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Evaluating the Competitiveness of Government Mobile Apps: An Assessment of Their Impact on Society

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Abstract

The strategy of mobile app implementation must be adjusted as the app progresses through different stages of maturity. The assessment of the quality of mobile apps used by governments is difficult as they progress through the stages of maturity of the service. A multi-item scale is proposed in this study to assess the quality of mobile apps provided by governments that involve transactions. An extensive review of research conducted by academic scholars and practitioners identified factors that influence the quality of mobile apps developed by the government. We conducted a survey of fully operational mobile apps using a questionnaire based on an analysis of reviews and interviews with users. The data was analyzed quantitatively in order to develop a scale based on the responses received. Citizens can use this scale to evaluate the perceived quality of government mobile applications. According to the analysis of the data, seven constructs can be used to assess the quality of government apps on the demand side, including user friendliness, transaction transparency, loading speeds, flexibility, complete information, trust and safety, and efficiency.

Keywords: Society and government mobile apps, impact of mobile apps, competitiveness and mobile apps, mobile apps quality assessment, society and mobile apps

Introduction

A government's use of the Internet for the provision of services, the collection of data, and the development of new applications can be considered an example of e-government. Direct information technology, e-government, and institutional change are examples of e-government (S Bretschneider, 2003). The use of technology in public administration has been around since the 1960s, when it began to be widely used and has continued to be widely used throughout the post-internet era to the early 1990s. In government, the role of organizational culture plays a crucial role in determining the outcome of these technologies (Welch, E. W., & Feeney, M. K., 2014). At the inception of this effort, the primary purpose was to develop internal government applications that would assist the government in the defense, economic monitoring, planning and management of data intensive functions in relation to elections, censuses, and tax administration of the country. As mobile phones have proliferated over the past few years, the digital divide, in terms of accessibility to online services, is also becoming narrower as a result. Minority groups are especially likely to own smartphones, and to depend on them for Internet access, which is higher than the general population.

In general, African Americans and Hispanic adults spend a greater amount of time on apps than the average user. Households with a low household income are also more likely to rely on their smartphones to access the internet as opposed to households with a high household income. As smartphones are becoming more accessible to traditionally underserved populations, there is a greater chance that social services can be delivered through apps. There has been a second phase of computerization with the advent of the "internet era" in the late 1990s, which gave rise to pioneering efforts in e-government, which in turn evolved into mobile applications in the following years. As the digital age advances, the role of government is expected to change as well, and how it will be structured in the future (Stiglitz, J. E., Orszag, P. R., & Orszag, J. M., 2000). As a result of globalization and privatization in the period of 1990-2000, there have been substantial changes in both the policy and structural aspects of government departments across many countries. (Mowery, 1983), explains well how economic theory and government policy relate to technology.

Research Objective

Developers are responsible for designing mobile apps while the tech departments are responsible for implementing them. It has been suggested that mobile government will develop towards a service paradigm that covers a comprehensive coverage of mobile applications and their impact on citizens (Song, G., & Cornford, T., 2006). Basically, the designers design mobile apps while the tech departments supervise the implementation of these apps. Consequently, the apps developed two decades ago lacked a clear focus on the objectives of the service, a commitment to resources, as well as a perspective of designing from a citizen's perspective. Due to their multilingualism, these apps are often faced with challenges associated with the presentation of features, the multitude of services, interoperability, and communication due to the fact that they are multilingual. The lack of efficiency in app management is usually one of the main reasons why citizens do not utilize online services to the fullest extent possible due to the inefficiency of the system. Consequently, in comparison with traditional methods of interacting with government, mobile apps are impersonal and distant in comparison to traditional methods of interacting with government, which creates a feeling of mistrust, dissatisfaction, and dissatisfaction among citizens as a result of the lack of trust and reliability created by mobile apps. Researchers and practitioners in the field of "citizen centricity" have been able to define a generic and fundamental mission which aims to guide their efforts. The author of this study has attempted to focus on the perception of service quality from the perspective of the consumer in order to gain a deeper understanding of the subject. In order to achieve the objectives of this study, a detailed analysis of the services that government applications provide to citizens in the United States will be carried out, as well as an evaluation of the extent to which these services meet the needs of citizens. In order to perform an empirical study on the quality of service provided to citizens, a study based on citizen experiences is conducted with the aim of evaluating the quality of services provided.

