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## LOCAL SERVICES THROUGH E-GOVERNANCE IN NEPAL: AN ASSESSMENT OF MUNICIPAL WEBSITES

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### ABSTRACT

This paper presents the explanatory analysis of municipality's e-governance project in Nepal. Objectives of e-governance projects were to improve administrative processes, connecting citizens and building external integrations. This study attempts to provide deeper insight to e-government landscape at local level in Nepal. Website of each municipality was assessed on its usability, navigability, trust and credibility and its legal policies. The promptness in service delivery was measured by email responsiveness to the user's questions. E-readiness and Nepal government's master plan 2006 has also been considered in assessment of local e-governance. The assessment of websites indicated its under-utilization as an e-government tool and a very minimal adoption of e-governance. Result clearly showed lack of transparency, slow service delivery and under estimation of existing websites by government. This study suggests that government need to work seriously and extensively hard to achieve the benefits offered by ICT. This paper has identified some important factors which can improve the success of local government's website. This study might prove useful for other developing countries with similar initiatives.

**Keywords:** e-governance, citizen participation's, ICT, web usability, municipality

### INTRODUCTION

With increasing power of ICT in governance, the concept of electronic governance is taking shape in the world today. E-services provided in the e-government portals around the world are increasing. Improving administrative processes, connecting citizens, building external interactions and addressing accessibility, transparency, participation and accountability have been keys to e-governance today [1]. ICT initiatives have been highlighted as effective tools in bringing the promises of changing structure, accomplishing public sector reform and enhancing outside reach that satisfies development requirements and contribution to the country's economic growth [2]. Urban region development is increasing area of concern for government in all nations. With urban settlements growing rapidly, it is becoming a challenge for urban municipality to meet the ever

growing need of the people [3]. The impact of electronic based system like e-governmental portals has been visualized as the aspect that contributes to meet the increasing need of the people in urban areas. Globalizations, increasing ICT uses and faster service delivery have enforced municipalities to adapt and follow new methods and planning in e-governance.

Local e-government is about 1) Transforming services 2) renewing local democracy and 3) Promoting local economic viability [4]. Interim constitution 2007 [5] of Nepal part 17, article 139 clearly includes a separate section on local self government. It mentions services to the people at the local level, providing platform for people's maximum participation in the country's governance, and for the institutional development of democracy. Hence local government should be very effective to disseminate the information to public people.

Kaylor, Deshazo, and Van Eck (2001) had identified twelve functional dimensions of local e-Government services and functions. Some of them are payments, registration, permits, and licenses available to the user online. Also since government surpasses all sectors in society unlike other service offering, e-government local services must be made accessible to all, which means every citizen with varying capability should get the opportunity to use the government's services [6].

### COUNTRY PROFILE

Nepal, officially known according to its Interim Constitution as the Federal Democratic Republic of Nepal is a landlocked Himalayan country in South, bordered by China to the north and by India to the south, east and west. The country has total area of 147,181 Sq Km and an estimated population about 29.8 as of 2010. The adult literacy rate of country is 59 % and GNI per capita is \$490[1]. According to UN e-government survey 2010, e-readiness index of Nepal is 0.2568 and is ranked 153<sup>rd</sup>. Internet user per 100 inhabitants in Nepal is 6.78 as of 2010[7]. Fixed broad band subscription as of 2010 is 113,485 i.e. 0.38 of 100 inhabitants.

### CONTEXT

Many different initiatives have been taken by the government of Nepal to make the web presence for all municipalities. Some of the municipalities in Nepal have their own web

Ananta Raj Lamichhane and Rabindra Acharya presence. Those websites provide minimum level of information about the municipality. Government of Nepal through its strategies under Ninth five year plan on 2003, through rural urban partnerships program (RUPP) took the first initiative to help all municipalities for their web presence. RUPP was a joint effort of Government of Nepal - National Planning Commission (NPC), Ministry of Housing and Physical Planning (MHPP) and Ministry of Local Development (MLD), United Nations Development program (UNDP) and United Nations Centers for Human Settlements (UNCHS). RUPP supported 12 municipalities in its commitment to e-governance. Aligned with IT policy of Nepal 2000 section 5 [8], 16 municipalities in Nepal have now their web presence. Research done at the time of this study showed that most of the municipality' s websites are under construction or have programming errors displays or have server down. Out of the 12 municipal websites supported by RUPP, only 2 of them are accessible on August 2011. This is an embarrassing condition of e-governance in country. However on 2010, 5 of the websites were accessible.

