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'What's in It for Me?': Taking M-Government to the People

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Abstract

M-government involves the use of mobile technologies in the provision of public sector services. Currently, there are powerful political, economic and technical drivers for the development of m-government. Less attention, however, has been paid to the users of mobile technologies and their likely uptake of m-government services. This paper makes two contributions to our growing understanding of m-government. The paper presents a framework that facilitates analysis of the influences on the implementation and likely uptake of m-government. The framework provides the context for investigating one influence on the success of m-government programs: citizens' needs and desires to access public sector services through mobile technologies. The findings of empirical studies of mobile technology use provide the basis for drawing lessons for the development of m-government services that satisfy citizens' needs.

Keywords: *m-government, user acceptance, citizens' needs*

1. Introduction

Organisational aims of increased efficiency, integration and customer satisfaction have been facilitated by sophisticated information and communication technologies (ICTs) including Enterprise Resource Planning (ERP), Supply Chain Management (SCM) and Customer Relationship Management (CRM) systems. There has been enthusiastic uptake of web-based, enterprise and inter-organisational systems in the public sector and widespread espousal of e-government (Davison, Wagner and Ma 2005). These ICTs are being applied to increase the efficiency of the public sector with claimed benefits including lower costs and reduced response times, as well as the effectiveness of government through improved diversity and accessibility of services and increased involvement of citizens in the government process (Burn and Robins 2003; Carter and Belanger 2005).

More recently, the high acceptance rate of mobile technologies has triggered the development of a sub-set of e-government. M-government involves the use of mobile

technologies in the provision of public sector services (Lallana 2004). M-government is an issue of significant practical and theoretical interest. It has implications for stakeholders in all levels of government in both developed and developing countries. Use of mobile technologies crosses many age, gender and economic divides. In addition, there is strong governmental support for m-government in the European Union, USA and Asia Pacific regions.

To date, it appears that we lack theoretical and empirical foundations for analysing the implementation and likely success of m-government. This is important given the assumption underlying some e-government and m-government programs that technology can provide defined benefits to governments (eg reduced costs and greater efficiencies) or citizens (eg empowerment through access to information). This assumption ignores the substantial and well-researched issues of user adoption, acceptance and appropriation.

This paper aims to address these shortcomings. It contributes to research into m-government in two ways. Firstly, it provides a framework of the influences on m-government and thus the key stakeholders who must be satisfied in order to achieve its long-term success. Secondly, it focuses on one particular stakeholder group, citizens, and provides an empirically-based analysis of their needs and usage patterns while mobile in order to derive lessons for the successful development of m-government.

The paper begins with an overview of e-government, the precursor of m-government, as well as m-government itself. Next, the m-government framework is presented. It represents both the drivers that are pushing m-government and the individuals who will pull these offerings into their everyday practices. The m-government framework provides the context for understanding the importance of attending to citizens' needs. In the following section, findings from empirical research indicate user preferences and usage patterns that are central to the success of m-government. Finally, the lessons drawn for m-government are discussed.

2. Overview

2.1 E-Government

The proliferation of electronic commerce business models and technologies encouraged their application to the activities of government. E-government refers to the use of ICTs to transform government operations so that government services are provided electronically 24 X 7 (Beynon-Davies 2004; Holden, Norris and Fletcher 2003). Defining e-government more precisely is difficult. E-government may refer to activities at national, regional and local government levels, each of which has distinctive characteristics (Beynon-Davies 2004). It involves a broad range of services that may be provided electronically. The transition to e-government may involve different aims that reflect a typical trajectory evident when applying new technology, from automation of existing processes to redesign of processes to a focus on customers' needs (Davison, Wagner and Ma 2005). E-government may focus on:

- internal activities (within government)
- external business relations (with suppliers, other businesses and other governments at the same or different levels), and
- external relations with consumers of services (with citizens and visitors to its jurisdiction).

However, these boundaries are not clear-cut: outsourced service provision may involve internal and external business relationships that cut across local and national levels of government.

