman, Palmilla, not connected)

"There are opportunities, right here in the municipality... the problem is one does not go..." (Man, La Pintana, not connected)

"the problem is that, for example, if somebody came now and needed to learn, there are not any openings...." (Man, La Pintana, not connected)

"If tomorrow they said to us that there is a course, we would be there." (Man, La Pintana, not connected)

"Sorry. If you didn't get into a class on this day, come back another day and try again." (Woman, Lampa, not connected)

"..I want to learn but I cannot, because computers confuse me..." (Woman, La Pintana, not connected)

The access to credit or means of electronic payments appears to be another barrier to the effective completion of online transactions. Electronic banking is a useful tool because it diminishes the risk of theft at public Internet access centers in high-risk areas (each person uses his own means of payment). In addition, electronic banking increases independence because users do not depend on intermediaries.

"..you need service such as a bank card or a plastic card of some type....to pay the cost of the online service ... but the most people have is a savings book from the Banco Estado." (Man, La Pintana, not connected)

"As the kids at the Internet café say, this is for people with purchasing power, and those who don't have any have no reason to go online." (Woman, La Pintana, connected)

"So it isn't a valid option for everyone if we can't use it in a real sense of the word, can't benefit from it..." (Woman, La Pintana, connected)

"I have no bank account or credit card, ...nor do I want one..." (Woman, La Pintana, not connected)

"I only have a savings account." (Woman, La Pintana, not connected).

Nevertheless, users without banking products abstain from making public service transactions. In general, users who carry out bank transactions have a greater level of confidence and are less fearful about performing transactions online.

In summary, social exclusion factors include difficulties of access, poor educational levels, few incentives to use new technologies and difficulties in obtaining electronic payment methods.

2. Ownership

Ownership is associated with the acceptance of technological innovations and how they are “domesticated” in people’s daily lives. Excluded population sectors have not achieved ownership of e-government services. Perceived problems associated with ownership include the lack of basic technical skills, dependence on better trained individuals to carry out online transactions, the fear of using computers and the limited usefulness of e-government services.

Participants had two options for ICT training, especially the Internet. One is formal training, including courses led by an instructor at pre-established times. The other option is informal training, where the subject learns by observing others, directly consulting with people who have more training, as well as through trial and error.

“...I saw Marco, he did the training and people come here wanting to learn...” (Woman, Palmilla, not connected).

“...I sat next to him and saw how he opened the webpages, how he closed one and opened another...” (Man, Palmilla, connected).

“Non-connected” participants tended to delegate Internet training and performing transactions to others, without becoming involved in the process. This is partially the result of constant assistance from other people who can perform the required online tasks (the person in charge of the public access center or simply a more capable user) and the limited incentive to learn.

“... I have looked at a computer but that’s it. I have never tried to use one.” (Man, Palmilla, not connected)

“For us it was a need; awhile back we noticed that Marco was overwhelmed because of all the people who arrived: they wanted to apply for a home improvement subsidy ...” (Woman, Palmilla, not connected)

"I have three children, and they are experts on the computer."
(Man, Palmilla, not connected)

"When I told Dad 'I want to do this course.' He said: 'You take it, and then teach me.'" (Man, La Pintana, not connected)

"My niece goes and I just watch, but they have never given the opportunity to say: okay, have some people come so that they can watch." (Woman, La Pintana, not connected)

"I ask my sister to teach me, to get information." (Woman, La Pintana, not connected)

Moreover, delegating Internet tasks to more highly trained individuals is fostered by Internet center staff, which may encourage dependency on them.

"...we want to attract people to the Telecentro, not drive them away. That's why we're here." (Man, Palmilla, connected)

An individual willingness to learn is a major component of informal training. Internet users accept basic training by access center staff, and later work independently. Non-connected people, however, prefer to delegate tasks to those with relevant skills and knowledge. This is seen mainly in the experiences of community and information centers (*telecentros*) where local service operators help customers perform online transactions. However, they may also generate dependency among users.

"Marco was the man (laughs) to see for doing online transactions." (Man, Palmilla, connected)

"...they helped us or explained it to us..." (Man, Palmilla, connected)

One of the main barriers to ownership of technology is the commonly-held belief that computers are fragile and expensive. This perception predominates among non-connected participants, although some connected members also held this view. This supposed fragility is based largely on the following: an exaggerated sense of the risks to computers (viruses); the idea that the technologies do not represent their generation and therefore they cannot understand them (they are from another time); and the idea that new technologies have a "self-destruct button."

