

Internet of Hope: Perceptions of Internet in marginalised communities of the Cape of Good Hope

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Abstract:

Khayelitsha and Mitchell's Plain (K&MP) are amongst the poorest communities in Cape Town – South Africa. These communities are plagued with social ills (poverty, crime, abuses, maladies, etc.). In addition, both these communities have very low levels of Internet penetration, with access driven mainly through public access points. Given the impetus of both national and regional policy to promote information society goals, the local government of the city of Cape Town is contemplating taking affordable internet access to these communities. This paper explores the preparedness of K&MP to adopt and use the Internet.

Qualitative data was gathered in order to read a prediction of Intention to adopt and use Internet on the basis of three conceptual elements: experience of accessing and using computers and the Internet, the perceived usefulness of Internet, and the hope of betterment as a result of using Internet.

The key findings suggested that despite not being sufficiently exposed to computers and the Internet, K&MP residents are keen to adopt and use the Internet at home mainly on the basis of their perceived usefulness and the hope they have in the future. These findings have theoretical and practical significance as they suggest a broadening of the scope of technology adoption research to also consider “Hope” as a determinant of intention to use the internet; and as they inform policy making about the change in mentality towards ICTs despite an inadequate prior exposure to the Internet.

Keywords and phrases: Digital Inclusion, Internet preparedness, Technology Acceptance Model 2 (TAM2); S&CI; ICT4D

1. Introduction

Khayelitsha and Mitchell's Plain (K&MP) are underprivileged communities in Cape Town – South Africa. They are plagued with poverty, illiteracy, unemployment, crime, substance abuse and maladies; arguably the legacy of apartheid. In addition, these communities have very low levels of Internet penetration, with access driven mainly through public access points; usually libraries or cybercafés.

The city of Cape Town has invested in ICTs and the Internet with the acquisition of a world-class ERP system; the development of an important Internet presence with its website (<http://www.capetown.gov.za>) and its accounts on various social networks; its complaint notification system (C3 system); the “SmartCape initiative” which puts PCs in libraries throughout the city; and the implementation of its broadband initiatives including the construction of a city wide optical fibre network (City of Cape Town, 2010; Odendaal, 2011). All that investment contributes into the national requirement for universal service and access stipulated in the Electronic Communication and transaction Act (Republic of South Africa, 2002). However, Khayelitsha and Mitchell's Plain are still poorly included into the Internet grid of the city; and it is not clear whether the introduction of the Internet would improve the lives of residents of these communities.

This study came about from worries around knowledge of community members' challenges in accessing the Internet; around knowledge about the usefulness of having the Internet at home for these communities; and around knowledge about their outlook for the future in case they had access to Internet since their actual condition could be considered rather dire. It ascribes to inquiries into the preparedness of previously underprivileged communities towards an inclusion into the information society sought by the republic of South Africa.

This paper explores the preparedness of K&MP communities to adopt and use the Internet.

2. Community preparation for adoption and use of internet

Adoption and use can be linearly framed starting with precursors, followed by perceptions, then attitudes and finally behaviours. Much research has been dedicated to the process of adoption and use of ICTs, thus of the Internet; mainly interrogating perceptions and attitudes to predict behaviour (Davis, 1989; Venkatesh et al., 2003; Benbasat & Barki, 2007). However, questions raised by practical issues in implementing ICT projects in developing countries (Heeks, 2008; Heeks, 2010; Heeks, 2014) pointed at determining the inhibiting and enabling elements (Centefelli, 2004) of a community everyday life which influence perceptions and attitudes, and which could be leveraged in preparation of adoption of the Internet (In this case).

In the realm of information systems, these elements are suggested in some TAM (Technology Acceptance Model) based studies, ICT4D (Information and communication technology for development) research, in Social informatics and in Community Informatics research.

