

Assessment of the Performance and Efficiency of Public Services Being Delivered Through Mobile Seva

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ABSTRACT

Mobile Seva/ Mobile Governance is a revolutionary framework which is aimed at leveraging the exponential growth that has happened in the wireless communication technology and the far reaching acceptability it has received in the country. It has been conceptualized and formulated by the Department of Electronics and Information Technology (DeitY), Government of India.

C-DAC, on behalf of DeitY, has designed platform and implemented gateways for delivery of integrated government services to citizens over mobile devices using mobile communication channels like SMS, USSD, IVRS, CBS, LBS, and through mobile applications installed on the smart phones.

In this paper we describe the assessment which aimed to use research methods to establish key performance indicators that can gauge the efficiency of DeitY's Mobile Seva initiative, and assess its impact on stakeholders.

Categories and Subject Descriptors

J.1 [Computer Applications]: Administrative Data Processing - Government; K.6.4 [Computing Milieux] Management of Computing and Information Systems - System Management.

General Terms

Measurement, Performance, Experimentation, Human Factors

Keywords

Mobile Seva; Mobile Governance; MSDP; DeitY; C-DAC; India

1 INTRODUCTION

Mobile Seva, through the Mobile Service Delivery Gateway (MSDG), aims to provide a one-stop solution to all the central and state government departments and agencies across the nation for all their mobile service delivery needs. The objective

of the initiative is to centrally provide m-enablement and m-delivery infrastructure and platform that allow all government departments and agencies to expeditiously start offering their services through mobile phones without having to invest heavily in creating their own mobile platforms. Mobile Seva enables integration of mobile applications with the common e-Governance infrastructure for delivery of public services to the users. Availability of government-wide shared infrastructure and services enable rapid development and reduced costs for the integrating departments.

Mobile Seva aims to enable all integrating government departments and agencies to provide their services on various mobile channels such as SMS (Short Message Service), Voice/ IVR (Interactive Voice Response), USSD (Unstructured Supplementary Service Data), Location Based Services (LBS), Cell Broadcasting Based Services (CBS), Mobile Payment Service and through mobile-applications (m-apps).

1.1 Objective, Benefits and Challenges

Objective

The Framework for Mobile Governance, notified in The Gazette of India in February 2012, aims to utilize the massive reach of mobile phones and harness the potential of mobile applications to enable easy and round-the-clock access to public services, especially in the rural areas. The framework aims to create unique infrastructure as well as application development ecosystem for m-Governance in the country.

The first objective of this assessment was to establish key performance indicators (KPIs) to gauge efficiency of the Mobile Seva initiative, and solicit inputs / responses against these KPIs from the end-consumers of the platform (i.e. user departments). The second objective was to assess the impact of the service on stakeholders and identify gaps between perceived and actual benefits.

Benefits

1. Single point of all mobile services delivery.
2. Increasing the productivity/effectiveness of public service personnel.
3. Improving the delivery of government information and services.

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4. Increasing channels for public interactions.
5. Lower costs leading to higher participation.
6. More communication from government to citizens and vice-versa.

Challenges

1. Integration with multiple telecommunication companies.
2. Convincing departments to use Mobile Seva as single Mobile Platform.

1.2 Role of Stakeholders

Department of Electronics & IT (DeitY), Govt of India, has launched Mobile Seva, a countrywide initiative on mobile governance, to provide public services to the citizens through mobile phones and hand-held devices. As a part of this initiative, a centralized platform named Mobile Service Delivery Gateway (MSDG) [2][3][4] has been created by DeitY through its implementing agency, Centre for Development of Advance Computing (C-DAC). MSDG has been developed around open standards [2] and cloud-based solutions by DeitY, and is a key implementation strategy under the Framework for Mobile Governance.

2 METHODOOLOGY

The methodology of research used in this study basically includes:

Research Sample: Government departments across India for whom PUSH SMS, PULL SMS, Mobile Applications (m-apps), and/ or Voice/ IVRS channels have been implemented through MSDG were the universe. Sample size was 70. Out of 70 departments responses of 60 were analyzed. 10 departments in the sample were in the process of onboarding the platform, and hence, did not have any significant feedback as of then.

Research Methodology: Both qualitative and quantitative methods were used. The qualitative methods were used to explain and interpret the findings from the quantitative analysis of data points in a survey.

Questionnaire Design: The questionnaire variables were designed based on research objectives provided by the Mobile Seva team. A formalized and structured survey was created through an online survey tool survey monkey [6] with close-ended questions for quantitative analysis and open-ended questions for qualitative analysis. The responses were collected manually in some cases and directly online on the survey tool in others (depending on the convenience of the respondents).

Quantitative Measures: Key performance indicators were identified to measure the effectiveness of Mobile Seva. These KPIs (elaborated in a later section of the report) were measured against a 4-point scale, percentage of responses, and correlation.