The objective of this study is to learn the extent of governance and services offered to citizens ' at the municipal level in Nepal. The focus of this study is the objective analysis of accessibility and usability of the municipal websites. This study conducts a deep and comprehensive investigation of contents and information in those websites.

### METHODOLOGY

Parameters as suggested by Holzer and Kim for evaluating city and municipal websites [9] have been considered for the measurement of the websites. Mixed evaluation approach [22] has been performed on all accessible websites to do the objective analysis of the websites. The mixed evaluation approach is the measurement in percentage of usability, navigability, legal policies and trust and credibility of the websites. Usability of the websites was measured in terms of content organization, browser compatibility, familiarity and affordance, visibility, alt tag of non textual contents and availability of zoom options. Navigability was measured in terms of presence or absence of search input box, broken links, sitemap, bread crumb and availability of help and FAQ in the websites. The trust and credibility was measured by considering up to date information, authorized email contacts, and mark up validation of the sites. Legal policies were measured by considering presence or absence of privacy policies, disclaimer and copyright info in the websites. Online available tools like w3c validators [10], websites goodies

[11] and the coding techniques [21, 22] have been used to do the objective measurement.

Responsiveness of the websites was measured by following West 2000 process [12] in which emails was sent to all 16 municipalities and results were analyzed. The email address of each municipality was obtained from the contact information provided in the websites. Email was sent with the question " Can you provide me information about birth registration process?" to measure promptness and alertness in responding to the public questions by the municipalities.

Finally, *e-readiness* and *Nepal e-governance Master plan 2006* were used as an assessment tools. " E-readiness is the ability to use information and communication technologies (ICT) to develop one's economy and to foster one's welfare." [13]. Basically, five primary indices viz infrastructure, ICT sector, digital skills, legal framework and usage define a country' s ICT infrastructure capacity [14].

Nepal e-governance master plan 2006 is the realization of potential and implementation of ICT by Nepalese government for socio-economic transformation. With the introduction of first computer in 1971, followed by National Computer Center (NCC) in 1974, government has been planning on ICT as initiatives to rapid development. High Level Commission for Information Technology (HLCIT) and the National Information Technology Center (NITC), two government bodies, supported by Korea IT Industry Promotion Agency (KIPA) have worked on Nepal e-governance master plan 2006. To further the master plan, e-government working committee consisting of ICT professionals and steering committee consisting of the joint secretaries of the Prime Minister's Office (PMO), the Ministry of General Administration (MOGA), the Ministry of Information and Communication (MOIC), the Ministry of Environment, Science, and Technology (MOEST), the executive director of NITC, and full time member of HLCIT have been formed. With e-Government master plan development project officially started on 28th February 2006, the project was divided into three phases -"As is Analysis", "To-be-Model", and "Establishment Plan". Nepal government status report showed Nepal to be at stage 1. The result was obtained, according to the five promotion stages specified by the UN and the American Society of Public Administration (UN-ASP, 2002) and thus road map was produced to reach at stage 3 on 2011 [15].

### RESULTS

The E-government websites should be up to

Ananta Raj Lamichhane and Rabindra Acharya date, correct and effective in every aspect [16]. At the time of study 12 websites were found to be accessible. Other websites were having server down or inaccessible error. Upon analysis of those 12 municipality' s websites, it is found that none of them meets usability and accessibility standard.

Overall evaluation showed that Kathmandu, Bhaktapur and Bharatpur Municipalities websites have comparatively higher scores than others while Prithivi municipality scored the lowest. All evaluated municipalities show fairly same degree of usability and accessibility percentages. Bharatpur and Kathmandu municipality scored best on usability and navigability respectively. On trust and credibility Dharan has the highest score and Nepalgunj, Bharatpur, Bhaktapur, and Hetauda have fairly good scores. No true legal policies were found on all evaluated websites.