"...no, no, I don't go online because I don't want to, it scares me, and I don't want to mess things up" (Woman, Palmilla, not connected)

"...they say you can get a virus, one never knows....it's scary to use a PC..." (Woman, Palmilla, not connected)

"..I don't know what it will do. What will happen when I turn it on?" (Woman, La Pintana, not connected)

"It is very advanced, very fragile and from another age..." (Man, Palmilla, connected)

"It's scary because sometimes you press something and it just keeps moving on its own..." (Woman, Palmilla, connected)

Formal or informal training is not necessarily enough to diminish fears about computers. In fact, as one testimony suggests, the ability to use concepts like "backup" and "recovery" is no barrier to feeling afraid to use these technologies.

"I am still scared to go to some areas and to mess everything up. It doesn't matter, even if everything can be recovered and has backups. No way." (Woman, La Pintana, connected)

"I went to a course here... and we have one at home with Internet and everything, but I'm afraid.." (Woman, La Pintana, not connected)

"If there's a technical problem... or the webpage crashes, there's nothing you can do..." (Man, Lampa, connected)

"The main problem (with online transactions) is computer viruses. A virus enters your PC, or you receive a mail from someone you don't know and you're in trouble..." (Man, Lampa, connected).

Computer use is quite low among some participants of the discussion groups. This can be inferred from the testimony below, where 'turning on the computer' is viewed as making progress in the training. This individual received computer training.

"..they sent me for training. I turned it on and knew how to do that, but did not continue after that..." (Woman, Palmilla, not connected)

In the case of connected users, training, whether formal or informal, has the same value for effectively using the computer or searching the Internet.

"I had access when we had courses here. Telecentro offered the course." (Man, Palmilla connected)

"... in the Internet cafés, without knowing much, I learned just by hanging out there..." (Man, Palmilla, connected)

"I began to a course with Chile Joven... Later I began to explore the Internet; I went online via the telephone..." (Woman, La Pintana, connected)

Many participants of the discussion groups wanted an opportunity to regularly practice what they had learned. Not being able to use this tool at home (due to the cost of the hardware and the connection), at the access centers (transportation and connection

costs) or at another location, is a barrier for ownership of this tool, as well as a major obstacle for obtaining sufficient computer skills. Offering free access at schools and other locations is insufficient because of problems of availability.

"After the course, kids and the people do not have a way to practice..." "In the schools they are starting to restrict children's computer usage because they use it for things they shouldn't..." (Woman, La Pintana, connected)

"... I went to Telefonica (multinational telephone company)... for a full-day computer course." "Afterwards, I didn't practice." (Woman, Lampa, not connected)

In summary, the social ownership of technologies depends not only on access to those technologies but also involves issues regarding the value and meaning citizens give to online transactions.

3. Expectations

Citizens establish relations with government institutions that determine how they approach the online services offered. Citizens' perceptions of the services may be colored by previous personal experiences with customer service quality, transparency or access to relevant public information. For example, if citizens have low expectations with respect to government services, it is unlikely that they will use the online services; to the contrary, it perpetuates more traditional methods of contact, despite the increased costs in terms of time and money.

"... even with the Internal Tax Service. To get a document, I say to the girl: 'You know, I came to get this document' and she says 'Hey, I'm not here to wait on you!'" (Man, Palmilla, not connected)

Non-connected participants have low expectations regarding the usefulness of online transactions. They plan to use the Internet to obtain general information (for children's homework) rather than to carry out tasks and obtain data for personal benefit. Their testimonies reveal their limited view of these tools.

"... I would like to learn for the children's sake, because then I would try to help them... the computer gives us more information." (Woman, Palmilla, not connected)

"Now we do most transactions via (Internet) all at once." (Man, Palmilla not connected)

"For the children, for their study." (Man, La Pintana, not connected)

"The Internet is a world unto itself." "...it helps because one may not have access to books..." (Man, Palmilla, connected)

Despite their negative perception of the Internet for business transactions, non-connected participants demand more functions from this technology (Internet) for other types of tasks or transactions.

