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A REVIEW OF LITERATURE ON INDIAN E-GOVERNMENT WEBSITES

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ABSTRACT This study aims to review the literature available on Indian E-Governance websites to examine their relative strengths and weaknesses. The study consists of a qualitative analysis of research based journal articles available on the subject- Indian E-Governance websites. The available literature points out that: Indian governments are primarily focused on online services; Indian governments have a limited number of websites; Indian governments do not provide a lot of government services; government websites do not have good user experience; government websites have poor usability; government websites tend to be less mobile friendly. The study also found that a more, extensive and systematic study of government websites in India is required to understand the present status of these websites. The findings of this study indicate that there is a need to improve the overall accessibility and usability of Indian government web portals in order to improve their quality and in turn the E-government Development Index ranks of India.

KEYWORDS : Information Communication Technology; E-Governance; Web Portal;

INTRODUCTION

The E-government phenomenon is a marvelous offshoot of the modern Information and Communication Technologies, particularly the World Wide Web. E-Governance has become a vital part of government agencies which strive to provide more competent and improved public services and quick information dissemination.

E-governance or Electronic governance is built upon information and communication technology. But it does not simply mean use of some technology in the government sector. Rather, it means changes resulting in more streamlined operations and improved citizen-oriented services. It has assumed a mammoth role in delivering services and information to the public. It has also brought a revolution in citizen interaction with government and vice versa.

E-government is defined by the United Nations as the application of information and communication technology (ICT) by a government for the provision of information and basic public services to the people (U.N Report, 2004). According to the Word Bank (2005) e-government refers to the use of information and communications technologies to improve efficiency, effectiveness, transparency and accountability of governments. United Nations Division for Public Economics and Public Administration defines e-government as utilizing the internet and the world-wide-web for delivering government information and services to citizens (UNDPEPA, 2002).

WEBSITES AS PRIMARY TOOLS TO DELIVER E-GOVERNANCE

Primarily, in E-governance, websites are the critical tools to inform the public, deliver the public services and bring efficiencies in the general administration. Websites are also tools to ensure public sector transparency which would increase public trust in government. They can also mediate citizen interaction with the administration. They also lessen burden on the human element in the administration.

Layne and Lee stress the role of web platform in e-governance with this definition: "E-Government refers to government's use of technology, particularly web-based Internet application to enhance the access to and delivery of government information and service to citizens, business partners, employees, other agencies, and government entities" (Layne and Lee, 2001: 123).

The deployment of websites in E-governance is thus a basic and inescapable task. Realizing this, public authorities across the globe started transforming and making available their services into web based applications. The governments at various levels have now several years of web presence.

E-GOVERNANCE IN INDIA

In India, as noted by Yadav and Singh (2012), the initial initiates of e-governance can be traced to the establishment of the Department of Electronics in 1970 by Government of India with the first step towards e-governance being the establishment of National Informatics centre (NIC) in 1977 followed by the launch of the District Information System of the National Informatics centre (DISNIC) program to computerize all district offices in the Country. Later, in 2002, the Government of India announced a comprehensive programme to accelerate e-governance at all levels of the government and consequently put forth the National e-Governance Action Plan for implementation during 2003-2007. This plan envisaged various Mission Mode Projects (MMPs) in e-governance, including one for municipalities under the responsibility of the Ministry of Urban Development. MMP for e-governance in Municipalities was to be implemented under Phase-I of JNNURM in 35 cities with other 423 towns/cities to be covered later. This MMP envisaged implementation of 11 modules and in most cities, these modules were implemented by different vendors as stand-alone systems with local modifications so as to suit the functional requirements and as a result the services delivery systems reached varied levels. The Smart City Mission launched by the ministry of urban development also lacks plans of centrally implemented uniform e-governance solutions for the urban administration.

This means that India has attained different stages of e-governance with varied levels of information dissemination and service delivery.

In this backdrop this study aims to review the literature available on Indian E-Governance websites to examine their relative strengths and weaknesses.

REVIEW OF LITERATURE

Ray and Dash (2006) analysed 200 web sites of 35 state government and union territories of India to calculate the Web measure index and e-readiness index. They conducted content analysis of the web sites. The 5 Stage Model of the UN was selected as basis for the study to determine maturity of online presence. A code-sheet for capturing unique feature of each stage of e-government was prepared. A value of 1 was assigned to indicate presence of an feature and 0 was assigned to indicate absence. The results showed that a majority of states were in first three stages, with infrequent presence in stage IV and V. It was also noticed that succession from one stage to the next higher stage was not strict. The progression from stage to stage was non-linear. The outcome of the study matched the findings of the various UN surveys.