In-Depth Interviews: To understand how end-users were interacting with the platform, semi-structured open-ended questions were incorporated in the survey. The flow of the interview depended on the responses. Themes being addressed by respondents through the experiences and feedback they were sharing were identified and recorded.

Qualitative Measures: Every answer was mapped to a theme and the tone of the respondent was identified as positive or negative on the basis of key words used for every question type.

This technique has its roots in the mood-sense algorithm used by platforms such as Twitter and Google [7]. The subjective feedback was further categorized under broad impact assessment parameters (with some feedback being repeated across categories due to its qualitative nature) to help identify a generalized insight and recommendation.

3 KEY PERFORMANCE INDICATORS (KPIs)

Selecting KPIs begins with clearly stating goals and understanding what areas of mobile seva impact its goals. Following KPIs identified for this purpose.

Responsiveness: This refers to the willingness to assist the end users. It also involves providing a timely response to the customer/ user.

Onboarding and ease of implementation: This refers to initial set of issues and problems faced while deployment and first use of the platform. It also refers to how soon the platform/service is accepted by the users/ operators.

Performance reliability: It is the ability to perform the required service in an accurate and dependable manner. The platform/ service should be expected to work correctly at the first instant.

Portal effectiveness: This is judged by the ability of the portal to provide easy access and understanding of the service as well as ease of use. Portal effectiveness can also be rated by determining the extent to which the portal allows a user to view information relevant to service usage.

Transparency: Transparency in government functions, thereby improving communication with citizens and increasing credibility, is one of the key objectives of developing the Mobile Seva platform.

Participatory: This refers to the extent to which stakeholders are involved in designing and implementing the platform/service.

Knowledge about customers determines the ability of the service provider to understand and fulfill end user expectations.

Note: Awareness about Mobile Seva and potential uses of the platform are key to assessing overall performance and efficacy of Mobile Seva.

4 RESEARCH FINDINGS

Responsiveness: Respondents have highly appreciated the responsiveness team. In most of the cases, immediate response was provided. More than 80% of the respondents have given a positive rating. A number of small functionalities were added from time to time based on needs expressed by the respondents. However, in cases of problems being complex or of more technical nature, the responses got delayed and issues remained open.

Onboarding and ease of implementation: Respondents have conveyed that they feel that implementing the service is relatively easy. Respondents have appreciated the fact that they were provided complete documentation and code that was easy and self-explanatory. The needs of the ten percent of respondents, who found the implementation difficult due to lack of technical knowhow, can be met through training which can be imparted, where required, at the time of integration with Mobile Seva. Implementation of the service was found to be constrained by the lack of availability of qualified resources to generate and

maintain data. One respondent also mentioned lack of reliable internet and power infrastructure as a bottleneck to implement the services.

Performance Reliability: More than 90% of the respondents have appreciated the technical performance and reliability of the service. However, some respondents who were dealing with large numbers of SMSes have experienced delays in the processing and dispatch of SMSes.

Portal effectiveness: Majority of the people have not explored the portal beyond basic services like PUSH SMSes. Those who have visited the portal have appreciated the interface, the functionalities provided as well as the data presented. Most of the queries have answers available on the portal itself but there is need to publicize the portal more.

Transparency: One of the remarks by the respondents was - "The service is very useful in immediate communication and protects people from getting cheated". Transfer of correct and uninfluenced information from the government office to the end user leads to elimination of malpractices.

Participatory: Majority of the respondents believe that the design and deployment of the service has been participatory. While the process tries to involve stakeholders at every level, lack of face-to-face participation limits the scope of implementation and usage. Further on, expansion of the initial set of services is limited by the lack of micro level understanding of the end user system by the implementing agency.

Awareness: Presence on social media such as Facebook and Twitter serves as an effective medium for developing better understanding of the service and sharing of experiences and insights with the fellow officials as well as the end users. Less than 20% of the respondents surveyed are aware of the social media presence of the initiative, which leaves scope for creating more awareness.

Cost/monetary savings: 78% of the departments agreed that the service resulted in cost savings out of which 48% believed that the savings were quite significant. A number of departments relied on private service providers for sending bulk-SMSs which they moved to MSDG once the platform was implemented.

Simplified procedures/efficiency: More than 85% of the respondents believe that the service has eased procedures and 78% of the respondents believe that it has brought in efficiency. The service has enabled communication of important messages in a timely and cost effective manner. Day-to-day procedures have been simplified and considerable time saved by using the SMS service. For example, instead of making a large number of calls to officials/ citizens, bulk-SMSes containing the necessary information can be sent to all concerned. Also, meetings can be scheduled with ease while ensuring good participation.

Interface with stakeholders: Deployment and use of the Mobile Seva service has led to a better interface with the end citizens for more than 90% of the departments surveyed. Government officials believe that the service has brought about efficiency in the system and has also led to greater credibility amongst the community. Farmer communities in the rural areas as well as people living in disaster prone areas have been the greatest beneficiaries of the service.