2.1: Internet as an enabler: Social informatics, Community Informatics and ICT4D

A social context that is exposed to a technological innovation is expected to be transformed in some extents. That change is investigated by social informatics (Kling, 1999). Social informatics is defined as the interdisciplinary study of designs, uses and consequences of information technologies that account of their interaction with institutional and cultural contexts (Kling, 1999; Sawyer & Rosenbaum, 2000). This field of study is concerned with investigating individuals advancing their personal agenda or supporting the fulfilment of their needs using technology (the Internet in this case).

In addition, the notion of Community Informatics understood as a discipline that connects economic and social development efforts with opportunities enabled by the use of technology (Gurstein, 2000) is introduced to emphasise the potential of technology for breaking through cultures, distances, religions, geographical boundaries, social bias and other differences, and focuses on the community as a nucleus that can be considered in support of the individuals living in it.

Social informatics and community informatics acknowledge the transformative effect of ICTs on individuals and on the communities in which they live; suggesting that the Internet could be conceptualised as an enabler or an empowering elements for underprivileged individuals and communities.

That belief of ICTs and the Internet in particular providing developmental positive impact as a “*digital provide*” (Jensen, 2007) is also present in the field of ICT for Development (ICT4D) as argues Heeks (2010) discussing that impact: “*As ICTs have spread into poor communities, a few shards of evidence of the mirror image have emerged; a ‘digital provide’ that sees those who do not own and those who cannot access ICTs also benefiting.*” (Heeks, 2010:632).

The Internet is understood in this study as an enabler of social positive change.

2.2 Precursor to the intention to use the Internet: TAM based research

In order to use ICTs and the Internet for a purpose, Davis (1989) argues that the individual would accept and adopt them following a path framed by his Technology Acceptance Model (TAM). TAM is based on the Theory of Reasoned Action (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) and is constructed around the beliefs of perceived ease of use and perceived usefulness of a technology. Venkatesh & Davis (2000) extended the model by introducing psychological determinants including control, intrinsic motivation and emotions with the perspective of adjusting and anchoring the two TAM beliefs. These new determinants gave to TAM the ability to explain the behaviours resulting from an initial interaction with the technology and more over to predict the result of continuous usage: that was TAM2. Further extension of the framework led to the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003).

However, the model is expected to indicate whether the technology (Internet in this case) as suggested in innovation diffusion theory (Rogers, 2003) will be accepted or rejected, but does not recommend what will make a system useful or so easy to use as to predict effective intention to use (Legris et al., 2003; Benbasat & Barki, 2007).

This study only uses TAM2 in the analysis of the data because the main focus of that framework is to look at precursors of intention to use the Internet. Other frameworks including TAM, UTAUT or innovation diffusion theories were not considered because their focus is whether aside or beyond the delineation of this study.

2.3 Precursor to the intention to use the internet: The concept of Hope

Hope is usually seen as hopeless dreaming, never realising and not bearing any rationality. In opposition to that common knowledge, Snyder (1994:5) conceptualised hope as mental will and way power that an individual has towards achieving a specific goal in life. That definition implies a grounding of hope into a main objective, a plan to achieve it and the will to go for it: hope has a rational. Hope is not a perception nor an attitude, but a precursor to these able to supersede them and drive the intention to use technology.

This study adopts such a definition of hope and does not extend into the positive psychology debates around the many instances and manifestations of human resilience (Lemay & Ghazal, 2001).

In this paper, the planning (way power) component of hope will be situated at the same level as perceived usefulness in TAM2 (see Figure1).

3. Methodology

This paper aims at exploring the preparedness of K&MP communities to adopt and use the Internet, and specifically inquires on the Intention to use the Internet from three important conceptual elements: experience of accessing and using computers and the Internet, the perceived usefulness of the Internet, and the hope of betterment as a result of using the Internet.