Overall none of the websites scored over 60% in its evaluation. The website with usability of more than 80% is assumed to be usable [22]. The results of the analysis are summarized in figure 1.

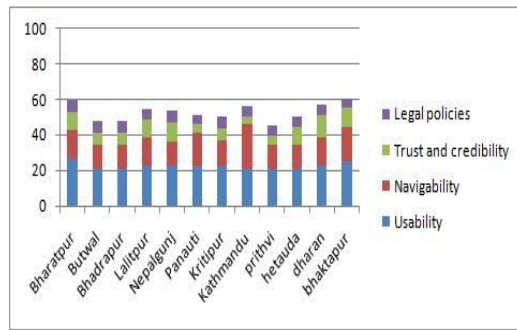


Figure1. Features comparison of municipalities websites in Nepal in percentage

Figure 2 presents our detail analysis of the websites in terms of different parameters. None of them are usable in delivering the e-governance services. Lalitpur and Nepalgunj possess slightly higher score in terms of familiarity and affordance. None of the websites offer zoom option for visually impaired users. However, comparatively few broken links were found. Lalitpur and Dharan contained sitemap feature while FAQ and help information were lacking, which is very important for the websites usability. Nepalgunj, Bharatpur, Hetauda and Dharan have up to date contents compared to other websites. Among all, only Dharan provides the organized authorized email and contact. All the websites except Panauti and Bhaktapur have copyright information while all the websites lack privacy policy and disclaimer information.

Popularity of websites was measured by using Alexa [17] online tools. It showed Kathmandu municipality was ranked within top 500 whereas

others were ranked below 500 among the websites in Nepal. This proves that municipality' s websites are not popular in Nepal.

The results of the experiments conducted for the measurement of responsiveness are presented in the figure 3

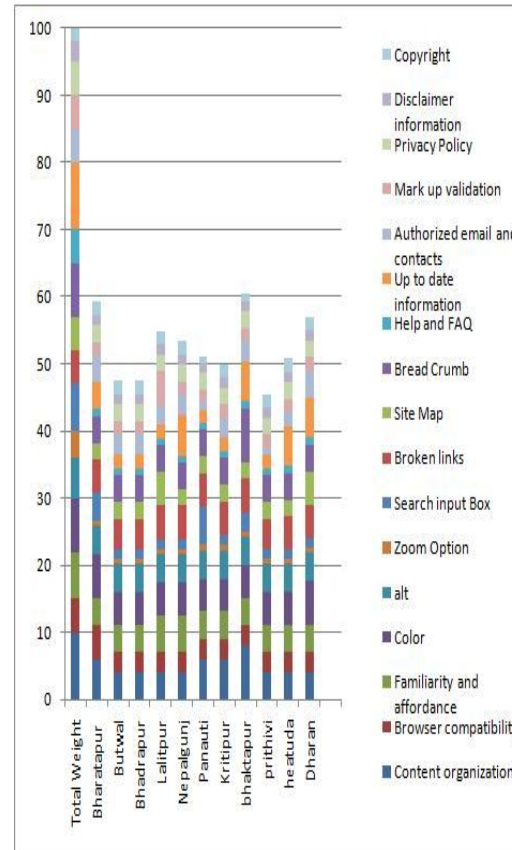


Figure2. usability and accessibility evaluation of municipalities websites in Nepal in percentage