"It is the same as when the news says: No more lines at the doctor's office! I still see lines!" (Man, Palmilla, not connected)

"The services are very good," (Man, La Pintana, not connected)

"It is easier and faster. We blink and there it is." (Man, La Pintana, not connected)

"... it is a question of Internet priorities ... hospitals, doctors' offices, customs officers, police... then we can move on to ministries, municipalities..." (Woman, La Pintana, connected)

Nevertheless, expectations are not only determined by previous experiences with government services, they are also closely related to users' previous experience with other technological innovations. Participants made reference to the automatic subway tellers and to more recent innovations in the public transport system, such as Transantiago.⁷

"... I have to wait until the machine receives the money, for two or three minutes, then pass the turnstile, and then there is a bunch of people waiting to get on the micro bus..." (Man, La Pintana, connected)

"The entire BIP card system (Transantiago) crashes. What will happen to the passengers? They'll have to say: "wait," the system crashed..." (Woman, La Pintana, connected)

"I had a two thousand peso note one rainy day... and the driver didn't want to let me on because he didn't have any change, because the machine only accepted coins..." (Man, La Pintana connected)

In general, participants expressed ambivalence about new technologies. They expect future glitches in their operation, drawing on experiences from their daily lives ("the system failed" is a metaphor of Stanley Kubrick's film *2001*, where the computer system takes over the navigation of the spaceship).

The experiences participants perceive as positive, such as the automatic subway tellers, suggest that proper training and a 'friendly' system will facilitate ownership.

⁷ Transantiago is a new government initiative to modernize the public transport system. Innovations of this program include the use of a card to charge transport fees, eliminating the need for currency transactions.

“... for example, the DVD, you just push a button and the film plays on television ...” (Man, La Pintana, not connected)

“At first the subway was really nice. Line One was enormous there on Alameda. Nowadays, there are many more lines. People get on the train eating french fries, sopaipillas with mustard... schoolchildren kiss each other and do not make room for others...” (Man, La Pintana, connected)

“Transfer and connection times ... The problem is that people get lost because there are so many stairs...” (Man, La Pintana connected)

“It is just like with the automatic tellers in banks, with their monitors (which)...teach people to use their cards... They teach, and one learns. But this doesn't happen at the Internal Tax Service.” (Man, Palmilla, not connected)

Participants' expectations also allude to greater work opportunities. All non-connected participants agreed that computer knowledge is essential. This tool is indispensable for applying for and obtaining any type of work. Participants indicate that all types of jobs require this knowledge.

“It is necessary to use a computer in all jobs.” (Man, La Pintana, not connected)

“Undoubtedly, the computer is doing away with all documents now... before we only had books...” (Man, La Pintana, not connected)

“We all agree that we have a real need to learn.” (Man, La Pintana, not connected)

“...sometimes they tell you about a job... and first that they ask is: Do you know how to use a computer?” (Man, La Pintana, not connected)

From a broader perspective, participants believe that the Internet can open up the world to users.

“... [Homemakers] are happy because they can learn more about the world. For most homemakers, their world is limited to four walls, the kids and all that... they never have had access to anything else.” (Man, La Pintana, connected)

4. Confidence

The level of confidence participants have in e-government services is influenced by the level of knowledge, perception of online risk, previous experience with websites, and the use of personal information for other purposes, among other factors.

Distrust exists regarding certificates and other documents obtained from the Internet. Discussion participants, public servants and professionals all expressed skepticism in this area.

“... that (receipt) from the internal tax service (office) is OK, but this one I got from the Internet is useless. Why isn't it valid if it is signed? I said: 'because they are supposedly connected, and I assume everything is connected to a network.'” (Woman, La Palmilla, not connected)

“I have given electronic tax receipts to more educated clients... and the secretary says: The boss says this receipt (for services rendered) looks like a fake.” (Man, Palmilla, connected)

“I have heard people say that the tax certificate is not the same as the certificate issued by the internal tax service office. Are you sure I can use it?” (Man, Palmilla connected)

The invisibility or virtual nature of online transactions generates a lack of confidence on the part of some participants. The privacy and safety of monetary transactions and the delivery of personal information are assumed to put the person at risk for theft of money or personal information for committing other type of crimes.

“As long as you know that the computer is safe there, that they're not going to copy your password and later find out you have nothing left.”. (Man, La Pintana, not connected)

“... that lady who had all that money in the bank. Her hands were tied. What could she do? She didn't even go to the bank...” (Man, La Pintana', not connected)

“We have our tax number and all our personal data. Imagine if somebody obtains them...” (Man, La Pintana, not connected)

“... if I talk with another person and I say to him, I have this, that and the other, that person is going to know I have put information online, and then he can obtain my personal data. So there is a danger...” (Woman, La Pintana, not connected)

“What happens it is that even on the Internet they do research and get into things. That is the problem, pirates on the Internet.” (Man, Lampa, connected)

“... the one that knows is the Internet hacker, he is going to find everything, and is going to copy data, is going to do everything he can on the Internet.” (Man, La Pintana, connected)

“I would not buy or pay by Internet, although they say that it is much easier, I do not trust it because there are so many problems, and with the

question of copying cards and people looking at your data... I take my time and I go in person..." (Woman, Lampa, connected)

"... and another thing, the information that is entered, is it going to stay on the computer?" (Men, Palmilla connected)

Participants say that actions that increase Internet safety are associated with user expertise in entering data into a given network (user responsibility). On the other hand, beyond their objective knowledge regarding the security characteristics of the system, participants express confidence in a medium they consider modern and which they must use.