The study was performed over a period of three month and followed a qualitative approach with residents' focus groups (Kitzinger, 1995; Morgan, 1996). The objective of the study was to ascertain the *preparedness of K&MP residents for adoption of internet services*. Thus each of the focus group sessions which were conducted entailed:

A group discussion in which three questions were posed, viz.

Q1: What challenges do you have accessing computers and the internet?

Q2: How would having the internet at home be helpful to you and your family?

Q3: How would having the internet at home make you hopeful about the future of yourself and that of your family?

A total of 10 focus group events were conducted with 150 residents of both Khayelitsha and Mitchell's Plain. All responses were captured using qualitative analysis software called QCA or qualitative content analyser (Bytheway, 2013). Qualitative content analysis was performed on the focus groups' transcripts.

The data was coded into an initial set of 74 categories, and the development of core themes expressed in 3 main categories:

- **Internet inaccessibility** (Lack of computers in the community, Internet cost, poor Internet service, lack of e-Skills, lack of money and personal issues);
- **Internet usefulness** (Internet helpfulness, Knowledge, education, job opportunities, social networking, safety, and personal issues) and
- **Hope** (Hope for personal and familial future, business opportunities, and life style improvement) (see Table 1).

4. K&MP and the Internet

The main findings emerging from the data collected in the focus groups indicate that as per K&MP residents' perception, Internet has been inaccessible. They strongly believe that it is useful and could be a catalyst of social change as characterised in the many possible use of it that they identified and the sense of hope derived from the possibility of having access to it. This section presents the findings per main categories (Internet inaccessibility, Internet usefulness and Hope).

4.1- Khayelitsha and Mitchell's Plain "Internet inaccessibility"

Residents of K&MP pointed at strong elements leading to their "Internet inaccessibility". These included:

- The "*lack of computers in the community*" reflected in the inability to access computers during the apartheid era, and the scarcity of computer labs at schools or of computers in homes and in libraries in the post-apartheid days.

"Lack of computers in our community and schools"
"We don't have computers at home" "No access during apartheid"
"It is very difficult because I never used it before"
"Few computers in the library, too many people waiting for access"
"It is very difficult because at school there are no computer labs"

- *"Internet cost"* suggested with claims of unaffordability at private facilities and cost whether financial (e.g.: transport fares) or physical (e.g.: exposure to crime) linked to traveling to public facilities.

"Internet café are expensive and we don't work" "Not affordable (Expensive)"
"The library is too far from home"
"Long distance to the library or Internet café"
"In order to get access we have to pay – it's far from home, you have to catch taxi – without a card you are not allowed"

- *"Poor Internet experience"* at private and public facilities expressed as long waiting queues, the limited duration of Internet time, recurrent Internet connectivity issues and some language issues with online content.

"Poor Internet service in public places" "Lack of assistance"
"In public places, waiting in a queue is time consuming"
"The time is very limited at the library" "You have an hour to use it, one session a day"
"Network problems" "Network connexion is very poor"
"Computers only programmed in one language, not catering for other languages"

- The *"lack of e-Skills"* to be able to use computers and the Internet

"I don't know anything about computers"
"Knowledge about how to use the Internet"
"Unable to use the Internet"
"Not computer literate/don't know how to use Internet"

- The *"lack of money"* to place on accessing Internet instead of some survival needs.

"It's expensive" "No money"
"Lack of money to pay for Internet"
"Can't afford Internet services"

- *"Personal issues"* including low self-esteem and the experience of home chores and unemployment preventing them from reaching out to access the Internet.

"Self-esteem" "Non-enthusiasm" "Lack of commitment"
"Too shy to ask for help"
"Child care at home" "Cleaning (must finish chores first)"
"Homework (chores)"

In summary: K&MP residents have expressed a strong sense of inaccessibility when it comes to Internet. They considered Internet very much presently inaccessible to them because of a weak exposure to computers, the poor experience of reaching out to public and private facilities, an annoying lack of e-skills, and some stubborn personal issues.

