Identification of Information Variable toward Sound Decision Making among local Government Councillors

Mohd Zool Hilmie Mohammed Sawal[#1], Kamarudin Ngah[*2], Zaherawati Zakaria[#3]

[#]*School of Government College of Law, Government and International Studies, Univesiti Utara Malaysia, Kedah*

**Faculty of Information Management, Universiti Teknologi MARA, Kedah*
[#]Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA, Kedah
[1]zoolhilmie@kedah.uitm.edu.my
[2]kamarudinngah@uum.edu.my
[3]zaherawati@kedah.uitm.edu.my

***Abstract*— Sound decision making is crucial in both public and private sectors because good decision able to solve problem and satisfy parties involved. As part of the government service provider, local government also expected to exercise sound decision making in their services to their community. Thus the information system plays a major role in providing good data to the decision maker. Information system helps to furnish local government officer and its community with proper information. Accurate information most needed when conditions become more uncertainty. This paper proposed a conceptual framework for information and system acceptance base on Delone and McLean information success model. Two variables are proposed to be studied; information quality and system quality. These variables are needed by decision maker at local government to come out with sound decision making since the acceptance of information is very low. The objective of this study is to come out with some solution to "IT lag time" which refers to large gap between the adoption of new technologies such as information integration and information sharing and their acceptance and reutilization in organization.**

***Keywords*—** *Information System, Information, Information System Acceptance.*

1. Introduction

The word decision making has become a buzz word when dealing with local government especially in delivering a good service to their community. The process of decision making contains many variable or criteria that can influence a good result. Fig.1 and Fig.2 show the differences between information needed under stable condition and under uncertainty condition. It is crucial for decision makers to have adequate information and explanation while at the same time getting feedback from local community before they came out with the decision. The figure shows one of the important criteria in decision making; the need of information [1].

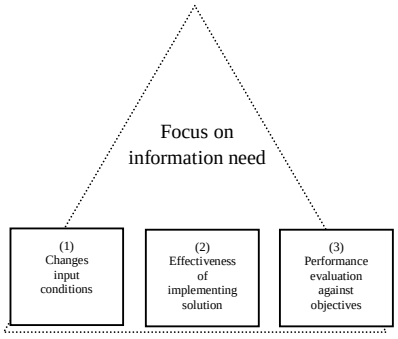

Figure 1. Information needs under stable conditions [1]

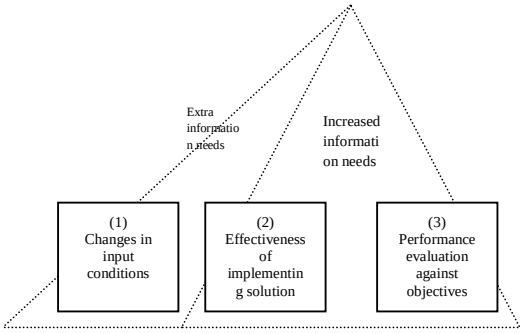

Figure 2. Information needs under uncertainty [1]

2. Role of information system

Information system can be defined as interrelated component that working together to collect,

International Journal of Supply Chain Management
IJSCM, ISSN: 2050-7399 (Online), 2051-3771 (Print)

process, store and also disseminate data and information when needed by decision maker.

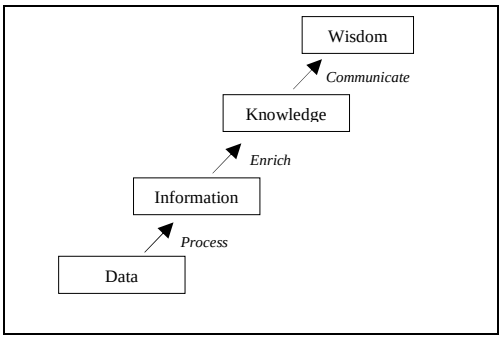

Figure 3. Information spectrum [2]

The role of information system is to process the captured data to assist decision maker. This is because information system involves input, processing, output and feedback.

The important of sharing information among right people can create their own class and unique [3] because the right information is important in decision making. This can be help with the ability to get data and sharing information in real-time as one of the good element [4]. Furthermore, information sharing via information system can reduce waiting time, reduce cost and also help in formulate good decision making by local government officers.

3. Issues information system

One element in decision making is a process to choose the best solution that meet objective or goals [5]. Important elements in decision making process are the flow of information and the creating of new knowledge or ideas [6]. Information system indirectly helps to provide information when needed. The availability of information system helps the organization to share information within an organization and also among other government agencies [7].

However, in some local government agency, the acceptance of information is very low. The term "IT lag time" refer to large gap between the adoption of new technologies such as information integration and information sharing and their acceptance and reutilization in organization [8]. The low acceptance may tend toward accessibility, efficiency, effectiveness, accountability and transparency of the government services [9]. This also indirectly inflict to low adoption and usage rates by citizens and also different adoption and usage rates between municipalities [10].

4. Proposed conceptual framework

In order to understand the acceptance of information system in local government agency, several variables will be taken from famous framework that is Delone and McLean Information Success Model.

Delone and McLean develop Information Success model in 1992. This model was developed based on theoretical and also empirical information system in 1970s and 1980s. One of the focuses in this model is on management of information services. The model help to understand value and efficacy of management of information since the use or acceptance of information system have impact or influences toward individual work performance.

This model consist of six interrelated factors; System Quality, Information Quality, Use, User Satisfaction, Individual Impact and Organizational Impact. On updated model in 2003 [11], Delone and McLean included another three main factors. The model explains that the information quality, service quality and system quality are three main factors that influence susceptibility and satisfaction, and the interaction of these two factors (intention to use & user satisfaction) will benefit the whole system.

