Cloud Computing -A New Face for E-Governance

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ABSTRACT: Electronic governance or e-governance is the application of Information and Communication Technology (ICT) for delivering the government details to the citizens. Digital India is an initiative of Government of India to integrate the government department. This research paper focuses upon disconnect between this initiative and aims at finding out ways to accelerate the process.It includes reducing the lead time for any work, availability of information at all departments etc. This study is conducted within the boundaries of Mangalore City with a wide variety of respondents. The people face lots of problem during any government work which consumes lot of their time. This research finds out ways of expediting the work so as to improve the current scenario with the help of Information Technology. The basic objective of this research is to give solution to the problem faced by the general public like processing of work, responses for any query etc. It is being done by finding out their opinion and even factors promoting Cloud Computing as one of the measure to improve the situation.The public's opinion form a base on what do they expect from IT enabled governance and what factors suggest Cloud Computing as one of the effective tool to do the work better than it is being done now.

KEYWORDS: Cloud Computing, SaaS, E-Governance, Enterprise Architecture

I. INTRODUCTION

India is in a time where it is going to see its major technological advancement. It will benefit each and every individual. The Digital India Initiative launched by our Prime Minister Shri. Narendra Modi has touched the heart of every one. With IT sector aiming for its boom due to this new feature by the Indian Government. There are certain areas in which this starting initiative has completely collapsed. The launch of UID i.e. the Unique Identification Number as Aadhaar Card is the first initiative. This has helped to create a linkage between the Indian Citizens and the Government. There is a huge disconnect in the country due to the lack of availability of information and stringent government documentation procedures for any government work. Citizens feel the need of having a certain number or a system in which every information is stored electronically and available everywhere in India. This research paper identifies the reasons for disconnect and the peoples response with respect to the procedures of the government. It identifies how E- Governance can be applied for Government procedures and to transform these processes using technology. This aims at simplifying forms, create online repositories for certificates, integration of services and platforms, automate government workflow and redress grievances. This initiative will integrate a whole new system of information and will generate quick response to any work.

II. DIGITAL INDIA INITIATIVES

The Digital India program is centered on three key vision areas
a. Digital Infrastructure as a Core Utility to Every Citizen: Availability of high speed internet as a core utility for delivery of services to citizens, Cradle to grave digital identity that is unique, lifelong, online and authenticable to every citizen, Mobile phone & bank account enabling citizen participation in digital & financial space, Easy access to a Common Service Centre, Shareable private space on a public cloud, Safe and secure cyber-space.

b. Governance and Services on Demand: Seamlessly integrated services across departments or jurisdictions, Availability of services in real time from online & mobile platforms, All citizen entitlements to be portable and available on the cloud, Digitally transformed services for improving ease of doing business, Making financial

transactions electronic & cashless, Leveraging Geospatial Information Systems (GIS) for decision support systems & development.

c. Digital Empowerment of Citizens: Universal digital literacy, Universally accessible digital resources, Availability of digital resources / services in Indian languages**,** Collaborative digital platforms for participative governance**,** Citizens not required to physically submit Government documents / certificates.

III.   RESEARCH METHODOLOGY

Present study focuses on the people of Mangalore City. Government work could be modernized and made available to everyone. E- Governance is a sustaining tool wherein the people can get themselves connected to the government aspects and reduce the time taken for any work. In this study, the people's opinion on what they would want Government to do using Information technology and the factors which promote Cloud Computing as one of the effective measure to make the work easier for any person who has any work in the Government office. Thus, a descriptive research was conducted to find out the peoples opinion and its factors linking to Cloud Computing as a measure to speed up the work and make things easier.

3.1 Scope of the Research:
E-Governance and Cloud Computing adaptability has scope in each and every government department. The inclusive growth of every Indian will finally achieve the goal of making India Technologically advanced. The scope of this study is restricted to Mangalore City. The sample taken is of Mangalore North and South to get a correct idea of the present scenario.

3.2 Objectives of the study:
1.   To find out the people's opinion regarding Government and Information technology.
2.   To explore the factors promoting Cloud Computing.

3.3 Data Collection:
 Primary   data was collected using a well-structured questionnaire which included dichotomous, closed ended and scaled questions. Interview methodwas adopted to collect the required response for the questionnaire. The study constitutes total of 80 sample respondents. This study includes the respondents from Mangalore City**.** Utmost care was taken to explain the concept and find out their opinions and what the respondents feel most appropriate and beneficial to be adopted by the government to see the success of the Digital India Initiative which would finally benefit the people.

3.4 Limitations:
1.   Time was a major barrier to cover most of the areas.
2.   Opinions are subjective.
3.   Individual reasons can be a pitfall during interview process.
4.   Some may not have the Knowledge of the research conducted.
5.   The understanding level of the respondents may be subjective

3.5 Future Line of research
This study can be used as a base for future study on cloud computing and its benefits to E- Governance. More areas could be covered like the entire state so as to get a generalized opinion a build a model which can be connected to every government department. A detailed study on the experience, the perception and the satisfaction level of the people could be studied with respect to the present system in place.