4.2- Khayelitsha and Mitchell's Plain residents perceived "Internet usefulness"

Residents of K&MP seem to perceive the use of Internet as potentially very beneficial in terms of:

- *"Internet helpfulness"* assisting with online public and private services, applications, money and time saving for transport and fares to use facilities.

"Very helpful. I use Access (MS Access) in my programmes for presentations."
"Very helpful for me and my family"
"Save money (Transport and Internet cafe)"
"Save money and time, convenient"
"Save time/no queuing"
"Transfer money (save / avoid bank deductions)"
"To be connected with the government"

"To get access in to government plans for the country"
"Help to access on social media" "Publish my books"
"Apply online" "Google jobs"
"Buy a car, house and computer (online)"
"Selling items on Internet"
"Create business plan "

- *"Knowledge"* and information about local or global events, government information, as well as about topics of interests:

"This is very important because you learn more" "To get information on anything"
"Will be very important because we will get knowledge"
"To get more information about rehab cause people are addicted to different things"
"We will be able to Google information"
"To have knowledge in how life should be"
"You will know better information and you will know the things that are right and wrong for you"
"Access to government information"
"To get access in to government plans for the country"
"Receive updated news"
"Up to date with the info of our country and the world"

- Personal or children *"education"* as suggest these assertions:

"You would be able to educate yourself" "To learn more skills"
"Get registered at schools, colleges and universities early"
"We would be able to apply for bursaries" "To get scholarship to study in other countries"
"To benefit from long distance education (study overseas)"
"It will help kids to get more information about careers to further their studies"
"It will help me to type my assignments and save time"
"Kids will be able to do research on projects" "School projects, homework and investigations would be much easier"

- *"Job opportunity"* advertised online with pages easing the application process:

"It would make it easy to get opportunities of employment"
"Saving time in finding jobs" "Work at home"
"It can help my sister to find work" "It will help my family to get jobs"
"It will be easier to apply for jobs"
"To write CV/Letters professionally"
"Possibilities of becoming self-employed"

- *"Social networking"* offering an opportunity to connect more often with family members

"Access to social networks (Facebook, twitter...)" "Social networking would be easier"
"To be connected with good people that will take your life to another level in life"
"Connect with business owners"
"Communicate with people all over the world"
"Will be able to stay in contact with family members"
"Being able to stay connected with families from other provinces (e.g.: doing traditional meeting)"
"Communicate with loved ones"
"Internet dating"
"Research on family trees" "Search for lost family"

- *"Safety"* concerns when traveling to go to the library, or to expose some individuals involved in crime to re-educational content:

"As we know Khayelitsha is high on crime, having computer at home is safe; you don't have to go outside"
"It will be helpful to me and my family because most of the time I will be at home"
"I will not go to the library because the Internet is with me at home"
"Safety from the gangsters (less travel)"
"It would be safer for kids" "Keep them from gangs" "Keep kids off the streets"
"Prevention of crime in our community"
"Safer community through personal efforts"

- “Entertainment on Internet” including games, music and videos:

*“Access to game, news and entertainment”
“To download videos” “To download music”*

In summary: K&MP residents pointed at many beneficial use of Internet, perceiving it as helpful, able to increase their knowledge, fostering education for themselves and their families, able to improve their capacity to land an employment, able to broaden and strengthen their social networks, able to improve their sense of safety, and as a platform for entertainment.

