Is there a G.O.C. App for that?

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EXECUTIVE SUMMARY:

Government development of web-based and mobile applications, as a means of sharing information with the general public, has grown dramatically over recent years, to the extent that the topic of mobile applications has become an increasingly important topic in government conversations. Within Canada, the development of government based mobile applications has increased over the years, creating with it, the need for properly developed methods which evaluate the development of these applications. These methods must also ensure that they assist in helping Canadian citizens with the issues, daily concerns and challenges that they face.

INTRODUCTION

With approximately half of Canadian cell-phone users owning a smartphone, there has never been a better time for the government to invest in the development of mobile applications to better inform and serve Canadians (12). Smartphones and other mobile devices have become a more widespread and inclusive tool for citizens to access online content, revealing a movement away from traditional tools (12).

The Government of Canada, or G.O.C., has placed focus on the "efforts to innovate, improve processes, [and] make smart use of technology" within their five laid-out priority action areas of the Destination 2020 report (4). This focus on innovation through the use of technology can be observed through the development of device-specific downloadable mobile applications. In fact, between 2008 and 2014, the G.O.C. spent more than three million dollars on mobile applications (18). [1]

Canada can greatly benefit from this focus on innovation. The digitization of government through the development of mobile applications has the potential to "reduce logistical barriers, enhance feedback loops and make government more agile" (12). An examination of a selection of current Canadian government mobile applications shows, however, that these potentials are not being fully realized, with citizens expecting the same speed, responsiveness, and convenience as they experience in the private sector (12).

As a result, the G.O.C. must seek to provide their citizens with mobile applications which provide users with these essential features. Yet, one must then consider how we can ensure that citizens are receiving what they expect and need from these applications. In order to address this,

[1] Mobile Application: We are defining mobile applications as software which is designed to be used on a mobile device. These applications, or apps, often have limited function, however, are very specific to the task at hand (19).
Synonyms used: Mobile apps; applications; apps

methods of evaluation and engagement must be put in place to provide both stronger applications and the features citizens deem necessary.

CANADIAN CITIZENS AND GOVERNMENT INFORMATION

The G.O.C. sees one of the benefits of Open Data as the provision of government created mobile applications. One of these benefits can be demonstrated when viewing the Apps Gallery on Canada's Open Government website (2). The Apps Gallery is where citizens can find mobile and web-based applications, created by the G.O.C., the public, and Canadian Open Data Experience (CODE) (3). Increasingly there is a recognized need for services to "be designed and delivered with full engagement and consideration of not only the needs of citizens, but the expertise and knowledge that citizens and others outside" traditional sources can offer (12). This need for citizen designed and delivered services is a key component which developed the need for CODE, the open data competition established from Canada's Action Plan on Open Government 2014-16. This competition seeks to focus on the development of applications which address "everyday challenges facing Canadians", while the Action plan focuses on the idea that "through better engagement with citizens and civil society organizations, the G.O.C. intends to ensure that programs and services are designed and delivered to meet the needs and priorities of Canadians" (5).

The development of mobile government technologies present's opportunities for added convenience and more personalized access to government information and services in many policy areas, including education and health (15, p. 11). Benefits from a more mobile government can include improved service quality, efficiency, and reduced costs (15, p. 53-54). An example of successful government mobile applications can be found in Australia. The Centrelink program, developed by the Government of Australia, created a series of mobile

applications that enable users to "update their contact details, subscribe to and view online letters, view their payments and transaction history, and capture and upload documents" (10). These applications support real-time conversations and have been popular with all demographic levels, attributed to the fact that the mobile applications are "designed to be more personalised to ensure citizens are presented with options most relevant to them" (10).

In addition, an example of a highly noted government which has invested in mobile applications is the nation of Estonia. This nation has been highlighted in numerous capacities surrounding their national use of mobile applications for the delivery of government services. Being cited as "one of the most advanced e-societies in the world" (8), Estonia appears to have concurred the e-government domain. Through its various e-services the government has provided citizens with access to government services from any location (8). Estonia relies on the interconnectivity of databases at all levels of government and the simplicity of access for its citizens, to create such a highly esteemed network. In fact, Canada has already engaged the Estonian government regarding their e-service delivery, with business delegates having visited the nation to learn about the e-government and e-healthcare systems (6).