"... the computer does not commit errors, no, we commit errors... we can make a typing mistake." (Man, La Pintana, not connected)

"I trust it because everything is connected to a network" (Man, Palmilla, connected)

"... we have received electronic receipts for our payments, and have accepted them because they are part of modern life." (Man, Palmilla, connected)

Other elements that generate greater confidence in participants are associated with previous experiences with Internet searches. In the example below, a message acknowledging receipt of information is a sign of confidence for an experienced user, but not for an inexperienced one.

"... a number is issued that informs us that it was accepted correctly at the internal tax service office." (Man, La Pintana, connected)

Because of the multiple factors generating a lack of confidence in computers and online transactions, many people choose to run perform transactions in person. Nevertheless, information obtained through the Internet helps to facilitate some types of transactions. The example below demonstrates the possibility of choosing some products via Internet and then paying for the purchase at a bank.

"... I don't make electronic payments. When we buy things, we go and we deposit the money, because the bank verifies that the account of the person or company exists." (Man, Palmilla, connected)

"... my mother asked me, in the case of the scholarship, if she could request it through the Internet. I told her I didn't know, but she preferred to register to me in person." (Man, Palmilla, connected)

Other types of fears or distrust are associated with the type of information available on the Internet without restriction and, which they sometimes receive without requesting it.

“... there is no a page that says: those under 18 years cannot enter. any person can enter webpages. This is what parents worry about when they buy a computer.” (Man, Palmilla connected)

“When I go online, I do not see anything, and suddenly my son, who is nine years old... gets a porn page.” (Woman, La Pintana, connected)

“... I said to him: teacher, help, I keep pressing buttons but can't get the porn girls off the screen... and I don't know what I typed for these women to appear; young kids might see them.” (Woman, La Pintana, connected).

The sense of obligation of participants to learn to use and accept these new technologies presents a challenge. It is not only a question of adapting to them; they also raise questions that make participants anxious.

“... the private pension fund said that it was no longer going to send the account statements by mail, they are going to use e-mail only ... and I don't have time to go to Santa Cruz to ask the pension fund for a certificate...” (Man, Palmilla, connected)

“... the government relies heavily on machines... and the system eventually crashes...” (Woman, La Pintana, connected)

“Soon you won't be able to do any transactions in offices, you are going to have to do them on the Internet.” (Man, La Pintana, connected)

In terms of age groups, adults believe there is an inherent risk in searching the Internet. Excessive caution could limit the search for information or completion of transactions. Participants report that young people take greater risks when searching the Internet.

“They are more adventurous. The kids will take more risks, they investigate more, get into it more.” (Women, La Pintana connected)

5. Cost of transition from the physical to the virtual

Participants mentioned several costs associated with using information technologies. For example: training costs (although training is usually free), transport costs to a *telecentro*, cost of connection time, paperwork costs (certificate printing, etc.) and the possibility of having a home computer with an Internet connection.

“... we sent them here to use the Internet... instead of going to Santa Cruz or San Fernando, where they have to pay for a bus...” (Woman, Palmilla, not connected)

"For them it was much easier, because here it means taking a bus, traveling to Santa Cruz, and that has a cost." (Man, Palmilla, not connected)

"...to travel nearby is \$300, further is \$500, much further costs \$800." (Man, Palmilla, connected)

On the other hand, in terms of ownership, there is a clear need to have a computer with an Internet connection to be able to practice the skills learned through formal or informal training.

"to have a computer, that is more difficult than Internet access..." (Man, Palmilla, not connected)

"...you cannot say: 'I am going to get a computer for 2,500 peso.' You're already thinking how you have to reduce school and household costs..." (Man, Palmilla, not connected)

In this regard, having Internet service helps diminish transaction costs. For example, participants can pay for document printing but do not have to pay for Internet searches by telecentro staff.