The proposed benefits from e-government reflect these three areas: internal benefits include more efficient government operations (Beynon-Davies 2004; Silcock 2001); external business benefits include improved relations with other governments and businesses (Wassenaar 2000); and external relations with consumers of services include improved quality and access to services for citizens (Burn and Robins 2003; King, Li and Ramdani 2004) and greater participation of citizens in government activities (Navarra and Cornford 2004).

2.2 M-Government

The predominance of mobile over fixed telephones, widespread acceptance of mobile technologies and their integration into everyday activities, and the many possibilities of technology-supported interaction while mobile have given rise to a variant of e-government: mobile or m-government. Some of the potential benefits of using mobile technologies in the provision of public sector services include increased channels for service interaction (ie a shift from face-to-face, post, information kiosks and fixed phone, fax and web access to include 24X7 access to information via the internet, e-mail, SMS and call centres using mobile technologies), instant updates to information, in situ service delivery for citizens and improved access to data from public servants in the field (Heeks and Lallana 2004; Sandy and McMillan 2005).

However, there are some fundamental differences between e- and m-government service provision. E-government involves the electronic provision of information to geographically diverse but technologically homogenous ICTs (such as personal computers or information kiosks) in fixed locations. In contrast, m-government involves interaction where the use contexts are unknown, where accessing government services might be one of several activities being undertaken and where the physical constraints of interacting with mobile devices limit the amount and type of information that might be located and accessed. These differences pose additional challenges for both the implementation and acceptance of m-government.

This paper argues that widespread acceptance of mobile technologies for everyday activities does not guarantee the acceptance of these technologies for the provision of public sector services. It seeks to temper some of the enthusiasm for m-government by drawing attention to some likely barriers to user acceptance of m-government services. At present, m-government is in its infancy. Much of the m-government research has focused on technical barriers such as security and privacy issues and inadequate infrastructure (for example Aldosari and King 2004; Germanakos et al. 2005). This is typical of other technology-driven trends where the capabilities of the technology and perceived advantages for management, technology vendors or marketers are combined to promise significant benefits for adopters. While these are important issues for implementing m-government, there are risks in investing significant resources in providing technologies and services whose acceptance is uncertain. We need to look beyond the groups that are driving m-government to those individuals who will use mobile technologies in providing or consuming m-government offerings. Failure by these stakeholders to accept the m-government or use the services as intended in the long term will lead to failure of m-government programs.

3. M-Government Framework

The m-government framework was constructed using concepts in the innovation, information systems, e-commerce and mobility literature in order to facilitate analysis of the influences on the implementation and likely uptake of m-government. The framework, shown in Figure 1, represents two sets of forces influencing m-government.

The drivers that ‘push’ the use of mobile technologies in government are pictured on the left-hand side of the framework. These drivers are interrelated and mutually reinforcing: introduction of m-government services depends upon co-operation between the key players to provide the necessary infrastructure, identify potential business models and then devise programs and applications that utilise the capabilities of available technology.

Successful m-government, however, depends on more than merely developing and disseminating services (m-government provision). It also depends on individuals ‘pulling’ these services into their normal practices – so that some or all of their interactions with government use mobile technologies (m-government acceptance). These individuals may be internal to government (employees), have external business relations with government (employees of business partners or private providers) or be consumers of government services (citizens and visitors). The users are pictured on the right-hand side of the framework.

It is essential that the needs of the key stakeholders on both sides of the framework—those providing and those using the services—are satisfied in order to achieve long-term success for m-government.

