CHAPTER 6

E-GOVERNANCE WEBSITE ACCESSIBILITY EVALUATION BY MANAGER’S AND CONTENT DEVELOPER’S PERSPECTIVE

6.1 Introduction

The findings presented in the previous chapter which was focused on the view of automatic accessibility evaluation tools to understand the accessibility problems on E-Governance websites in India.

The automated tools are not sufficiently effective to serve as the only method of testing, they may be able to provide an overview of some issues, particularly issues related to the coding of websites. Automated testing tools are relied upon as a primary means of testing for accessibility guidelines only.

However, in order to expand on the existing studies and before starting into investigating the end-user views, this chapter was started by the views of E-Governance management and content developers in India. This way achieves the objective of the study which is to investigate the level of accessibility of the existing E-Governance in India from the managers and content developers perspective.

The level of accessibility of the existing E-Governance infrastructure in India was investigated by the views of the managers and content developers, i.e. the professionals in charge of managing and developing E-Governance projects. The managers and content developers view was addressed in order to gain an understanding of the root cause of the existing accessibility problems.

The study was based on an administrated questionnaire which was distributed to managers and content developers from different institutions providing E-Governance
services. The results of the study are believed to add to the existing body of knowledge by identifying some main points that could help in improving the accessibility of websites in India for future websites.

This chapter started with the introduction of this chapter, then the methodology adopted in the chapter’s study, it is followed by outcomes of the study, finally discussion of findings and ends with summary and conclusion.

6.2 Methodology

Since the objective of this study is to investigate the level of accessibility of the existing E-Governance in India from the managers and content developers perspective, the study was focused on the views of professionals in charge of managing and developing E-Governance projects in India.

The managers and content developers were addressed in order to gain an understanding of the root causes of the existing accessibility problems. According to Lazar et al. (2004), professionals can carry out structured assessment and answer questions quickly and directly. The study mainly focused on to address the factors affecting the successful E-Governance deployment. These factors include training and practice, incentives, user’s feedback mechanisms, challenges and available resources.

6.2.1 Questionnaire Structure

The questionnaire was organized into six parts; the first part covered the demographics and professional status of the participants and the level of their engagement and experience with the E-Governance in India. The second part relates to the understanding about the accessible E-Governance website deployment. The third part relates to the biggest problems of making a website accessible for disabled people. The fourth part relates to how to improve and increasing the accessibility of existing E-Governance websites for disabled people. The fifth part relates to the accessibility principles defined by WCAG 2.0 for disabled people access on websites. The last part relates to the disabled people’s requirements, about web interfaces and training. The questionnaires are attached in Appendix III.
6.2.2 Sample

As stated earlier, since the objective of this study is to investigate the level of accessibility of the existing E-Governance in India from the managers and content developers perspective, the study sample was based on the views of professionals in charge of managing and maintaining E-Governance project in India. The study involved a sample of 21 managers and 27 content developers, in various capacities, and all were responsible for the uptake of E-Governance in India.

The sample number of participants was not large. This is because recruiting such staff is not an easy task due to they are considered a limited number as well as limited accessibility into official’s and time availability. However, this has been more reliable since the questionnaire has been conducted face to face and administered. Fortunately, the participants represented the governmental institutions which are involved in typical types of public services. All the institutions are located in Chennai, the capital of Tamil Nadu state from India.

6.2.3 Procedure

As stated above, the study applied the questionnaire technique. According to Huang (2010) questionnaire is an easy, inexpensive, effective, and efficient ways to collect data in scientific investigations.

Studying the previous literature and related projects have lead to construct a questionnaire which has been piloted, then refined into the final questionnaire. During building the questionnaire, questions were focused on the main issues with emphasis on using short, simple unbiased language.

The questionnaire was originally designed in English. Additionally, the questionnaire was translated into Tamil in order to offer a copy of the questionnaire for participants; especially those who have problems in English and prefer answering in Tamil to achieve the full understanding of the questions.
In this study all the participants were visited face to face in-order to ensure the participants full understanding for all the questions.

The questionnaire took on average 20 minutes to complete. Upon completion of all the participants, the questions and their responses were coded to be analyzed using SPSS software package.

6.2.4 Ethical Considerations

Ethical research requires having permission from people in order to conduct the research before it starts. In this research, the importance of the research was explained to all the managers who participated in the first study and their permission was obtained to use the data gathered as part of the research with a guarantee that their personal information will remain confidential and will not declared in any circumstances.

6.3 Analysis and Outcomes

6.3.1 Demographics and Professional Status

As shown in figure 6.1, 71 percent of the participants were male and 29 percent were female, the study participants were aged between 22 to 58 years, with the majority (over 35 percent) being between 22 to 30 years and second majority is ranged between 31 to 40 (27 percent). In this study 44 percent of the participant’s designation is manager and 56 percent of participants are developers.
The majority of the participants hold bachelor degrees “46 percent” in disciplines such as computer science, computer applications and computer engineering; around 42 percent of them had postgraduate degrees and 12 percent of them had some other degrees and diplomas. 35 percent of the participants have worked with the E-Governance project for more than 4 years, 25 percent of them had experience in between 2 and 4 years, 25 percent of them had 1 to 2 years of experience and 15 percent of them had less than 1 year of experience.