"... When Don Marco told me he charged \$200 to get tax estimates, I told him that was too cheap, that he should have charged \$500 or \$300..." (Man, Palmilla, not connected)

"... they had told me that they had gone to Santa Cruz, and had been charged up to \$1,000 to receive the tax estimate..." (Men, Palmilla, not connected)

"...this way we could pay for everything at home and not have to go downtown, you can pay for everything through the computer. ..." (Man, La Pintana, not connected)

"... with respect to birth certificates, the cost of the certificate is \$400 or \$500, it is already a lot. In addition to that they have to pay for the Internet..." (Man, the Pintana connected)

"... I've had to help many people with their CVs ... this is very expensive at the Internet café ... preparing a CV takes at least two hours." (Man, La Pintana, connected)

The method of payment for online transactions is another barrier to using these services. Once again, the need to delegate these tasks to other people separates users from these technologies.

“...the person in charge of the telecentro, for example, may have to pay for it.” (Woman, Palmilla, connected)

6. Usability

The usability of a system refers to its functional utility as well as the ways users make use of this utility. Utility can be defined as how well users can use webpages, in this case, to obtain specific objectives in an effective, efficient and satisfactory manner for a defined use. These concepts include a cultural dimension (usage habits and practices) as well as a technical dimension (facilitates or inhibits use of the site).

More experienced discussion participants recognize the usefulness of some sites. They value sites that ‘guide them’ in their transactions. Correctly filling in and verifying data is an incentive for them to complete the transaction.

Connected participants positively view some Internet transactions, as compared with those of other technologies that are more vulnerable to human error (for example, a call center).

“... one is guided through the page and entering data, which are later verified.” (Man, La Pintana, connected)

“I believe that they are idiot-proof, as they say...” (Man, La Pintana connected)

“It’s just a question of practice. If we don’t practice, that’s our fault.” (Man, Palmilla, connected)

“...you don’t get lost when you access something like you do in call center computer menus, and then there are the recorded messages on answering machines which they are supposed to answer but never do...” (Man, Lampa, connected)

Operating systems like Linux, which is used by some telecentros, have compatibility problems with ministerial websites. Reasons for using this software include the low cost and the need to generate technical conditions for its use:

“We used Linux... the cost of the license was less... but the government system does not appear to be compatible....” (Man, Palmilla, connected)

The success of Internet searches is associated with the intuitiveness of the sites visited. This requires basic knowledge, which most users do not have.

“...at school they said, do this project based on the INE webpage, an import program, something like that. But our son said they did not say where. So we basically had to perform magic...” (Woman, Palmilla, connected)

“...yesterday I wanted to get some information... for the housing application, and it was hard for us, and in the end we couldn't do it, even though we are regular users ...” (Woman, La Pintana, connected)

“... I go online and I realize I don't know where it's going to take me.” (Man, La Pintana, connected)

In some cases, correctly using a service website requires complementary technologies to resolve navigation issues or simply to carry out transactions. This creates some problems as it increases costs (telephone call) and requires the user to have access to complementary technology.

“And the password is necessary to do everything and sometimes it is necessary to call an eight hundred number ...” (Man, La Pintana, connected)

7. Benefits

Discussion participants were not clear about the benefits of electronic media over traditional ones. Participants attributed two types of benefits to the Internet: the first was the opportunity to perform transactions, without the need to stand in line or be poorly treated by public servants whereas the second was the ability to immediately access and process information.

“...I am interested in knowing about the European Common Market... if I had the opportunity to learn computing I could learn about it in minutes...” (Man, La Pintana, not connected)

“The Internet is very useful because it takes the hardship out of transacting business with the government.” (Woman, Palmilla, not connected)

“...you don't stand in line, as she says...” (Man, Lampa, connected)

“One assumes that one receives an immediate response to questions from the computer.” (Woman, Palmilla, connected)

“... they requested a certificate... and I said to him: ‘but how, where am I going to get it now? I have to go to Santa Cruz...’ ‘No’, - he said, ‘Go to

the library around the corner... and get it from the Internet.'" (Man, Palmilla, not connected)

Despite the above, there is a fascination with the home computer because it is a status symbol. However, even when participants finally obtain a home computer, the barrier of under use may still exist.

"I believe that I would only play with it, with the thing you use to write (keyboard)..." (Woman, La Pintana, not connected)

"... a neighbor bought one (a computer)." "She plays cards... I watch her and how she plays with it" (Woman, La Pintana, not connected)

"... an ancient computer that does not even has Internet... is super slow, but is fascinating (for my parents), they like to play, cards at least." (Man, La Pintana, connected)

Connected users utilize the Internet much more to seek information, carry out transactions and for entertainment purposes.