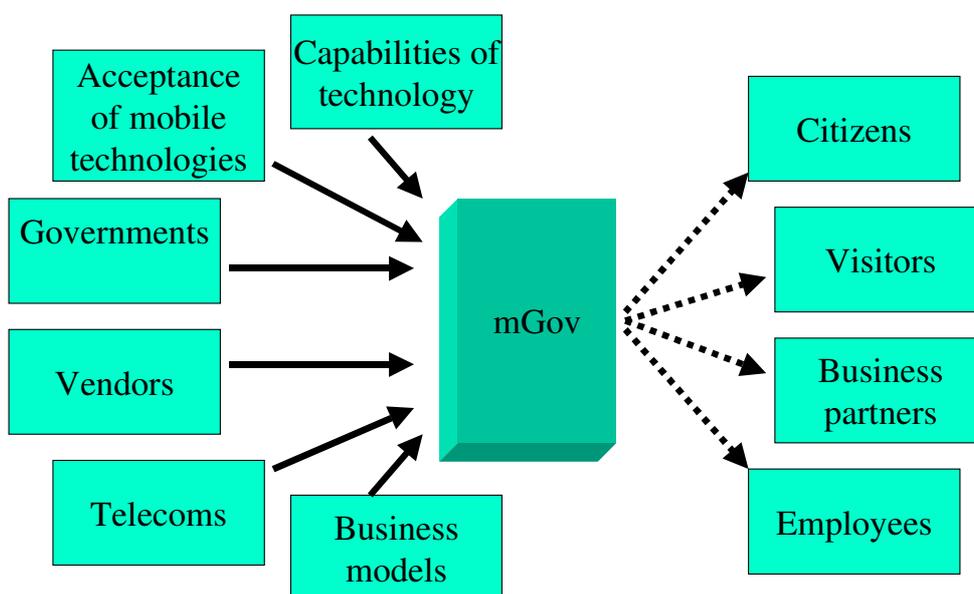


Figure 1: The m-government framework

The drivers that ‘push’ of m-government services are:

- widespread acceptance of mobile technologies. Over 533 million mobile phones were sold world-wide in 2003 (The Australian Financial Review 2004) and their use is common in rural and urban settings, in developed and developing countries, in private

and public places by young and old. It is not just their dissemination but rather their acceptance as integral tools of everyday life that is encouraging their application in government settings.

- the capabilities of technology. This includes attributes of mobile technologies (ranging from limitations arising from screen sizes, storage space, less-powerful processors and inefficient input and output devices); the supporting physical infrastructure (technology, equipment and networks); software, applications and systems; and related standards and protocols. Availability of multiple channels raises issues of interoperability, data quality and transparency of delivery across paper-based, e-government and m-government systems (Germanakos et al. 2005). A range of institutional arrangements are also necessary (such as legislation to ensure security, privacy and recognition of mobile transactions as well as infrastructures to implement them).
- the needs of government – to provide services efficiently (in a timely and low-cost manner)(Borucki et al. 2005; Sandy and McMillan 2005) and effectively (to the right people in the right format at the right time). These needs are present regardless of the available resources that may vary according to region (contrast vast agricultural councils with more centralised urban councils) and level (councils vs national governments). One aim is to achieve 'one-stop government' by harnessing multiple delivery channels (such as WAP, MMS, SMS and the internet) available on multiple devices (Germanakos et al. 2005).
- vendors of systems, hardware and devices, software developers and consultants who devise and sell generic e-government or m-government applications (for example, Nokia's Solutions guide for electronic government').
- business models that capture how innovations can add value to an organisation. There is a range of business models for e-commerce and m-commerce (see Elliot 2002; Timmers 1999) and there is pressure on the public sector to apply successful private-sector business models. However, the extent to which these models are applicable to the public sector is uncertain (Navarra and Cornford 2004).
- telecommunications companies that aim to increase profits through distribution of more content on their networks.

On the right hand side are the individuals who will use mobile technologies in the provision and/or consumption of public sector services. They will 'pull' m-government services into their practices. These individuals need to be aware of the services, able to access them in a timely and economical manner, motivated and trained to use the services and they must be able to perceive clear benefits from their use. These individuals include:

- citizens – who will use mobile technologies to access services from their governments. Typical services already offered include traffic updates, navigation assistance, emergency assistance, weather updates, notification of tax payments, field inspections and tracking system for stolen vehicles (Yu and Kushchu 2004). Research into use of mobile devices to support various community activities has been undertaken (see, for example, proboscis.org.uk). Suggested future developments include those that increase citizens' participation and engagement in the government process.
- visitors – governmental jurisdictions are primarily based on geography; non-citizens, or people from outside that jurisdiction, may interact with public sector services relating to tourism, education, taxation, health services etc. Already mobile technologies are employed to enrich the experience of visitors to museums, art galleries and historic towns (for example Bannon et al. 2005).