Mann et al. (2008) studied and compared different e-Government elements/services, and their outstanding features, as available on five leading city web sites across the world. Five cities that were selected for study and for the comparison of the different services / features available on their e-Government web sites were Ottawa (Canada), Toronto (Canada), New York (the US), Singapore, and Auckland(New Zealand). The respective e-Government websites were searched for the short listed 172 features and, if offered, assessed the service maturity level. The authors assigned an "e-score" to the Web sites on the basis of a rubric and the total e-scores of the five cities were New

York 305, Toronto 273, Singapore 300, Auckland 258 and Ottawa 269 which revealed that almost all the five cities are at a relatively high level of maturity in service offerings/features and the comparison of the features showed that all the cities had most of the requisite features on their Web sites. The study also brought out that though the elements provided on the Web sites had a number of common features, the scope of services provided by Web site of each of the five cities studied was unique, and it emphasized the need for customizing the initiatives to the local needs of the constituents.

Digital readiness of Indian cities using e-government services as indicators. For this, they took a sample of 35 million-plus cities in India and conducted a content analysis of their municipal websites searching for presence of specific attributes related to e-governance with the help of chosen indicators (Shridhar, 2011**)**. The indicators were grouped under two broad categories namely 'Information oriented' and 'service oriented' and individual attributes were awarded a score of 1 for their presence; 0 for their absence and 0.5 for their partial presence. In this way total scores for all the websites were computed and a comparative ranking of the websites based on the total scores was made which revealed digital readiness for e-government services of these cities. The study revealed that larger cities, especially those with more than 10 million inhabitants, fared relatively well in their readiness towards becoming digital compared to smaller cities.

Katare & Banerjee (2017) found that research was required to assess the type of web presence of city municipal corporations in order to address the lacunae in assessment of web portals at lower level of hierarchy and undertook the portals of two municipal corporations of state of the Madhya Pradesh namely Indore and Bhopal. The study found that design of the web portal should be enhanced by systematic, logical and segmented presentation of the information under various groups and subgroups, more public utility information should be added to the portal like emergency contact, officer's directory, utility directory etc., public interest in accessing the web portal may be enhanced and a proper feedback mechanism and an online grievance redressal system should be placed.

Kumar et al. (2018) provide useful insights into the decision-making process of e-government users in India. The study found the following factors as influencing adoption of e-government services - computer self-efficacy, perceived ease-of-use, perceived compatibility, multilingual option, trust in internet and trust in government.

Bhagat & Joshi (2019) did a study of all-inclusiveness of some of the online services provided by the government of India. In addition to finding out the coverage of the online service to all types of users, the study also focused on the adequacy of methods of accessibility verification and recommends the appropriate testing.

Paul and Das (2020) investigated the accessibility and usability of e-government sites in India with a sample size of 65 Indian e-government websites. The analysis was carried out using automatic evaluation tools. The results of the accessibility tests highlighted the existence of accessibility issues based on Web Content Accessibility Guidelines 1.0 (WCAG 1.0) and WCAG 2.0. Usability tests also reveal that e-government websites gave low priority to such aspects during website design and development. Hence, there was a need to improve the overall accessibility and usability of Indian e-government websites in order to improve the quality and in turn the E-Government Development Index ranks of India.

Samuel et al. (2020) did a study to understand the awareness and adoption levels of e-government services and identify the drivers and barriers to adoption of e-government services in a developing country. A technology adoption model was synthesized based on study of existent literature, and further empirically tested using field data from primary surveys in four Indian cities using suitable sampling strategy. The approach also included capturing citizens' responses. The primary finding of the study identified drivers and barriers for adoption in a context of developing country. Majority of the respondents reported non-preference for online services because they believed that they did not know how to use them, even while they use other online services on their smart-phones/computers. Since age, education and economic-class were found to influence preference for the e-services, the study encouraged the local governments to devise their awareness strategies for e-government specifically for these social groups.