For this study the information quality categories divided into eight elements, namely; Accurate, Complete, Relevant, Reliable, Secure, Simple, Timely and Verifiable.

Table 1 shows the characteristic of each information quality.

Table1. Characteristic of valuable information [12]

Characteristic	Scope
Accurate	Error free information or complete information
Complete	Contain important facts
Relevant	Relevant information is important to decision maker. Example the price drop on coffee bean may not be relevant to electronic manufacturer.
Reliable	Information that can be trusted

	by users especially by decision makers.
Secure	Information must be secure from access by unauthorized users.
Simple	Information must not complex. Too much of information can cause information overload. If too much of information decision maker unable to determine what is really important.
Timely	Timely information delivered or available when needed.
Verifiable	Information can be check to ensure it is correct.

In decisions making process, the need of information is important. However different types of decision making require different set of information. The important thing for the decision maker is to be aware of the intended use of information in decision making process [13, 14, 15]. If the decision maker able to utilize information system in providing information needed, a good decision can be derived for the community especially on the development matters.

Figure 4. Illustrate the proposed conceptual framework for this study

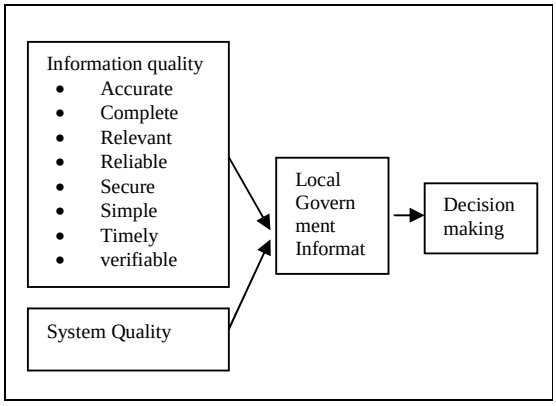

Figure 4. Proposed conceptual framework

Based on the proposed conceptual framework, two main themes were derived:

i. Information Quality of local government information system in providing information *(Accurate, Complete, Relevant, Reliable, Secure, Simple, Timely and Verifiable)* for decision making

ii. Service Quality of local government information system in providing information for decision making

5. Conclusion

This conceptual framework model hopefully can help in understanding the issue of IT lag time among local government officers and councillors and at the same time able to close the gap in the quest of providing excellent service to the local community.

The conceptual model also can provide better understanding on the overall process of decision-making at the local government level especially relate with the needs of information.

Acknowledgments

This work is part of postgraduate study undergone by the authors under development management areas, School of Government, College of Law, Government and International Studies, Universiti Utara Malaysia.

References

[1] Cooke, S., & Slack, N. Making management decisions (2nd ed.). New York: Prentice Hall, 1991.

[2] Ross Lowrey, "*Relating information and value disciplines"*, Information Management & Computer Security, Vol. 4: 3, 30–35, 1996.

[3] Barratt, M. and Oke, A., *"Antecedents of supply chain visibility in retail supply chains: a resource-based theory perspective"*, Journal of Operations Management, Vol. 25 No. 6, 1217-1233, 2007.

[4] Stokes, S. and Tohamy, N., *"7 traits of a green supply chain"*, Supply Chain Management Review, October, 8-9, 2009.

[5] Ngah, K., Zakaria, Z., Noordin, N., & Mustaffa, J. *"Decision-Making Model at Local Government Level: A New Proposed for Majlis Perbandaran Kuantan"*. Journal of Economics and Sustainable Development, 6(1): 1-13, 2015.

[6] Ngah, K., Zakaria, Z., Hj Hussin, Z., Noordin, N., Mustaffa, J., & Mohamed Sawal, M. A *"Proposed Model in Fundamental of Decision Making Process at Local Government Level"*. Asian Social Science, 8(8): 96-102, 2012.

[7] Bigdeli, A. Z., Kamal, M. M., & Cesare, S. D. *"Electronic information sharing in local government authorities: Factors influencing the decision-making process"*. International Journal of Information Management, 33(5) 816-830, 2013.

[8] Beaumaster, S. *"Local government IT implementation issues: A challenge for public administration"*. Proceedings of the 35th Annual Hawaii International Conference on System Sciences, 1725-1734, 2002.

[9] Danila, R., & Abdullah, A. *"User's Satisfaction on E-government Services: An Integrated Model"*. Procedia - Social and Behavioral Sciences, 164: 575-582, 2014.

[10] Seo, DongBack, and Michel Bernsen. *"Comparing attitudes toward e-government of non-users versus users in a rural and urban municipality*." Government Information Quarterly 33.2: 270-282, 2016.

[11] Deleon, W. H., & Mclean, E. R. *"The DeLone and McLean Model of Information Systems Success: A Ten-Year Update"*. Journal of Management Information Systems, 19(4): 9–30, 2003.

[12] Stair, R., & Reynolds, G. *Principles of information systems (11th ed.)*. Australia: Course Technology Cengage Learning, 2014.

[13] Lucas, H. *Information systems concepts for management* (2nd ed., p. 21). New York: McGraw-Hill. 1985.

[14] Nawi, M.N.M., Jalaluddin, S.M.F.W.S., Zulhumadi, F., Ibrahim, J.A. & Baharum, F. A. *"Strategy for Improving Construction Projects Sustainability through Value Management Approach"*, International Journal of Applied Engineering Research, Vol. 9, No. 24, pp. 28377–28385, 2014.

[15] Nursal, A.T., Omar, M.F., & Nawi, M.N.M. *"Case Study Methodology of DSS Development for BIM Software Selection in Construction Industry"*, American-Eurasian Journal of Sustainable Agriculture, Vol. 8, No. 3, pp. 81-85, 2014.