4.3- Khayelitsha and Mitchell’s Plain residents Internet derived “Hope for the future”

Residents suggested that they developed a strong sense of “Hope” with the possibility of increase use of Internet. That included:

- A broad sense of “Hope for personal and family future” with education, employment and empowerment

*“Very bright with an open mind”
“Help to achieve in life what you want in the future”
“It can bring big hope of success in life for me and my family”
“Having access to Internet will help develop a healthy mind-set that will cause my family to have hope for my future”
“It will give me a big hope; it will give me a bright future”
“It will give a big hope to study further”
“Improve family literacy Skill”
“Better education for your children”
“Hoping the employment rate will rise”
“Be more motivating to others, to encourage success”*

- Increased “Business opportunities” and acumen for themselves and their families

*“Family business opportunity”
“Very bright ... start my own business”
“Hoping for better business opportunities”
“Do a business (Internet café)”
“Register your business plan/market it if you already have it”
“Get business opportunities”
“Get funding to start your own business”*

- Some kind of “Life style improvement” reflecting a positive change in their daily conditions as a student, a head of a household, or a professional

*“Help you live life better (Improve life style)”
“It brings hope in my family because they know that I am going to achieve all my studies”
“Able to earn better wages”
“Become a better provider for your family”
“Change life style. Kids would have options at hand to choose a career”
“Can help improve my children lives”
“Can help me achieve my dream becoming financial accountant”*

In summary: K&MP residents expressed “hope” for themselves and their families which they could derive from using Internet. They suggested that using Internet has the potential to change their lives with education, employment, greater capability to successfully start and run businesses, and to empower them as family providers and community members.

5. Discussion of findings: the Internet, TAM2 and the Hope of K&MP residents

A reading of TAM2 suggests that the expectation of achieving goals including education, social networking, entertainment, safety, employment and entrepreneurship is at the root of the intention of using the Internet. In addition, respondents showed significant willingness to achieve these goals and suggested the internet as a conditional element in achieving them: they depicted their “*hopes for the future*”.

“*Hope for the future*” has appeared as a major precursor of adoption and use of Internet at KM&P (See figure 1). This idea of hope seems to fuel the perception of the usefulness of the Internet, strongly enough to imply intention to use; with disregard as to whether the technology will be easy to use or not.

Finding 1: K&MP residents have expressed a strong sense of inaccessibility when it comes to Internet. This finding is expected to be a deterrent to the adoption of the Internet since it is expected to deteriorate the perception of the ease of using the Internet. However, on the contrary it seems to have become a motivation for adopting the Internet if it were to reach homes. Everything that was hoped for could now be accessible.

Finding 2: K&MP residents pointed at many beneficial use of Internet, perceiving it as helpful.

This finding fits in the TAM2 framework as it expresses K&MP community members’ perception of the usefulness of the Internet, and suggests a high level of intention to use the Internet

Finding 3: K&MP residents expressed “hope” for themselves and their families which they could derive from using Internet.

This finding identifies “Hope” as the fuel for K&MP community members’ intention to use the Internet. It seems to be the most important element, even more important than the usefulness of the Internet in predicting their intention to use.