"...before going to pay the traffic circulation service, one enters the website to see how much it will cost..." (Man, Palmilla, connected)

"... to get a birth certificate, or some other record..." (Woman, connected Palmilla)

"to read a bit, I like to go online for fun..." (Woman, La Pintana, connected)

"I use the auctions the most. We have sold things... that's the only thing that's helped me, and also Hotmail." (Man, La Pintana, connected)

Many connected users learned about online transactions by searching the Internet. This could create certain barriers for non-connected users since they would not have full access to the information available online.

"...we found out about the home improvement subsidy through the website of Telecentros." (Man, Palmilla, connected)

"...they give him homework outside of school, they make him do research. The computer really helps with that." (Man, Lampa, not connected)

"I didn't have any idea you could be get documents from it as you say." (Woman, Pintana, not connected)

“... I began to have contact with the Internet and at first only chatted and things. Now that I am studying, I use it for my homework...” (Man, Palmilla, connected)

“On the television, too, they get more dissemination but mentioning a website.” (Man, Palmilla, connected)

Participants of the discussion groups value their knowledge of Internet services. Nevertheless, these services are not always used.

“My son studies at Barros Borgoño. If I want to know about his grades, since he is in school, I could use my password to check how he’s doing in school.” (Man, La Pintana, not connected)

Computers have become highly desired objects, regardless of their real usefulness.

“...the computer is a symbol of modernity, a status symbol.” (Woman, Palmilla, connected)

Supply analysis: Implementing online transactions

In order to identify perceptions and challenges with respect to e-government, researchers interviewed several public servants in charge of projects to computerize services and transactions. Participants’ responses focused on the continuing problems of accessing public transactions and information on the part of the more excluded population sectors; usability; challenges of communicating and disseminating services; confidence in government institutions; the problems of acceptance of online transactions, and; the need for organizational change within government services.

Interviewees mentioned several factors that impeded access of people living in poverty to online transactions.. When asked about the profile of users who make the most use of online services, they mentioned business owners and small-scale entrepreneurs, and in general the economically active population.

“Business people are the ones who most use it because it saves them time. Also small business entrepreneurs, for the same reason, in general, people working in business. Also students, young professionals and in general, people who have had contact with these services through the Infocentros.” (PRYME).

Interviewees also report that payment methods impede people living in poverty from taking advantage of online services. Banks offer almost all payment methods, with the exception of the pre-paid phone card, which can be used to pay for civil registry

procedures. Payment methods are identified as an obstacle that may be intensifying the barriers already faced by the poor.

“the issue of method of payment for online transactions is crucial. There is a gap; even if you’ve overcome other barriers, when you have to pay for something, you are faced with yet another barrier if you are not in the banking system.” (Trámite Fácil, private firm)

The adoption of online transactions in the daily lives of people living in poverty is viewed as a cultural shift. Interviewees mentioned rural users who still have not changed the service window for an online transaction.

“(This) type of user still prefers to do transactions through at an office, especially those in the country’s interior, sometimes because of cultural issues. For people in the country’s interior who need to transact business, it is almost like a social event to stand in line at the Civil Registry, because there they talk with people, they meet people, they have the opportunity to complain about things that happen to them with whomever is in line with them...” (PRYME).

“...when you go to the country’s interior, to one of the offices in remote areas, and ask the women, they say “no, please, this is my one opportunity to speak to so and so, because I never see them anywhere else. If I don’t go to town to take care of business, I don’t talk with anyone.” (Trámite Fácil)

Interviewees also mentioned the importance of generating online platforms containing clear and simple information for users. Public online services have been developed and improved in this area. For a transaction to be a success, it must be clear at all stages.

“we wanted to identify where the greatest deficiencies in communication were. Which is to say, how you present a given transaction, how you communicate it to the user, and how many steps it has. The abandonment rate is very high because the procedures are exhausting. And if you have a complex transaction with a large amount of steps, if it is not correctly explained, you must decide what you have to do within each step. If there is a mistake, the user will end up going to the customer service window instead.” (PRYME).

“But there is also a loss of credibility, when you basically say that these instruments will improve your quality of life, because they make you waste less time... we are concerned about whether the user knows how to fill in the forms offered online.”
(Trámite Fácil)

A factor of great importance for the success of online transactions is the dissemination and communication of e-government services. Although the government has recognized this as a key factor, it has yet to develop a strategy to address it.

“A campaign has never been developed to disseminate the entire line of services. The services cannot (perform this promotional function) alone.”
(Trámite Fácil).

When no good dissemination strategy exists, information never arrives to the poorest sectors, which leaves this sector without information and access to the benefits of e-government services.

“The poorest sectors do not receive information. And if there’s no good dissemination strategy, they cannot report [the theft of] their ID card or obtain a birth certificate.” (PRYME).