6.3.2 Reliability

According to Hair et al. (2006) and Sekaran & Roger (2010), the level of consistency between multiple variables is data reliability. High reliability is determined if variables in the same measuring group are correlated within others. The most common test for data reliability is Cronbach Alpha which determines how closely each variable is related to the remaining variable’s sum, using a multi-point scale for measuring consistency among individual items.
In this study, Cronbach Alpha test was carried out in order to assess the reliability of the obtained data. Cronbach alpha was found to be above 0.75 (varied between 0.76 - 0.89). Such values are considered acceptable according to Hair et al. (2006). Table 6.1 shows the obtained reliability analysis results of different problem domains of manager and content developer analysis.

Table 6.1 Reliability Analysis of Problem Domains

<table>
<thead>
<tr>
<th>S.No</th>
<th>Problem Domains</th>
<th>Alpha value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Accessible E-Governance website deployment</td>
<td>0.83</td>
</tr>
<tr>
<td>2.</td>
<td>The biggest problems of making a website accessible</td>
<td>0.76</td>
</tr>
<tr>
<td>3.</td>
<td>How to improve and increasing the accessibility</td>
<td>0.79</td>
</tr>
<tr>
<td>4.</td>
<td>Most difficult things faced by the disabled people</td>
<td>0.89</td>
</tr>
<tr>
<td>5.</td>
<td>Disabled people’s requirements</td>
<td>0.77</td>
</tr>
<tr>
<td>6.</td>
<td>Interfaces of E-Governance websites</td>
<td>0.84</td>
</tr>
</tbody>
</table>

6.3.3 Accessible E-Governance Website Deployment

As shown in figure 6.2, the majority of the respondents “73 percent” stated that the government in India does not offer any incentives to increase the accessibility of its E-Governance websites, were as 27 percent of them stated that government is offering incentives. However the responds of not getting incentives is very high, that shows the government should give more incentives to encourage the employers.

37 percent of the participants stated that they are regularly receiving complaints about the difficulties faced by the users on E-Governance website regarding web interfaces, accessibility and E-Governance in general, 42 percent of them stated they are receiving complaints rarely and 21 percent of the stated that they are not receiving any complaints about the difficulties faced by the users on E-Governance website regarding web interfaces, accessibility and E-Governance in general.
Next it is observed that 77 percent of respondents believe that a mechanism such as email and FAQs is sufficient to address the problems encountered by the users, while 23 percent of respondents had the opposite views.

Moreover, it was clear that 27 percent of respondents think that accessibility is very important element and 29 percent of respondents think that accessibility is an important of success or failure of E-Governance projects, 21 percent of respondents did not know much about accessibility and 23 percent of respondents thought that accessibility is not important to the success of E-Governance development. However majority of them think that accessibility is an important element for the success of failure of E-Governance project.
6.3.4 Biggest Problems of Making A Website Inaccessible

After asking the managers about their views on the biggest challenges of making a website accessible to the disabled people, figure 6.3 shows that, 39 percent of them strongly agreed and 31 percent of the agreed that lack of expert website designers, 29 percent of them strongly agreed and 27 percent of them agreed that lack of budget is the main challenge, 31 percent of them strongly agreed and 29 percent of them agreed awareness of accessibility amongst the management is the first challenge, followed by 40 percent of them strongly agreed and 27 percent agreed that lack of feedback from end-users. In addition, 40 percent of them strongly agreed and 31 percent of them agreed lack of involvement of the end-users in the state of design. Finally, 25 percent of them strongly agreed and 29 percent of them agreed that the lack of management problems as the major challenges.
6.3.5 Improving and Increasing the Accessibility

When the respondents were asked what resources they thought would be most helpful to enhance and increase accessibility of existing E-Governance websites. As shown figure 6.4, 33 percent participants strongly agreed and 35 percent participants agreed that trained staff is needed to enhance the accessibility, 58 percent of participants are responded allocating more budget for E-Governance website development will help to improve, Additionally 58 percent of the participants are indicated involvement of end-user in the developing stage will help to improve the accessibility, further 67 percent of the participants indicated for clear guidelines and standards would have the biggest impact.
6.3.6 Issues Faced by Disabled People

The user’s experience with E-Governance website was measured from the feedback and complaints sent to the service providers.

As shown in figure 6.5, it was found that 33 percent strongly agreed and 29 percent of participant agreed that they had received complaints about lack of operable principle; i.e., the current website are little bit confusing to follow, and difficult to navigate. Additionally, 27 percent of participants are strongly agreed and 31 percent of the participants are agreed that they had received complaints about lack of perceivable principle; i.e., the appearance and the interfaces of the existing websites is not good with the disabled community.