Puthur et al. (2020) identified the factors that influence the citizens to avail the e-service provided by the Ministry of Railways, Government of India. The result of this study showed that the two major determinants of technology acceptance model (TAM) namely perceived usefulness and perceived ease of use along with trust and computer self-efficacy explained over 70% of the variance in the user's intention to reuse the e-ticket booking site of the Indian railways. The findings showed that the e-ticketing website should contain user-friendly, high-quality information content and excellent website quality in order to enhance citizen's intent to reuse their services.

Kaur & Srihari (2021) delved into India's E-government efforts by examining how 14 essential elements are presented on the homepages of selected E-government websites. The study evaluated usability standards for dimensions like Online Service, User Help and Feedback, Navigation, Legitimacy, Information Architecture, and Accessibility Accommodation. This assessment was conducted on 17 E-government websites belonging to the Executive Branch of the Indian Government, using an Expert-based Heuristic Evaluation. The study revealed inconsistency in presenting 'Online Service' and 'User Help and Feedback' across government websites. To address this, future efforts should concentrate on improving the manifestation of each variable across the six usability dimensions. Web developers and government agencies can enhance website usability by applying insights from the dimensional framework, focusing on crucial features for E-government Website Usability.

Sneha & Babu (2021) analysed the communication strategy implied in Indian government web portals in association with citizen preference, participation and impacts of bilingual websites. An online survey covering India as a whole was done and with an quantitative study. 54.8% of respondents gave opinion that Indian Government Web portals were ineffective. The majority agreed that government websites don't align well with citizen needs. Over 43.6% thought media ignorance contributed to low awareness of government website benefits under the Digital India Initiative. Even government employees, around 67.3%, are familiar with less than 10 websites. Respondents expressed unawareness about accessing services on government websites. Despite high education levels, particularly post-graduation, users found navigating government websites complex. Language barriers impact both literate and illiterate individuals, with 70.4% suggesting that multilingual websites could enhance citizen participation.

Kumar et al. (2022) undertook a study to understand and interpret the fundamental meanings attached to consumer behavior through m-Government (m-Gov) experience. The study explored the extent to which the emergence of m-Gov was able to change citizens established behavior of accessing government services primarily focusing on experience as an important driver. The study revealed that m-Gov experience was highly satisfying since it meets citizens' expectations. The findings highlight that in many aspects, m-Gov services provided improved experiences compared to the traditional government and conventional e-Government (e-Gov) services (accessing public services from computers and laptop).

Singh et al. (2022) used citizen-centric approach to understand the effectiveness of e-government web portals in India and to find the factors of e-government (i.e., information clarity and appropriateness, relevance & usefulness, information accuracy & completeness, system security, users' privacy, system stability, and interactive services) and their influence on citizen perception, citizen satisfaction, and users' intention. The results revealed that the factors of e-government positively impact quality perception, citizen satisfaction, and users' intention toward e-government.

Agrawal et al (2022) investigated the usability, accessibility, and mobile readiness of Indian government websites. The analysis covered 164 government websites listed by government ministries for the delivery of e-services. Usability evaluation of websites was done on various quality parameters using automatic online tools. Compliance with the Web Content Accessibility Guidelines Version 2.0 was evaluated using TAW online tool. Further, the mobile readiness of the websites was investigated using the MobileOK online tool. The results indicate that many government service websites had low usability, the majority of the website does not follow WCAG 2.0 accessibility guidelines, while none was usable and fully accessible on mobile devices.

Paul (2023) did a study to analyze the accessibility of Indian e-

government websites using online evaluation tools and found that the accessibility aspect had not been given due attention during the design and development of e-government websites and that poor accessibility might lead to ineffective service delivery and low adoption among differently abled users. The study concluded that there was a necessity to improve the accessibility of e-government websites.

CONCLUSION

A review of literature shows that there is a very little research on the e-government websites of different governments in India. India, the largest democratic country in the world and one of the IT savvy countries, has launched a plethora of e-governance initiatives and e-government websites being remained without adequate examination is really surprising. E-government websites of are hardly studied in India which leaves an unclear picture about their current condition, their content features and the services offered by them.

In this background, extensive and systematic study of government websites in India is required to be undertaken to understand of the present status of these websites. This would offer an opportunity for administrators to take up necessary steps to take the websites to advanced levels and provide better service/information delivery. Such studies also provide a tool for policymakers to take cognizance of current trends and to formulate appropriate policies for effective digital delivery of public services. This would result in technological up-gradation of the websites.

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