“There are people who don’t know that you can do several transactions online. Nor do they wish to do so. They would rather take a bus to Temuco, even though they can do the transaction online, at an Internet cafe 20 minutes from their home.” (Internal Tax Service).

They recognize the need to use simple language to let people know about the services offered.

“If we just keep on talking about online transactions and e-government, we will never get the public to understand what these services are all about.”
(Trámite Fácil).

Public officials do not see confidence in institutions as an issue in access and use of online services. They believe that the relationship with services is rooted in user needs rather than previous experience with government institutions. This is the opposite of what users say, whose confidence and expectations are colored by their past experiences.

“Online users are not interested in which institution offers the services. This is our attitude at Trámite Fácil. You start to do a transaction because you need to, not because of your relationship with the institution. Many people are averse to institutions.” (Trámite Fácil).

The public servants interviewed believe there is a real need to increase computer literacy to enable low-income users to effectively use e-government services. They are critical of computer literacy experiences to date. They believe that computer training has not been linked to e-government services and to information that may be of interest to users. Consequently, training has focused on using the tools rather than on the benefits of their use.

“You don’t get anything out of training people in Word and the Internet. Why do this at all? If you get a union organizer and train him to do relevant tasks, you are maintaining focus.” (Trámite Fácil).

“computer literacy is like an investment...But the logic of investment is like it was 40 years ago. You have to teach like they did 40 years ago...” (PRYME)

“an old guy lives in a place with no electricity, and the PC is 300 km away. His business is selling firewood. So you train him to search the Internet. But you never told him to use the PC to become a supplier.” (Chilecompra)

“It’s more than just a change in methodology. There has to be a strategy that focuses on entrepreneurs.” (Trámite Fácil).

Some interviewees believe that the universal access policy should include more than simply distributing PCs to schools or public access centers. Besides increased coverage and access, users need to perceive direct benefits to accessing information.

“you need to teach them how and why to use a PC. We can provide lots of PCs; that’s not the issue.” (Trámite Fácil).

Public servants at institutions that offer online services report that the process involved a major organizational change.

“Yes, I think things happened because there was never any real planning that took into consideration the impact of offering online services.” (Trámite Fácil).

“Seven thousand people visit every day, and we get 150 e-mails a day. But we never had a plan to handle this extra workload...” (Trámite Fácil)

“you always hear this from officials, from the man who gave us the information, the woman who received the documents, that a farmer with a chicken came in to carry out a transaction. Or he is asking about a certain topic. All of that has disappeared.” (PRYME)

“If we want to get people to use this service, in some cases obligate them to do so, we have to use it ourselves.” (Internal Tax Service)

Interviewees reported an internal organizational change; however, the implementation of and access to specific online information about social benefits for low-income sectors has presented problems. They report that the greatest advances have been in information and transactions targeting the business sector.

“Well, we started with changing processes and the internal culture, which have always been problematic. First, you train the people operating the system and gain their support for the changes. The platforms for the social benefit programs are complicated. You cannot just arrive one day and say, we no longer offer help in person or by telephone. People, especially those who use our services, just do not understand these technologies very well.” (PRYME).

“As far as online services and development of computer technology for businesses, almost all goals have been reached.” (PRYME).

Examples of successful sites in the area of worker’s rights and online services include the Labor Office’s website⁸ (<http://www.dt.gob.cl>) and that of the Infoempleado⁹ page. Because these services are in high demand, they must further improve their platforms and customer service.

“the Labor Office is always overwhelmed. All labor issues are problematic. I think there is a labor demand that did not exist before.” (PRYME).

Interviewees mentioned that the government is currently facing challenges of institutional interoperability. This would enable all the different institutions to share information and facilitate public service procedures.

“these mature organizations, which have already successfully implemented technology to improve their service delivery or internal processes, will now have to begin a new era this year. It is an era which involves interoperability.” (PRYME).

According to Castells’ theory, demand- and supply-based barriers are the product of the organization of “flow spaces” in society and existing transformational structures. These barriers affect exchange and interaction among different social actors in economic, political and social spheres.

Recommendations

Public policy on information technology will expand in the coming years to include new actions at the regional and local levels. E-government strategies currently focused on central government transactions are moving towards a phase that concentrates on the

⁸ According to statistics of the Telecentros Comunitarios Network, FLACSO Chile, centers that are mainly located in impoverished rural areas, the most visited site during 2005 – 2006 was the Labor Office web page.