- business partners and their employees – individuals from other governments, private providers or businesses who may be involved in outsourced service provision or may consume public sector offerings as part of their business activities (eg accessing tender information or working with government employees in service provision).
- direct employees of governments who may provide or consume services. There has been significant activity in this area of m-government (see Borucki et al. 2005; Burn and Robins 2003). There were some early failures around the use of handheld devices in the social services, health and criminal justice fields (eg Horton 2004; Tapia and Sawyer 2004), especially where they were imposed without careful analysis of work practices and user needs. More recently, programs at the council level have been more successful (see, for example, Project Nomad in the UK).

The m-government framework has two purposes. Firstly it draws attention to the importance of investigating and addressing the needs of all stakeholders: both those who are pushing for the implementation of m-government programs and those who will use mobile technologies as part of their interactions with government. Long-term success of m-government relies on attending to the political, economic and technical drivers of m-government as well as to the individual and group needs of those who may take up and use these services. Secondly it provides the context for detailed examination of the needs of any one set of stakeholders. The rest of this paper examines citizens' needs; the framework reminds us that these needs are only one aspect of the diverse influences on the likely long-term success of m-government.

4. A Citizen's Perspective

The remainder of this paper investigates the needs of one group of potential users of m-government: the citizens who will access public sector services using mobile technologies. There has been little attention to the citizens' viewpoint and investigation of whether providing electronic delivery (via e-government or m-government) of some or all of governments' services is what citizens want. Carter and Belanger (2005) believe that it is still unclear whether citizens will embrace these services; for example, UK citizens prefer telephone or face-to-face contact when dealing with local council (King, Li and Ramdani 2004).

This is a crucial issue because much of the current push for electronic provision of government services assumes that citizen uptake is not problematic. This is apparent from the UK's e-government strategy, that states that "services will be accessed by multiple technologies, including web sites... public information kiosks, digital television and mobile phones, and call and contact centres" (Silcock 2001). This is symptomatic of a "build it and they will come" mentality (Keil and Markus 1994). The government can mandate the provision of these services but they cannot mandate their acceptance. Success of m-government requires active engagement by both government and its citizens and so providing services is only one aspect of the m-government equation. Another, and more challenging aspect, is achieving acceptance and widespread persistent use of m-government by citizens. This depends on the design and implementation of m-government offerings that citizens value and appropriate so that they become part of their everyday interactions with government.

4.1 The Research Approach

There are many difficulties in investigating the likely success of yet-to-be-implemented services. Conventional requirements elicitation techniques such as asking whether participants want, or think they would use, a particular service are inadequate. This is

because people's espoused theories are often very different to their theories in action (Argyris and Schon 1996) and so what people believe they need or do frequently diverges from what they are observed to do. Typically, current use is investigated and used as the starting point for predicting or envisioning future use through designer introspection, future workshops or scenarios (Kensing and Munk-Madsen 1993). Mobile technologies add to the difficulties, notably because of the influence of context on use and the likelihood of ad hoc user behaviours (Carroll et al. 2003). One approach to envisioning future mobile services is through role plays (Iacucci, Kuutti & Ranta 2000) or acting out in actual contexts of use (Carroll 2004). An alternative approach, taken in this research, is to examine current practices and to derive general lessons about the use of mobile technologies in the provision of public sector services (see also Germanakos et al. 2005). Such an approach is useful in defining a possibility space to focus future research (employing acting out, scenarios or prototypes, for example). Thus, implications for m-government were induced from the findings.

