

E-Government in Rural Communities: Issues and Trends

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Abstract

We have been investigating the efficiency and effectiveness of e-government in rural communities with respect to critical attributes such as Internet access technology. In this paper, we present two such investigations: the multi-criterion decision making for broadband infrastructure and the survey results on current practices and future trends of rural e-government services.

1. Introduction

E-government services hold significant potential benefits for rural communities. On the other hand, the magnitude and frequency of research to fully support rural community in this regard have not been sufficient. In order to strengthen such efforts, we are investigating the current practices and future trends of e-government in rural communities so as to provide guidance to various stakeholders such as government officials and citizen based organizations. In this paper, we present two such investigations.

2. Multi-Criterion Decision-Making on Broadband Infrastructure

Fast and reliable access technology is necessary for effective and efficient e-governments services. For instance, if broadband (high speed) Internet is available, services such as audio and video presentations can be provided quickly and reliably. A critical question with long-term consequences is how best to determine the Internet access infrastructure. To address this question, we formulate the decision making process as an analytic hierarchy process (AHP) model, which can incorporate hard to quantify criteria as well as easy-to quantify criteria simultaneously. Specifically, following the approaches of Douligeris and Pereira (1994), we have cost, quality, and speed as the criteria. Cost in turn has fixed and variable costs as sub-criteria, quality has security and reliability sub-criteria, and speed has latency and bandwidth sub-criteria. The bandwidth in itself has two sub-criteria of upstream bandwidth and down-stream bandwidth. Figure 1 depicts the entire hierarchy for the selection of access technology.

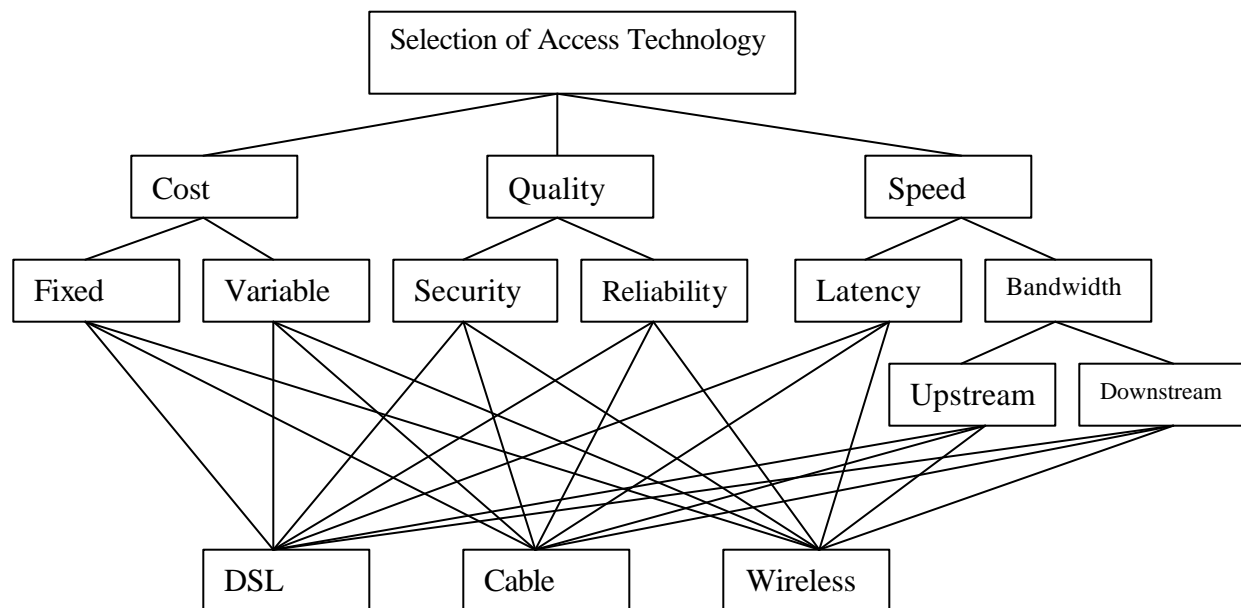


Figure 1. Hierarchy for Selection of Access Technology

Given such a hierarchy, through sequential comparisons and rankings, the overall weight of each technology (such as Digital Subscriber Line, Cable Modem, and Wireless) can be calculated (see e.g., Saaty (1980) for procedural details).

3. Survey of Current Practices and Future Trends

We conducted an exploratory survey of rural governments to obtain a snapshot of the current practices and future trends of e-government in rural communities. The survey focused on government to citizen (G2C) e-government services and e-procurement (as a prominent and promising example of government to business (G2B) e-government services). A random sample of 200 cities was taken from 473 cities (of population 8,000-10,000). 48 cities replied - resulting in a response rate of 24 percent. The key results from our exploratory study are as follows.

Key results

1. Among highly rated benefits of e-government are convenience, citizen participation, and better data collection. Better staff allocation has been rated relatively poorly as a benefit to e-government.
2. Scarcity of Web expertise and staff hours is a significant challenge to e-government. Multi-party collaborations and uses of web development tools and templates are possible solutions. In addition, we note that privacy and security issues are critical challenges that are universal (whether for rural or urban governments).
3. There also appears to be a strong trend towards improved transparency of government via e-government services. According to our survey, about half of our respondents were using their websites to provide citizens more access to the inner-working processes and operations of their governments.
4. Numerous rural governments use e-government to provide valuable information to citizens and advertise their communities externally. While information and downloadable documents are quite common, online transactions are yet to be implemented in most rural communities

4. Concluding Remarks

As the technology advances, the scope and depth of e-government services are rapidly expanding. Rural communities however are yet to realize the full benefits of e-government services. Currently, in order to support the efforts of rural communities in this regard, we are investigating various aspects of rural e-government services such as participatory policy making by citizens and economic development efforts via e-government.

Acknowledgement

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References

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