⁹ According to the Human Development Report (UNDP Chile, 2006) the web portals of Agriculture, Education and Labor have the most to offer their users.

interoperability and integration of diverse public services. In addition, e-government will be strengthened at the local and regional level, and in the legislative and judicial branches of government. This implies incorporating practical and theoretical knowledge at the micro and macro levels to achieve greater impact and effectiveness to benefit the population living in poverty.

E-government strategies should include a poverty perspective. Poor communities and individuals who do not access relevant information rapidly are less likely to influence and participate in government. If integrated strategies are not included in the development of e-government, these populations will have less opportunity to indirectly or directly participate in government, and, consequently, the digital divide will only increase, affecting the development of democracy and its institutions.

Drawing on the study results, researchers have made several recommendations for strengthening e-government in Chile and increasing its access. These are divided into the following categories: incentive generation, training, dissemination, association with other actors and access.

1. Incentive generation

Incentives to stimulate people living in poverty to use and benefit from e-government are needed. Inhabitants of rural areas, for example, have few incentives to attend training courses.

In order to generate local incentives, local productive and business sectors should be linked in activities that incorporate new technology (e.g., ICT training for workers or training in alternative solutions for providing Internet access in areas without it).

2. Training

Computer literacy training courses should include instructions on how to perform different online transactions: simple or complex personal or organizational transactions; access to public information; commercial or financial transactions with the central, regional or local government; registrations in databases and public registry systems (such as Chilecompra, the only registry of organizations of public interest, etc.).

Computer literacy programs are criticized for concentrating on the tool rather than its practical, daily usage, which would enable potential users to see the direct benefits of information technologies. It is also vital to cultivate skills and understanding among regional and local institutions regarding existing e-government services.

3. Dissemination

Dissemination is a key element of effective e-government. Drawing on the results of this study, a communication strategy for online services should be developed to accompany the mass dissemination of online public services because some population sectors are unaware of their existence.

This strategy should focus on the following:

- Generate and disseminate messages on available transactions, how to use them, access them and to explain their purpose through campaigns that employ different local, regional and national media.
- Generate confidence regarding the use of information and management of personal data entered into online service sites, as well the validity of documentation obtained online.
- Clearly inform citizens of the direct benefits.
- Reinforce in the messages other successful experiences of technological innovation that foster confidence and expectations of success among users.
- In addition to generating information for citizens, the strategy should include information for public servants to encourage commitment with information campaigns and with the operation of the system and to foster an attitude of change with respect to customer service.

4. Usability

The government should issue guidelines and models to encourage the development of user-friendly websites. These would serve to implement the different phases of a transaction with the expected result. Navigation should be clearer and permit users to locate the required information easily. The concept of usability should be stressed, which implies identifying the needs of the different population groups, for example, those with visual or hearing impairments, and the literacy level of users. With respect to contents, considerations include the use of clear, simple language, and, if necessary, in the native languages of indigenous populations.

5. Association with other actors

It is important to include other actors who can serve as liaisons between the e-government service and excluded sectors. An excellent option would be the operators who work at the public Internet access centers, as well as local leaders of community-based organizations who can disseminate e-government services. To this end, strategies should be developed for working directly with these actors.

The government should also promote joint efforts to take advantage of other activities taking place in this area: the Citizen Portal (Social Organizations Division of the General Secretariat of the Government), the Chilecompra system and others.

6. Access

Public access centers fulfill an essential role with respect to these technologies and community training. However, there is a need to implement actions directly at these centers, for example, training staff and users in how to transact business online.

A major obstacle is access to payment methods. This constitutes a real barrier to access of the population living in poverty. A multiuse card for transacting services is needed. Alternatively, payment systems can be generated from the information centers, public Internet access sites or through systems that have been used and validated by these individuals (for example, Servipag or Sencillito payments).

Given the high rate of access to technological devices (e.g., cellular phones) in rural areas, the government should develop strategies to integrate strategies that incorporate the use of other devices to encourage increased use of e-government services.

Conclusions

Demand-based sociocultural barriers to e-government services have a variety of economic, social and cultural causes. These barriers hinder access to and the effective use of Chilean e-government services.

The barriers identified in this study are associated with the previous experiences of users, expectations about information and communication technologies, the skill and knowledge level with respect to these tools, as well as the habits and practices of potential users.

To address problems of public use of e-government services requires a broader perspective and the strengthening of strategies to include excluded population sectors. This means that government institutions should creatively extend the use of their information networks, and replace current perspectives with a more decentralized focus that translates into the broader reach of their services.

Finally, government organizations should implement innovations to explore how citizens think about and use the Internet, what myths are frequently associated with the new technologies and what types of innovations are easily adopted by citizens.

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