This paper draws upon findings from six projects examining technology use when mobile undertaken between 2001 and 2004. Three projects examined young people aged between 16 and 22 years, the fourth examined post-graduate IT students, the fifth young working professionals and the sixth studied IT professionals. The participants span diverse ages, educational backgrounds, economic status and gender in a developed country. These projects employed multi-method research designs including interviews, participant observation, focus groups, on-line diaries and analysis of provider bills (Carroll et al. 2002; Carroll et al. 2003; Carroll 2005). These studies provide a rich picture of the way that people are integrating technologies into their practices as they move from place to place, working studying, socialising and relaxing. They also capture changing patterns of mobile technology use over time.

5. Findings

5.1 Mobile Phones

Most participants nominated the mobile phone as the principal technology accessed while mobile. However, the 'mobile phone' used by sixteen year olds was different to that used by post-graduate students or IT professionals. In addition, the 'mobile phone' carried by young people in 2001 is quite different to that carried by young people in 2004. These differences are evident not just in the form of the phones or the functionality they offer but also in the ways the phone is used.

5.2 Diversity

A wide range of technology practices was observed. The younger students used technology principally for communication. Cost and convenience had strong influences on their use. For them, a mobile phone was always available through the practice of sharing, swapping or trading phones. Older students and young working professionals had access to a wider range of devices and applications, were less cost-sensitive and more curious about (and able to afford) technological innovations. The IT workers focused on convenience and convention, articulating the need to match channel with the intended audience and purpose of interaction (eg SMS suited to communicating with colleagues but not clients).

5.3 Transitional Technologies and Practices

Studies of mobile technology use since 2001 demonstrate that user practices are in transition, with needs and practices evolving along with the technologies. One striking change is that the number of technologies accessed while mobile have increased: from mobile phones, PCs and landline phones (eg from a public telephone box) in 2001 to a vast range of technologies including information kiosks, internet cafes, mobile phones, PDAs, BlackBerries and ultralight notebooks, MP3 players, iPods, USB keys and landline phones in 2004. Users are 'mixing and matching' these technologies to support their needs in new and unexpected ways (Carroll 2005). It is clear that the introduction of new technologies or systems will lead to the emergence of further new practices.

5.4 Personal Technologies

The participants associated mobile phones with fun, leisure and entertainment: they "use mobile phones to add value to their lifestyles, satisfy their social and leisure needs and reinforce their group identity" (Carroll et al. 2002:58). Mobile phones are inherently personal technologies: they are with the user 24X7 and usually carried on the user's body. A common checklist on leaving home is "keys, wallet, phone"; a young male stated: "I feel kind of naked without my phone." More recently, mobiles are subsuming other personal devices such as watches or cameras: many young people use their phone as a timepiece and a watch is a piece of jewellery worn only for decoration. A consequence of the personal nature of these technologies is that use of mobile phones has led to the dissolution of boundaries between work, study, entertainment and social activities.

5.5 Discriminating Users

Users were thoughtful about their use of technology. They select from the vast array of devices, media, applications and non-electronic resources according to their personal preferences, those of their peer group, their perceived needs and purposes for diverse activities in likely situations of use.

Convenience is important to users. For most of the participants in this research, technology is a tool that must be quick and easy to use, available when needed and not intrusive in everyday activities. Mobile technologies are an accepted and often invisible part of the participants' lives. However, being available does not mean that the technologies are used for a wide range of activities. Participants were unwilling to invest effort into using mobile devices for complex or lengthy tasks. Much of the time, participants were multitasking while mobile and paid limited attention to mobile devices. This was exacerbated by the physical limitations of hand-held mobile technologies such as limited input, output and screen size. Interaction with mobile devices was characterised by both 'time slices' and 'information slices' where narrow, limited amounts of time were used to access narrow and specific pieces of information.