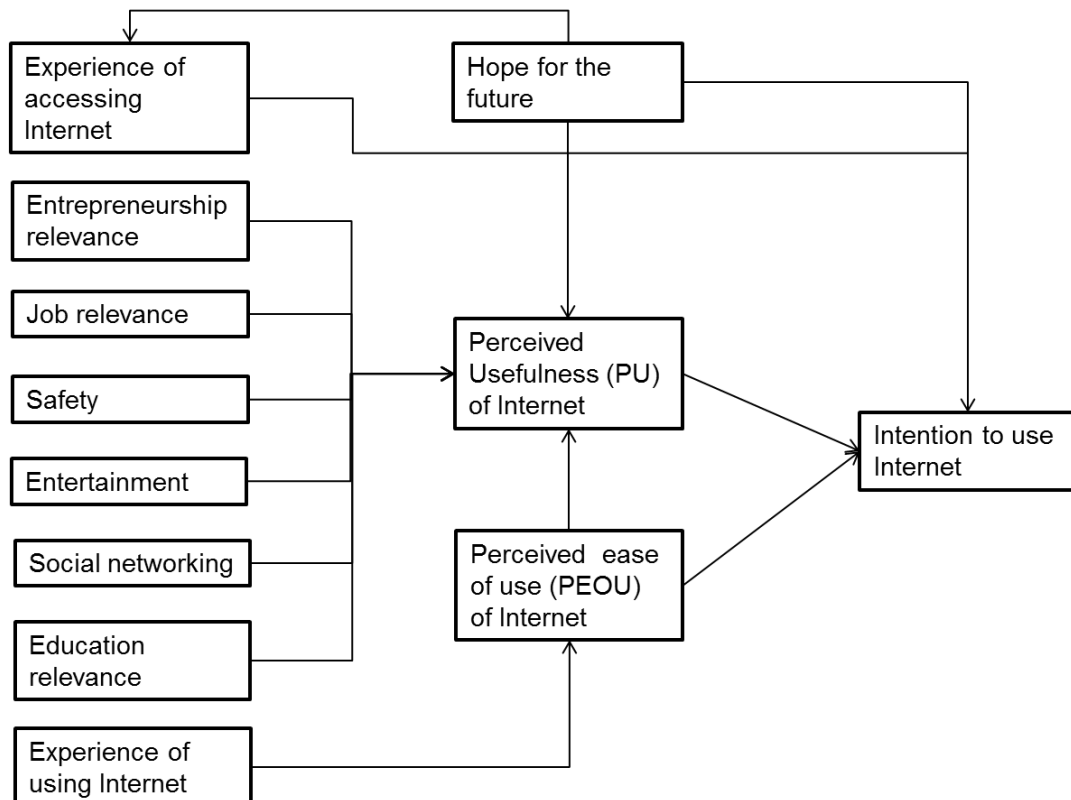


Figure 1: TAM2 and Hope in K&MP (source: Authors)

6. Conclusion

K&MP residents engaged in the focus groups welcomed the idea of having an affordable access to the Internet:

- They considered Internet very much presently inaccessible to them
- They pointed at many beneficial use of Internet, perceiving it as helpful, thus useful.
- They suggested “hope” for themselves and their families which they could derive from using Internet.

K&MP residents were generally positive about the prospect of having improved access to affordable and reliable internet. Even those residents who were digitally illiterate and even the few illiterate residents who participated in the focus groups had a positive perception of the internet. In these impoverished communities the Internet is seen as a symbol of hope. It is therefore critically important that:

- o Any deployment of Internet into communities takes places in parallel with social and economic development programs which are able to harness the many benefits of the internet.
- o e-Skills program be available to those whom demand it. Government may have to play a role in subsidising such skills programs.
- o The development of a marketing and awareness campaign will be essential.

This study identifies “hope” as an important precursor of the intention to use the Internet in developing countries.

Further research should look at the implication of measuring the level of Hope of a community in relation to the value added that the Internet will be providing.

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9. Appendices

Table 1: K&MP residents preparedness for Internet (source: authors) (fc: Frequency count of relevant inferences)					
Q1: What are the challenges in accessing computers and the internet”?		Q2: How would having the internet at home be helpful to you and your family?		Q3: How would having the internet at home make you hopeful about the future of yourself and that of your family?	
Internet inaccessibility	fc	Internet usefulness	fc	Hope	fc
Lack of computers in the community (+ Lack of computer labs at schools, computer inaccessibility, not enough computer in library)	20	Internet helpfulness (+ Online transaction, online government services, social media, content creation and sharing, Money saving and time saving)	31	Hope for personal and familial future	14
Internet cost (+ distance traveling cost)	18	Knowledge (+ Online government information)	28	Business opportunities (+ Business)	7
Poor Internet experience (Quality of service, Browsing time, Internet connexion problems and language issue)	17	Education	25	Life style improvement	4
Lack of e-Skills (+ lack of knowledge)	16	Job opportunities	23		
Lack of money	7	Social networking	18		
Personal issues (+ low self-esteem, home chores, unemployment)	7	Safety (+ community safety and crime reduction)	17		
		Entertainment on Internet	7		