Government and Mobile Apps

Due to the fact that each state and local government (county/city) adheres to its own policies and mandates, there are a number of ways in which each has adapted to the mobile environment. The importance of improving customer service at the state and local levels cannot be overstated. Since they are the ones that provide direct services to citizens on a day-to-day basis (e.g., they provide services

related to schools, hospitals, law enforcement, public works, transportation, etc.). Hence, governments at every level have created a variety of mobile apps to facilitate citizen day to day work and engagement.

There has been a considerable amount of academic research on mobile apps over the last two and a half decades. When mobile apps were first introduced, they were a confluence of information technology (IT) developments and the application used by government entities in the early phases of deployment. This is going to be a new chapter in the digital transformation of government; it is not just about shifting existing public services on-line; it is about government harnessing technology to redefine its "social technologies" in order to stay relevant in an increasingly participatory, interactive, and informational era. There has always been a challenge when it comes to easy access to government services for citizens and other stakeholders due to the complexity of government work procedures. However, government apps encapsulate the complexity and intricacy of dependent departments within a government, which gives the impression that government has moved from the desktop to the mobile. Self-services are available in all kinds of ways, from information searching to complex transactions like e-filing of taxes, and they allow for a full range of self-services. Using the same app you can also obtain new business permits, upload tenders or download tender documents, bid for auctions conducted by the government or promote business-to-business transactions, as the app can also serve as a convenient platform for these items as well. The use of government apps offers a great opportunity for reorienting services around the needs of citizens while consolidating back office functions at the same time.

Recommendations

Based on the author's research, the following recommendations have been compiled.

1. There are a lot of mobile apps that are available at the local level that are geared more towards citizen-centric features. On the other hand, enterprise-focused apps that are geared more towards internal employee interaction are still in their infancy. Apps related to transit and public services are the most common type of apps that are available in counties and cities. It is possible to obtain real-time information about the schedule of the buses and trains based on an app that can be downloaded for either the bus or the train. In order to facilitate the submission of public service requests, citizens have access to an application where they can submit their support requests and track their progress on a regular basis. Numerous cities and counties provide information on tourism and recreation that details the leisure and entertainment activities that visitors can enjoy while they are on vacation, which are provided as part of the tourism and recreation services they offer. This type of app is generally hyperlocal in nature, and it aims to improve citizen service experiences at the local level by improving access to information and services. Due to the fact that cities and counties are closer to the communities they serve, they are required to be responsive to the immediate needs of those communities, as well as the needs of citizens in those communities. The location-based features of these apps are designed to provide users with information that is specific to the context of their mobile device.
2. In order to assist an organization in achieving its mission as effectively and efficiently as possible, it is imperative that enterprise-focused apps are developed. This is one of the best and most efficient ways to do so. A possibility exists that using these apps in an organization could be able to streamline existing practices that are already in place and be able to significantly transform the internal administrative processes through these apps in a positive direction. There is a need to

establish enterprise security standards that stipulate that apps inside the firewall of an organization should be operated in a secure manner, as well as ensuring that the enterprise's security standards are followed. It is important to note that enterprise-oriented apps are capable of performing a wide range of functions, but they are more useful to streamline internal field operations than they are to streamline external field operations, even though they can perform a wide range of functions. In the field, smart phones and tablets can be used to interact directly with the organization's database system, which is known as a computing system, which is located in the data center. Through the use of the organization's app for smart phones and tablets, these systems can be accessed directly from the device. There are a lot of benefits to utilizing these apps, especially for front-line workers, since they are able to access and report information in real time without having to leave their desks, and this is especially beneficial for their job performance. A broad range of first responders are involved in the field, such as emergency responders (firefighters and other emergency workers), foster care caseworkers, law enforcement officials and field inspectors.