The participants reject a technology or application if it is not serving their needs; in a study of WAP adoption, a participant discontinued using his phone to access the internet: "I just thought it was easier to use the computer". Interestingly, this was common across the period of the studies: there was very little mobile access to the internet and, when it occurred, it was tightly targeted to finding specific types of information (for example, accessing transport information). There were continuing concerns about privacy and security and the vividness of 'urban myths' around mobile transactions has led to continuing distrust.

The participants were also thoughtful about the impacts of use of technology. The workers were concerned about the amount of information presented to them via the multiple channels (email, internet, mobile phone) and sought to prevent information overload: "I want to limit the information coming in [on my mobile]... I get too much information coming in as it is" (see also Heeks and Lallana 2004).

5.6 Connection

Post-modern commentators have observed the increasing fragmentation of modern-day life and the resulting pressures, dissatisfaction and disengagement observed in individuals and groups (Pescosolido and Rubin 2000). Many of the participants had geographically dispersed contacts: multiple work, educational, social and family groups that arise from a highly mobile population and an increase in blended families. Mobile technologies provide a way of overcoming this fragmentation so that users can connect with others and engage in diverse social networks (Carroll et al. 2002).

6 Lessons for m-Government

These research projects provide rich data about usage patterns, user needs and possible pitfalls for those providing services via mobile technologies. They indicate that there are valid grounds for concerns about the uptake of m-government services. Evidence of the thoughtful choices made by the participants and their preferences for convenient, simple and compact interactions reinforces concerns that widespread acceptance of mobile technologies will not automatically lead to broad acceptance of m-government.

Six lessons for m-government are derived from these findings:

1. The mobile phone was the technology of choice for almost all participants in the five research projects. The limitations of mobile phones (screen size, input difficulties and limited memory, storage and processing power) for undertaking complex interactions are clear. While other potential users of m-government services can be provided with specific or customised mobile technologies that circumvent some of these limitations (eg home nurses with laptops or PDAs, museum visitors with purpose-built devices), this is not feasible for citizens and so impacts the possible range and format of offerings.
2. The use practices around mobile technologies are diverse. The findings demonstrate the richness of use and the thoughtful ways that the participants selected from the wide set of choices of devices, media and applications according to their purposes (communication, information and entertainment), activities, contexts of use, personal preferences, sensitivity to other's preferences and their needs (for convenience, cost and effectiveness of communication, for example). This reinforces the need for care in generalising about practices by age group, educational background or gender. At present there is little evidence of convergence of practices where 'one size fits all' services are likely to meet the breadth of citizens' needs. Simplistic approaches such as providing services using multiple channels (as described by the UK e-government policy) will not lead to their uptake, nor will it lead to transformations in the relationship between government and her citizens.
3. The participants wanted to control the traffic on their devices and limit incoming information to meet their local, real-time needs. Mobile phones, in particular, are viewed as personal technologies, so care regarding the amount, the purpose and the presentation of interactions arising from m-government is needed (see also Heeks and Lallana 2004). There is a need for co-ordination amongst the multiple levels of government that may provide m-government services, given users' sensitivity to the amount of information they receive and the broad range of services that could be supplied using mobile

technologies. To date there has been little awareness of this issue, let alone the detailed planning and policy construction needed to ensure that diverse m-government providers do not overload citizens and lead to rejection of m-government offerings.

4. Interactions using mobile technologies may be one-way, where citizens receive information that is broadcast from government (about examination results, overdue taxes or train delays, for example); two-way, where citizens can communicate with government (negotiating a district nurse's visit or describing the precise location of graffiti); or more active, where citizens are participating in government activities (coordinating a community festival, for example). Current m-government initiatives focus on one-way interaction. Hopes that, with greater maturity, m-government will lead to greater citizen involvement in government (Germanakos et al. 2005) rest not just on the capabilities of the technology but on the creation of new value-creation models that address both citizens' and governments' needs (see Navarra and Cornford 2004). Such models need to be grounded in a strong understanding of mobile technology use in the diverse set of citizens. Analyses of value in the private sector is expressed in business models but to date we lack similar expressions of value for individual and groups of citizens.