Here in Canada, we can also see some of the beneficial features of effective government mobile applications which the above nations display, specifically the ImmunizeCA application. This application was developed as a result of joint work by the federal government, NGOs and other groups (12, p.24). ImmunizeCA has been a good model for how mobile applications can be developed through the interconnectivity of multiple levels of government while maintaining the goal of providing greater ease for their users (11).[2] The application allows users customization to

[2] This application "promotes immunization by combining schedule and appointment management with accessible scientific evidence on recommended immunizations" while also providing real-time alerts regarding disease outbreaks in the user's geographic location (12).

fit their needs, as well uses feedback to improve the features of the application. It has been noted that mobile applications, such as those developed in the Centrelink program in Australia and the ImmunizeCA application in Canada, "help expand the reach and efficiency of multiple services", through capitalizing on the "portability and ease-of-use of smartphones and similar devices" (12, p.24).

Application stores allow users to view differing features of mobile applications, including number of downloads, recent updates, reviews, and ratings. With specific G.O.C. mobile applications in mind, including the PTSD Coach Canada, Parks Canada Heritage Gourmet, and Health Canada Recalls, one can discover a few of the various issues experienced by these applications[3]. As a result, Canadian citizens need to see that these mobile applications are easily accessible, work properly, and provide a required solution. These areas raise concern for the true need of the various mobile applications which have been put in place by the G.O.C. and the true citizen value that these mobile applications provide.

AREAS OF CONCERN

Due to the large investment of Canadian dollars by the G.O.C. into mobile applications, the development of these applications must elicit confidence in their user-ability and the aid they provide. However, after looking at a selection of G.O.C. applications some areas of concern were noted. Specifically these focused on issues of accessibility, lack of engagement, and lack of a robust evaluation framework to measure if the investment is paying off. The mechanisms of

[3] Issues with the mobile applications tend to focus around the opening of the Health Canada Recalls application after downloading has completed. Issues continue to occur after the application being in place for a number of years, and resulted during personal attempts to utilize the application as well. Parks Canada Heritage Gourmet raises concern due to the minimal downloading range, while the PTSD Coach Canada application has created concern surrounding the use of an application to assist in the diagnosis of Posttraumatic stress disorder, while other data shows praise for providing assistance for this serious issue.

evaluation within the G.O.C. must be considered in the development of government open data and mobile applications. Such mechanisms would ensure effective two-way engagement with citizens and meet the needs and priorities of Canadians[4].

Canada does recognize that it must embrace the "digitization of citizen-government interactions" and its investment in mobile applications, as discussed above, shows that it is taking action to increase the efficiency of government to citizen interaction. However, without proper mobile application maintenance by the G.O.C., the true effectiveness and efficiencies of current Government mobile applications is unknown.

Another challenge that must be addressed is the lack of engagement through mobile applications, something that intertwines with the evaluation component. G.O.C. mobile applications, such as the Health Canada Recalls application, would greatly benefit from an improvement in user friendliness and engagement for the purposes of feedback. A more user-friendly application may serve to make it more desirable in the future for citizens to use. Thus, a component of addressing the evaluation challenge is the aspect of citizen engagement.

This need for citizen engagement is emphasized in the recent Public Works Canada e-service delivery study[5]. Canada has little choice but to continue its mobile application development and try to address the many problems that have resulted due to the lack of effective evaluation and citizen engagement. One of these developing problems revolves around the lack of knowledge citizens have regarding where to look for government developed mobile

[4] Engagement or Engage: We are defining engagement or engage in terms of user engagement in the development and use of mobile applications, must consider the frequency of app use, how these apps are used, the rating and comments provided by the user, the ease of use of the app, understanding the need for the app, understanding how high of a priority the creation of the app is for users, how accessible the app is internally, as well as how easy it is to locate.