95% of the departments that used the Mobile Seva service would recommend other departments to also use it.

5 IDENTIFICATION OF CENTRAL THEME

In this section, the report analyses the various hypothesized themes and tries to identify the central or key theme that connects the Mobile Seva initiative with the end users.

5.1 Implementation of Innovative Schemes / Projects

The heaviest users of Mobile Seva today are the departments who use it to push a major chunk of their outbound communication through bulk SMSes to the beneficiaries.

The service is innovative given the idea of providing the capability of connecting to the specific and targeted end users, solving the last mile connectivity issues. On the other hand, the service does not have the same appeal for the departments for which last mile connectivity was not the most painful area. To such departments, the initiative (PUSH SMS) was just another, at times more expensive way, of accessing/ delivering information that is easily available via other mediums like the internet.

A few of the innovative ways in which the service is being used is highlighted by the following graphic, which highlights key phrases that are takeaways from the qualitative interviews.

Although these are important breakthroughs for any Government initiative which envisages such a high reach and impact, still innovative is a word that does not form a central theme for the Mobile Seva.

Having said that, although innovation is not a central theme as of today for the service, but given the scope and potential of handheld devices whose penetration is expected to reach to 72% by 2016 [5], Mobile Seva has immense opportunities to develop itself as an intrinsic part of the e-Governance enablement drive.

5.2 Making Public Delivery Systems Efficient and Corruption Free

The report findings thoroughly corroborate the fact that the system is poised to make public service delivery systems more efficient, transparent and bring them closer to the common man. With the ability to reach out to the departments a citizen wants and vice-versa is what makes this one of the central themes of the initiative.

More than 90% of the departments feel that the implementation of the Mobile Seva service has simplified their procedures. Transmitting information earlier was cumbersome and almost always did not convey the message in its entirety. It took the form of sending letters to stakeholders or government officers themselves having to travel to the villages and transmitting information that the department wanted to be sent (like information related to pest waves, fertilizers to be used, advanced warnings, etc) or TV advertisements needed to be made and the process was long winded.

5.3 Customization and Adaption to meet Stakeholder's Requirements

Driven by the heavy inclination of Mobile Seva users towards PUSH SMS service, the initiative is perceived to be a ready-

made solution rather than a customizable service. Remarks from respondents

“Face to face interaction with senior officials can tell us how m-governance can be used and tell them what new arenas can be developed. At least 1 week of exposure to our office is needed”

“...senior official should visit and assess the situation at our department. then he should tell us about all services available with mobile seva and exactly how our department can benefit from them. For instance, we would be the first people to use Pull SMS if someone explained how it can be used by us...”

“...we want customized applications for our department, and we are hoping to hear from team very soon...”

5.4 Customization and Adaption to meet Stakeholder's Requirements

A heartening finding is that barring a minor percentage of respondents from the sample, all of them were extremely satisfied with the way their issues were handled.

Channel of communication and the redressal mechanism are two vital parts of a service system. When both of them work correctly, and in tandem, they help organizations achieve high rankings in terms of service.

5.5 Identification of Problem Areas

The evaluation team has looked at the key performance areas and has mapped the qualitative responses to each one of them. These problem areas are the ones that are bringing down the rating of the system.

6 RECOMMENDATIONS

Based on the feedback gathered from the participating departments of Mobile Seva, the evaluation team suggests the following:

1. Establish a Business Development Vehicle
2. Identify high impact departments, where impact is a function of need and reach. Departments with a high need are those that have potential areas where all or more than one service being offered under Mobile Seva can be implemented. Reach will be measured as a function of the number of people that the department has the potential to impact with these services
3. Set up a business needs analysis team that can look into the business requirements of the partnering departments and develop ideas for customized solutions
4. Work on strengthening client relationships by working closely with partnering departments, and communicating periodic updates and conducting regular feedback exercises

5. Partner with various private and public service providers to facilitate access to Mobile Seva services at nominal rates

7 CONCLUSIONS

Mobile Seva service has fared very well on almost all KPIs stated above. On-boarding process for deploying the applications has been very simple and fast for more than 80% of the departments, the implementation and rollout of services is constrained in a few cases by the lack of qualified resource and infrastructure at the end-user side.

After running through the responses received from the users at large, the central theme that the users perceive the service to be is ‘Making Public Delivery Systems Efficient and Corruption Free.’

The service fares well on other three themes as well but research identified areas like a more streamlined feedback mechanism, a more involved operating model wherein the Mobile Seva is brought closer to the partnering departments, etc which makes them lose out from being a selling proposition for the initiative.

Based on all the analysis, and keeping in mind the end objective of the service, it is recommended to establish a special purpose vehicle for developing the business side of the service. With the core operations receiving positive responses from a majority of the respondents, the service needs to be helped from the functional side to achieve all of its objectives effectively.

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