5. As more channels are added for interaction with governments, trust must be built so that all channels are perceived to be trustworthy (Navarra and Cornford 2004). Uptake of some e-government services illustrates that citizens will conduct some transactions on-line (eg registering vehicle, paying council rates)(Carter and Belanger 2005). However, there are greater concerns about the privacy and security around mobile devices that may increase the barriers to m-government. There are complex issues around the privacy of identity data collected when citizens access government services remotely. Also, use of a personal device for government-related transactions increase fears of surveillance (Green 2001).

6. On the other hand, there are significant advantages of using personal technologies for providing government services. Information can be personalised for individual citizens or groups of citizens. It can be placed on an individual's device; this still requires the user to 'pull' it to immediate notice and read it but the information is not just available somewhere (in the sense a brochure or web page is available) - it is available on your personal device. Also, mobile phones are currently used to overcome fragmentation and disconnection and to build social networks (see proboscis.org.uk for examples). This demonstrates their potential to foster citizen engagement and participation – if this is desired by citizens. These strengths indicate that broadening m-government offerings to citizens beyond those current touted (such as transport information or simple alerts) is possible but requires great sensitivity – it is not something that can be imposed on citizens.

These lessons suggest that careful analysis, prototyping and evaluation of services is required to investigate whether any but the most simple information-access transactions will be accepted by citizens. Given the evolving and diverse nature of mobile technology use, designing m-government services merely to support current practices is likely to lead to obsolescence. However, these more general lessons that arise from studying current usage provide a foundation for designing and constructing m-government services and applications that are likely to be accepted and used by citizens in the long term. It appears that an evolutionary approach would be more successful, where a small set of high-value services that are accessible from a range of technologies is developed over time. Further, flexibility in the form and nature of applications is needed to meet the changing needs of a variety of citizens. As citizens' technology choices change, these applications can be evolved to meet new needs. Therefore, the findings indicate that a 'mix and match' rather than a 'one size fits all' approach to m-government services is more likely to succeed.

7 Conclusion, Recommendations & Future Research

The m-government framework presented in Figure 1 presents the influences that need to be addressed when researching or implementing m-government. It provides an overview of the drivers for the provision of m-government and the influences on its uptake. This provides a conceptual foundation for researching m-government and for placing the influences on the likely success of m-government initiatives - technical, political, commercial and human - in context.

This paper explores in detail one of the influences in the m-government framework. It highlights the importance of heeding citizens' needs and practices. Findings from a series of intensive research projects undertaken over four years provide empirical evidence of the diverse and transitory nature of mobile technology use. The participants were thoughtful users of technology who select, from the larger pool of available technologies, those functions, applications and devices that are suited to their particular needs. Technologies and applications that do not meet their needs are rejected. More generally, people do not merely accept the technological options pushed onto them but intentionally appropriate a range of functions, features, media and devices that most closely meets their local, situated needs (Carroll 2005). The lessons for m-government derived from this intensive and longitudinal research into use of mobile technologies indicate both opportunities for and likely barriers to citizens' appropriation of m-government services.

The paper suggests that designing m-government services and applications should be evolutionary, building upon users' current practices but also shaping their expectations and needs for using mobile technologies to access public sector services. Such a suggestion shifts discussion of m-government from a determinist view, where implementation of technology achieves transformation of the government sector. The belief that ICTs can determine defined benefits to governments (such as reduced costs and greater efficiencies) or citizens (such as empowerment through access to information) ignores the substantial and well-researched issues of user adoption, acceptance and appropriation. An evolutionary approach to m-government informed by actual usage patterns, the potential of mobile technologies and the needs of citizens, can foster acceptance of m-government offerings and the tailoring of new offerings to meet citizens' emergent needs. However, as represented in the m-government framework, citizens are only one group of potential users whose acceptance of m-government offerings is crucial. Much further research is needed to analyse the needs of the individual user groups in the m-government framework so that the offerings add value to those providing and those using m-government. This is the way that long-term success of m-government can be achieved.

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