Municipalities	URL	Status
Bhaktapur	<a href="http://bkt-municipality.gov.np">http://bkt-municipality.gov.np</a>	Replied within One day
Bharatpur	<a href="http://bharatpurmun.org.np/">http://bharatpurmun.org.np/</a>	Email Not responded
Bidur	<a href="http://www.bidurnagar.org/">http://www.bidurnagar.org/</a>	No Email address
Biratnagar	<a href="http://www.biratnagarmun.org.np/">http://www.biratnagarmun.org.np/</a>	No Email address
Butwal	<a href="http://www.butwalmun.org.np/">http://www.butwalmun.org.np/</a>	Recipient failed
Dhangadi	<a href="http://www.dhangadhi.org.np">http://www.dhangadhi.org.np</a>	No Email address
Dharan	<a href="http://www.dharan.gov.np/">http://www.dharan.gov.np/</a>	Replied within 3 hrs.
Hetauda	<a href="http://www.hetaudamun.gov.np/">http://www.hetaudamun.gov.np/</a>	Replied within One day
Kathmandu	<a href="http://www.kathmandu.gov.np/">http://www.kathmandu.gov.np/</a>	No Email address

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Lalitpur	<a href="http://www.lalitpur.org.np">http://www.lalitpur.org.np</a>	Recipient failed
Mahendranagar	<a href="http://www.mahendranagar.org/">http://www.mahendranagar.org/</a>	No Email address
Nepalgunj	<a href="http://www.nepalgunjmun.gov.np/">http://www.nepalgunjmun.gov.np/</a>	Email Not responded
Panauti	<a href="http://panautimun.gov.np/">http://panautimun.gov.np/</a>	No Email address
Prithivi	<a href="http://www.pnmgorkha.gov.np/">http://www.pnmgorkha.gov.np/</a>	No Email address
Tansen	<a href="http://www.tansenmun.org.np/">http://www.tansenmun.org.np/</a>	No Email address
Kirtipur	<a href="http://www.kirtipur.gov.np/">http://www.kirtipur.gov.np/</a>	Recipient failed

Figure 3: the results of experiments on responsiveness

The result in figure 3 shows that only Dharan, Hetauda and Bhaktapur municipalities answered the email promptly. The email replied by them clearly addressed the answer of the question. The email was successfully sent to Bharatpur and Nepalgunj municipalities but no response was received, while other websites either have email bounced back or the recipient failed error.

### DISCUSSION AND CONCLUSION

The result of assessment of municipal websites shows that none of them offer a good e-governance to their citizens. Sites are lagging behind in following the open standards. The features that impact on usage ratio are not well considered in the development of the sites. The sites themselves were built just to show their existence. The result indicates that sites are not popular and people directly visit the municipal offices for necessary services and information. Even though there are considerable numbers of internet users in Nepal as of 2011 statistics [18].

Municipalities are the local services provider, which deliver more than hundreds services directly to their citizen. Information Technology Policy of Nepal, 2000, also aims to build a knowledge-based society which means enabling use of ICT and effective online presence. The outcome indicates unreliability and untrustworthiness in the e-government systems of Nepal.

As suggested by Pokhrel and Park 2009, [19] all the municipalities websites are independent and have their own isolated and scattered database system. Thus there is high probability of data loss and data redundancy. Need of integration of all entities in common domain providing unified standard at different level is hence proved to be important in this case. Existing system does not impose the smart use of internet-based technology. Their smart uses are reflected in terms of the websites services in democratic participation, access to public data, efficiency in work process and quality [20].

With development focused mainly on capital city and e-readiness index of 0.2568 as of 2010, a Nepal government initiative to foster ICT throughout the country is a long road ahead.

There is a gap between plans and polices and their implementation. Websites presence of municipalities to materialize the e-government vision shows only a minimal juncture. Most of municipal websites provide information such as demography, history and culture, and little political information focused mostly on the composition of the municipal administration. Some of them have downloadable forms that could be only submitted offline. Technical aspect of websites design shows no expertise in fulfilling the minimum needs like being consistent, dynamic, ubiquitous, interactive, customizable, searchable, and networkable [7].

Contents promoting citizen' s participation and awareness on local policy making process were negligible. Very few of them provide their contact information. Some of them provide discussion forum but none of them were effectively used. There is lack of appreciation of websites by municipal government. Clearly, prompt and reliable services, quality, transparency and bringing all groups in society together in governance process completely lack in their web presence. The strategy to implement e-governance master plan 2006 also required to address the post project carry out plan in order not only to show websites presence but also keep the things functional in the long run.

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