3. There are a number of paths that are followed during the process of designing an app, and it is important to recognize that. Several entrepreneurs are becoming aware of the potential of mobile applications and are either developing them in-house or contracting them out to already vetted web design companies to help them get started. According to a top-down strategy, agencies are mandated to adopt at least two mobile applications that target their customers as part of a top-down policy. A new policy instrument from the federal government is being used to encourage civic hackers to develop health-related mobile apps based on open government data from HealthData.gov, combined with citizen input on what they want from the apps. This policy instrument is called "Prizes and Challenges", and it encourages civic hackers to design health-related mobile apps. For agencies to be able to promote mobile apps on their websites and within their app stores, there is a set of major obstacles that must be actively managed in order to be able to promote mobile apps throughout the development process and on their sites.
4. Government agencies, independent agencies, government secretaries, and individual citizens with government resources are primarily responsible for developing Smartphone Apps. According to the evidence, smartphone applications have the potential to improve transparency, accountability, government efficiency, and economic development through an increase in transparency, accountability, and efficiency. Compared to computers, smartphones have become the preferred method of accessing the Internet by many people, particularly younger generations. Developing smartphone applications that meet people's expectations and needs is not an easy task for governments as it requires them to develop highly mature applications. It is imperative that smartphone applications are designed with the user in mind. Therefore, a greater focus should be placed on the quality of the work rather than the quantity of it. In order for a smartphone to be truly useful, it must encompass the most significant facets of people's lives. As an example, location-based services and context-aware services could be vital elements of government service provision, particularly in disaster management situations. This type of service is becoming more and more popular as a result of the enormous penetration rate of smartphones equipped with GPS systems. There are, however, some factors that influence how satisfied users are with their smartphones. In terms of satisfaction levels with smartphones, features of the smartphone, enthusiasm for its use, and the purpose for which it is used are all critical factors.

5. Mobile apps can be developed using emerging technologies as part of the development process to support the process of making mobile apps. There are many examples of this, such as social networking, new generation of mobile devices and services, geographical localization tools, crowd-sourcing, modeling and visualization, semantic web, the web of things, cloud computing, and so on. These approaches can, to some degree, empower users to play a more active role in the design, delivery, and personalization of the services that they consume in the future by giving them a stronger voice in the process. There is also a need for a change in the back-office as well as a more open, participatory, and porous form of governance in order to create a service value chain that is open, transparent, engaging, and porous, which allows for a plurality of stakeholders, intermediaries, and channels to participate.

Methodology

We interviewed and surveyed 200 people who used the government's mobile apps. To examine how, in the face of these changes, scientists understand their own explanations and motivations for changing their practices, the author conducted a series of surveys. The author conducted a series of surveys to understand how people interpret the changes in their practices that result from our findings. Participants were asked to fill out a survey to assess their attitudes towards institutional politics; Use of mobile apps launched by government, their perceived benefits to people and their impact on society. After the implementation process, a survey was conducted to determine if previous expectations were met. In order to be able to form an opinion, they were compared with those that had developed after the start of implementation.

The use of government mobile apps has had a significant impact on society and has played a significant role in many different fields. Using a five-point Likert scale, respondents were asked to rate the questionnaire from 5 points (strongly agree) to 1 point (strongly disagree). In accordance with the scale above, respondents were asked to indicate their level of agreement with this statement. We calculated the validity of the questions using Cronbach's alpha as a tool for determining validity. As calculated by SPSS for the reliability statistics, Cronbach's alpha of the 20 items in the questionnaire of the paper titled "Evaluating the Competitiveness of Government Mobile Apps: An Assessment of Their Impact on Society" is 0.751. This result indicates that the data are reliable and suitable for further analysis. As the value is well above the minimum value of 0.6.

RELIABILITY TEST: Cronbach's Alpha

Measure of Internal Consistency

Cronbach's alpha tests to see if **multiple-question Likert scale** surveys are reliable. It will tell you if the test you have designed is accurately measuring the variable of interest.

Cronbach's Alpha		INTERPRETATION	
$\alpha = \frac{K}{K-1} \left[1 - \frac{\sum s_y^2}{s_x^2} \right]$		Interpreting ALPHA for dichotomous or Likert scale question.	
		CRONBACH'S α	INTERNAL CONSISTENCY
Where	K is the number of test item $\sum s_y^2$ is sum of the item variance s_x^2 is the variance of total score	0.90 and above	Excellent
		0.80 - 0.89	Good
		0.70 - 0.79	Acceptable
		0.60 - 0.69	Questionable
		0.50 - 0.59	Poor
		below 0.50	Unacceptable