IV.   DATA ANALYSIS & FINDINGS

TABLE 4.1 SOCIO-DEMOGRAPHIC PROFILE OF RESPONDENTS

Variable	Particulars	Frequency	Percentage (%)
Gender classification of respondents	Male	50	62.50
	Female	30	37.50
TOTAL		**80**	**100%**
Age group of respondents	Below or =20	15	18.75
	21-30	34	42.50
	31-40	11	13.75
	41 and above	20	25.00
Total		**80**	**100%**
Place	Mangalore- North	45	32
	Mangalore - South	35	31
Total		**80**	**100%**
Work Status	Student	12	15.00
	Self Employed	23	28.75
	Professional	20	25.00
	Business	10	12.50
	Other	15	18.75
Total		**80**	**100%**
Educational background of respondents	S.S.L.C	10	12.50
	P.U.C	12	15.00
	Degree	42	52.50
	Post Graduate	10	12.50
	Others	6	7.5
Total		**80**	**100%**

Interpretation: The above socio-demographic profile in the table 4.1 of the respondents states that majority of the respondents i.e. 30% of them belong to the age group of 21-30 years having 42% degree qualification of the total respondents. The respondents were equally tapped in Mangalore City and the criteria of research was explained in detail.

TABLE 4.2OPINION ON GOVERNMENT AND INFORMATION TECHNOLOGY

Rank	Particulars	Percentage
1	Advanced Technology	51.8
2	More Flexibility in Government work	10.0
3	Better Functionality	8.8
4	Improved Security	8.8
5	Complexity Reduction	8.8
6	Cost Saving	7.5
7	Reduced Paper Work	2.5
Total		**100**

To meet the objectives of the research, an opinion was collected regarding what would the respondents would like to see in the government departments using the help of Information Technology. The below mentioned describes the ranking of the highest opinion.

Interpretation: From the above table, it can be clearly stated that majority of the respondents i.e. 51.8% want the use of advanced technology in the government offices whereas the remaining lot i.e. 10% of them said they would prefer more flexibility in work, 8.8% of them suggested equally for better functionality, improved security, complexity reduction. 7.5% and 2.5% of them said cost saving and reduced paper work by the use of information technology.

TABLE 4.3 TO EXPLORE THE FACTORS PROMOTING CLOUD COMPUTING

Factors	Items Included	Factor Loadings	Name of the factor	% Variance Explained
F 1	- Government should be technologically enabled - You have continuous access to internet services - Certificates and Identify Proofs should be stored online - You are able to adapt to technology for improvement	.906 -.865 -.846 .789	**Adaptability**	36.217
F2	- Mobile platforms are used for payment - You are comfortable with online purchase - Mobile Internet is used - You prefer to save your data online for faster service	-.796 .718 .649 -.592	**Technological Convenience**	23.457
F 3	- You use online payment method	.965	**Online Feasibility**	12.289
			TOTAL	**71.963**

KMO VALUE = 0.657, TOTAL VARIANCE EXPLAINED = 71.963%

Interpretation: The KMO test which test for sample size adequacy is 0.657 implies that sample size is adequate enough to conduct factor analysis. The Variance explained is 71.963 % which is a good sign as the recognized acceptable standards is above 70% implies that all three factors explores about 71.96 of variance whereas remaining 28.037 % i.e. 28% is not explained. The most important factor promoting cloud computing is the adaptability of people i.e. they are willing to change for improvement in the system, whereas second one being technological convenience which means they have experience and knowledge of technological tools and know the operating part of it. Lastly, the online feasibility criteria also promotes the concept of cloud computing to the public. Thus, three factors suggest the future effectiveness of Cloud Computing.

V.   ELECTRONIC GOVERNANCE

Electronic governance or e-governance is the application of information and communication technology (ICT) for delivering government services, exchange of information communication transactions, integration of various stand-alone systems and services between government-to-customer (G2C), government-to-business (G2B), government-to-government (G2G) as well as back office processes and interactions within the entire government framework. Through e-governance, government services will be made available to citizens in a convenient, efficient and transparent manner. The Indian experience demonstrates that the onset of e-Governance proceeded through the following phases: (a) Computerization, (b) Networking, (c) On-line presence, and (d) On-line interactivity.

VI.   CLOUD COMPUTING

Cloud computing is a practical approach to experience direct cost benefits and it has the potential to transform a data center from a capital-intensive set up to a variable priced environment. The idea of cloud computing is based on a very fundamental principal of reusability of IT capabilities. The difference that cloud computing brings compared to traditional concepts of "grid computing", "distributed computing", "utility computing", or "autonomic computing" is to broaden horizons across organizational boundaries. Forrester defines cloud computing as: "A pool of abstracted, highly

scalable, and managed compute infrastructure capable of hosting end customer applications and billed by consumption."

Cloud Computing Models: Cloud Providers offer services that can be grouped into three categories

A. Software as a Service (SaaS): A complete application is offered to the customer, as a service on demand. A single instance of the service runs on the cloud & multiple end users are serviced.

B. Platform as a Service (PaaS): Here, a layer of software, or development environment is encapsulated & offered as a service, upon which other higher levels of service can be built.

C. Infrastructure as a Service (IaaS): It provides basic storage and computing capabilities as standardized services over the network.

VII.   CONCLUSION

Digital India Initiative can be strengthened by implementing Cloud Computing. It will help to accelerate the process which will be a relief for every citizen during any government work. Cloud computing as a new approach towards e-governance could be used in the best way to make every Indian digitally capable. This research paper clearly identifies the factors which promote cloud computing and comes to a conclusion that the general tendency of the people support this new cause. The people aren't satisfied with the government procedures. The use of this measure can save their time. Thus, E-Governance using cloud computing has lots of advantages and can achieve the vision of making India Technologically advanced.

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