[5] This study highlights that ten percent of respondents state they presently use smartphones to access government services with thirty-two percent stating they plan to do so in the future (16).

applications (16), and concerns surrounding the communication of money spent on mobile applications (18). This can become quite problematic, as a lack of engagement with the development and implementation of mobile applications can result in suboptimal outcomes that may "require time-consuming and expensive adjustments" (12, p.7).

RECOMMENDATIONS

The issues identified focus on significant problems throughout mobile application development and maintenance. Challenges relating to lack of evaluation and lack of two-way engagement serve to limit the effectiveness of mobile applications and the sought after deliverables of Canada's Open Data initiative, which seek to address the everyday challenges of Canadians and meet their needs and priorities. These challenges likely exist due to the clash of traditional government structures processes and culture with the "assumptions and expectations of digital-policy making [and] service delivery" (12, p.7).

The problems presented require action by the G.O.C. in order to ensure that the future of mobile application development is both effective and efficient through its processes of development, piloting, and maintenance. Therefore, we propose the following two key areas of recommendation to aid in the advancement of the G.O.C.'S mobile application development.

<u>Evaluation Mechanisms</u>:

According to a 2014 KPMG and Mowat Center report concerning government in the digital era, Canada is often highlighted as an outlier concerning issues around measurement (12, p.30). In fact, Canada's federal government spends less time, money, and attention assessing what is and is not working, compared to its international counterparts (12, p.30). In order for the G.O.C. to improve upon the usability of government information and services through mobile applications, there needs to be "an understanding of when, how, and why they are being accessed by the public" (12, p.25). Evaluation mechanisms need to be in place which allows the government to

see in real-time how citizens are accessing information and/or services through their mobile applications (12).

Moving forward, government must examine its program evaluation approach to ensure the priorities and needs of Canadians are continually met. Ultimately, government needs to continue to develop the capacity to understand, measure, and report on the impact of government developed mobile applications (12, p.30). This understanding can be furthered through the consideration of the identification of needs of the application user, the removal of non-key features allowing for simplicity and efficiency, the need for a well-designed user experienced and proper graphics, as well as the incorporation of various forms of feedback and their associated improvements.

In addition, these evaluation measures must comply with the Canadian Treasury Board Secretariat's Standard on Optimizing Websites and Applications for Mobile Devices. These standards seek to ensure the accessibility and usability of government websites via mobile devices for a wide audience, and strives for mobile applications to be easily located and recognizable (7).

Engagement:

Government developed mobile applications need to be able to inform the public and elicit feedback simultaneously in order to be truly effective (12). Citizens, the true users, need to be better engaged in the design and continuous improvements of the applications. Particularly, the adaption and broader use of mobile applications in Canada "requires collaborative and discursive elements" (17, p.93). Through an innovative engagement process, government will be able to better deliver beneficial tools and services to Canadians (13).

As emphasized by Fishenden and Johnson, citizens need to be at the core of digital era government because they will eventually determine it (p.15). This presents challenges to

government and its traditional ways of developing and operating services (1). Strategies moving forward need "to be about simplifying", making the interaction between individuals and government seamless (p.15). However, this can only occur if public services, such as mobile applications, are designed around citizens to meet their needs and priorities (1).

The Canadian Open Data Experience mobile application competition is a good example of a collaborative effort to design applications that will meet the needs and priorities of Canadians. This bottom-up engagement process, however, must be taken further than simply consulting during the design process. In order for mobile applications to continue to meet the needs and priorities of citizens, two-way engagement needs to occur on what necessary, often times continuous, improvements are required. With the recognition that no application will be perfect starting out, the process of seeing what worked and what did not through engagement with citizens, comes as an important step in having effective government mobile applications that benefit citizens.

CONCLUSION

To benefit fully from the delivery of successful open government technologies, such as mobile applications, and to address citizen engagement through the "everyday challenges facing Canadians" (5), the development and implementation of these technologies must involve a significant focus on evaluation and engagement. This focus must include key consideration of citizen engagement, delivery plans, and evaluation methods to fully address Canadian issues and provide citizens with the features they expect to receive through G.O.C. mobile applications.

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