<https://www.statisticshowto.com/cronbachs-alpha-spss/>

Table - Reliability Statistics

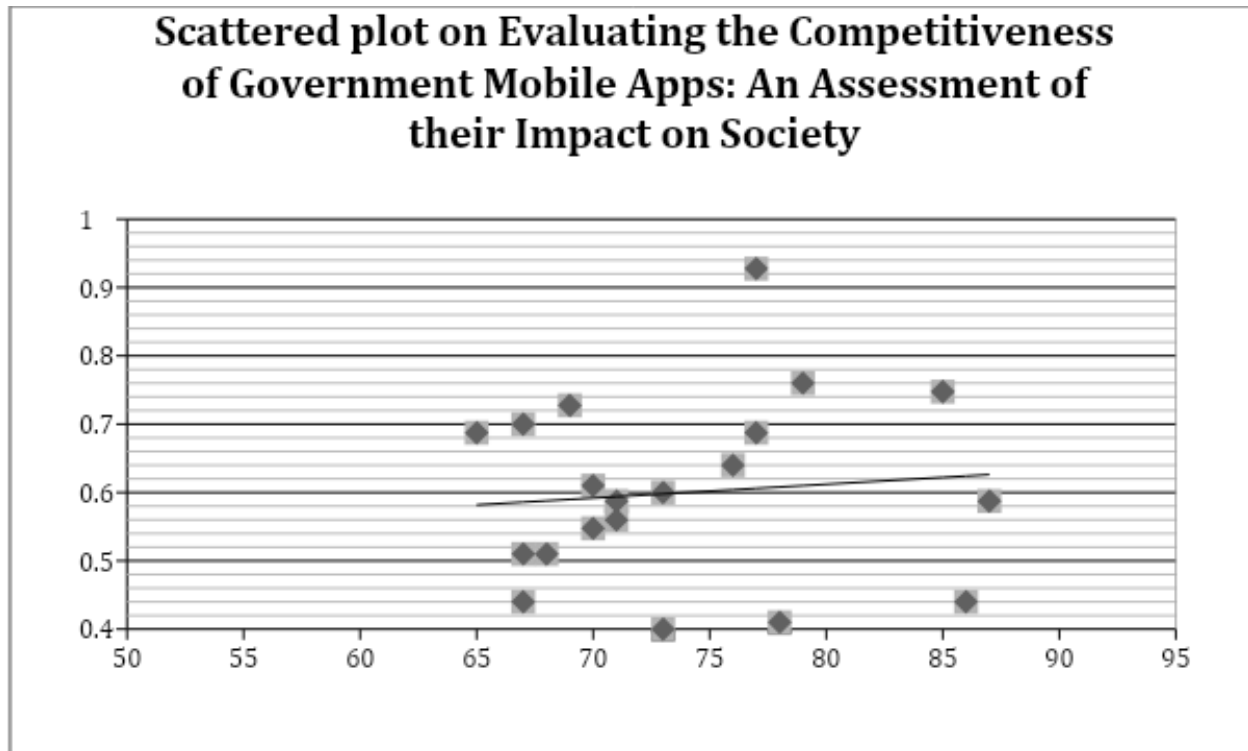
Cronbach's Alpha	N of Items
.751	20

Data Collection

1. **Primary data:** Based on a questionnaire consisting of 20 questions asked to the participants using government mobile apps and the impact which it begets on the society, the following primary data were collected from the selected samples.

2. **Linear Regression:** To further prove or disprove the relationship between competitiveness of government mobile apps and their impact on society, the former was considered as an independent variable and the latter as a dependent variable. A strong relationship between the two variables was established using a simple linear method, a statistical method. The data from the designed questionnaire as well as the analysis in Excel helped to demonstrate a general flow of the points based on the x-axis and the y-axis, indicating a positive trend and placing the points close together, which indicates a strong and positive correlation between competitiveness of government mobile apps and their impact on society, as indicated by the regression line, where the y-intercept is 0.002 and the m-intercept is 0.45. A slope is defined as the change between two points on the line divided by the change.

Fig – Linear Regression



Conclusion

There is still a long way to go when it comes to designing mobile applications for governments, as there is still a lot to learn. The proliferation of mobile devices has created a need for public agencies to adopt a "mobile first" strategy as their use of mobile devices becomes more widespread. There is a need for all levels of government to conduct a strategic assessment of the services they offer online, and to engage the public in the process of determining which services would be most valuable on a variety of mobile devices at all levels, including those at the federal, state, and local levels. As a result of the fact that there are so many mobile devices and app design considerations out there, there is a need to create apps that are designed appropriately to work on all of them. Every government mobile app has its strengths and limitations. There has been a significant increase in citizen participation due to the use of smartphones and applications. Due to the growing penetration of social media and mobile devices among citizens and politicians alike, there has been an increase in the intensity of dialogue and electronic participation as a result of social media and mobile device penetration. In recent years, it has been concluded that M-Government combined with ICT tools increases social capital and civic engagement, whereas smartphones have a detrimental effect on civic engagement when combined with M-Government.

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