Next 29 percent of the participants strongly agreed and 33 percent of the participants agreed that they had received complaints about lack of robust principle; i.e., lack of personalization or customization based on the disabled people’s requirements and compatibility as a major problem. Moreover, 23 percent of the participants strongly agreed and 27 percent of the participants are agreed that they had received complaints about lack of understandable principle; i.e., the websites does not have an efficient structured format, websites are having unannounced pop-up windows and search facilities to retrieve information quickly. Finally 60 percent of the participants responded that they are facing some other problems when accessing the E-Governance Website.
6.3.7 Paying Attention to Disabled People’s Requirements

As shown in figure 6.6, very few of the participants “31 percent” are paying attention to the end-user requirements before establishing the E-Governance websites, while 69 percent of participants did not paying attention. Moreover, after launching the E-Governance system, only 24 percent of participants investigated the requirements of the end-users for further developments, while 76 percent of the participants are not investigating the requirement after launching.
6.3.8 Attending Training and Interfaces of E-Governance websites

Staff training is considered as an important factor to execute project successfully. Hence, this was investigated with a focus on the accessibility aspects. As shown in figure 6.7, it was noticed that just 21 percent of the participants had attended some training programs on website accessibility, while 79 percent of the participants did not attend any training on the accessibility of E-Governance websites before or after the project was established.

The accessibility of E-Governance in India was also addressed in terms of the issue of user interfacing. Just 27 percent thought that the interfacing was very good and good, while 60 percent of the participants have experienced average and below average
satisfaction with the interfaces of E-Governance websites, and 14 percent participants recorded about poor.

6.4 Discussion

According to Upadhyay & Kumbharana (2012) the E-Governance services should be constructed from the viewpoint of the user; otherwise, users will face difficulty to access. However, that contradicted the reality from the conducted study, which revealed that E-Governance websites in India did not pay significant attention to the disabled people’s requirements before establishing the websites or after launching them for further developments. This indicates that the existing system possibly does not satisfy the disable people’s needs and is not considered sufficient.

In addition, there is a lack of trust between the users and E-Governance project. This sometimes is considered as an encouraging reason for the users to be uncooperative in participation. Users believe that government will not consider their views seriously and will apply its proposal at the end. According to Malik et al. (2014) and Kumar (2012) users will not answer questionnaire or even not participate in E-Governance if there is no trust to deal with their views seriously by the government.

Furthermore, the responsible staff in E-Governance project in India should consider involving end-users and consider their feedback in the initial stage of websites design seriously in order to achieve satisfied level of accessibility. According to Sato (2011) the participation of users during the design process increases their feeling of not being ignored, and encourages the adoption of any new system.

Although majority of the respondents believed that the accessibility is an important factor for E-Governance project to become either successful or failure. However, the lack of accessibility awareness remains one of the biggest challenging factors for making websites accessible for the disabled people. This strongly suggests a very limited understanding of accessibility and its importance for the success of the websites. On the other hand, this lack of accessibility awareness costs time and effort, with a detrimental impact on productivity, which could ultimately decide the success or failure of the system.
This is not surprising as E-Governance project in India has been facing problems with the majority of staff not attending any training on the accessibility of E-Governance before or even after the establishment of the project to understand the system within a limited budget. Therefore, E-Governance project in India should direct its effort towards obtaining qualified staff, providing training schemes and other necessary skills as well as providing higher budgets in order to ensure a successful project implementation.

The conducted study also tried to know the respondents views about the websites interfaces of their institutions. Accordingly, it concluded that over half of respondents experienced average and below average satisfaction of the interfaces of the current E-Governance websites in India. It seems that the lack of applying the website accessibility standards affected the quality of the interfaces of the Indian E-Governance websites.

Finally, this is not surprising as Verma & Kumari (2010) stated that E-Governance websites in India were developed by the IT government department’s teams, and the rest were developed by different certified IT companies in India, and each one has a different layout and architecture. This need to be changed and Indian government websites should follow the accessibility standards in order to make its websites accessible.

6.5 Summary and Conclusion

Few studies had done about E-Governance accessibility in India, but there is still a lack of research in accessibility issues. Therefore, this exploratory study is trying to fill this gap by focusing on the views of professionals in charge of managing and developing E-Governance project in India from the perspective of E-Governance accessibility.

Based on the results, it was concluded that one of the main problem is lack of accessibility awareness amongst the management, developers and disabled people participation at the website design phase. These are considered as challenges facing accessibility of Government websites in India.

Although all the investment by the Indian government into the E-Governance project, the absence of clear guidelines to govern E-Governance project initiation and operation might inhibit many difficulties to take off.
In addition to the limited budget of Indian E-Governance project and lack of expert web-designers are also considered as significant problems encountering the improvement of the accessibility of E-Governance websites in India. The findings of this research has highlighted the need for further work in order to attract more attention to those identified as significant issues for failure or success E-Governance implementation.

The next chapter discuss about problems faced by the disabled people on E-Governance websites in India, in terms of Operable, Perceivable, Understandable, Robust and about overall satisfaction.