Evolution of Information Systems in Malaysia

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Abstract. Malaysia has taken a gigantic decision by transforming itself from industrialization into an unknown territory of knowledge economy. Therefore it is important to establish a test bed to justify on the successfulness of leapfrogging onto this new bandwagon. Multimedia Super Corridor (MSC) project is the major project in the country and has been established to test this. The question is, can Malaysia achieve its dream in creating successful implementation of information systems when information systems history was full of catastrophe? This paper will discuss the findings of mapping triangle of dependencies model by Chris Sauer in order to foresee whether Malaysia has the potential to achieve successful implementation of information systems. Finally, through this investigation, we are able to outlined external influences that can nurture the continuity of information systems dependencies in Malaysia and embedded it as external factors of Sauer's model.

1 Introduction

Effective information systems requires efficient information technology infrastructure to be in place. Information system can be defined as a computer based systems where major inputs and outputs are information, which serve to coordinate the work of many different organization functions [9]. Malaysia as a new entrant onto the world of information systems has given priority in establishing a strong infrastructure of information technology before venturing onto information systems development. Malaysia has transcended from a resource-based economy to a knowledge-based economy and will be a fully developed nation by year 2020 [8]. This transformation to achieve a successful Vision 2020 was initiated by its former Prime Minister, Datuk Seri Dr Mahathir bin Mohamad and it is known as the Multimedia Super Corridor (MSC). MSC encompasses two flagship applications, known as Multimedia Development Flagship Application and Multimedia Environment Flagship Application. Four applications were planned to be developed under Multimedia Development Flagship Application, which are, electronic government, multipurpose card, smart school and telemedicine. Meanwhile, Multimedia Environment Flagship Application is the Research and Development Cluster, World-Wide Manufacturing Webs and Borderless marketing applications. Each applications consists of a number of collaborative information systems projects [1].

There have been numerous reports on information systems failures [3], [4], [11]. Based on this negative feedback, a proper understanding on the actual reasons that contributes to information failures need to be identified. Thus, these failures can be categorized as uncontrollable failures such as natural disaster, accident or economic

failures and systems failure. We will scope our discussion on systems failures. System failures were failures from a large, complex and tightly coupled systems [3], [7] or the responsibility of designers and operators [7].

There have been reports on how to benchmark systems as a success or not. Early benchmarking adopts three different perceptions: product viewpoint [10], process viewpoint, services viewpoint [2], [5]. Meanwhile, Chris Sauer explained that most systems failure revolves around five reasons known as missed deadlines, unmet requirements, dissatisfied customers, excessive costs and unused systems. He also identified that the most crucial factor was based on whether there is sufficient support to keep the system alive. Therefore in our discussion, we would take Sauer perception as our benchmark in justifying the success or failure of information systems.

From literature, there are four distinct concepts of information system failure: correspondence failure, process failure, interaction failure and expectation failure [9]. It is also vital that each information systems project has a continuous executive support. The critical success factor in information systems success is the ability for the system to stay alive. The idea of establishing a living information system is to create a cycle of dependencies and to nurture the continuity of the cycle process and this is shown as the triangle of dependencies of information system. Based from the triangle of dependencies, we will try to map MSC strategies and practices in order to identify the lacking components in the existing infrastructure, if any.

2   Findings

Since Malaysia has strategize its economy to fit the information-era [1], we can positively say that the Malaysian government has contributed a lot thru MSC as the major information system development project that is capable to justify the future of information systems in Malaysia [6]. Consequently, we would be able to relate the support of information system implementations in Malaysia by studying the development of MSC. Based on triangle of dependencies, we can conclude that Malaysia has established the right components to generate successful implementation of information systems. Figure 1 shows the entities that inculcate in Sauer's triangle of dependencies model. Multiple project organizations had been appointed to continuously nurture and innovates information systems implemented in MSC. Since these project organizations are spearheaded by the member of National Consultative Committee on Information Technology (NCCIT), which is govern by the Malaysian Government will then determine continuous feedbacks and recommendations from the supporters as required by the project organization.

Meanwhile, project organizations will have no choice other than to continuously nurturing the system. Project organizations are generally from government agencies; therefore, at the same time project organizations are also the supporters of the system. This situation will inevitably force them to continuously be innovative in order to improve the information systems as their efficiencies and future rewards are highly dependant on the system.

To ensure continuous nurturing of the information system dependencies cycle, Malaysia has prepared several strategies. We categorize these strategies as the external factors and embedded it as an external influence for Sauer's model [1]. They are Government incentives, cyberlaws, Research & Development activities and the creation of civil society [1].
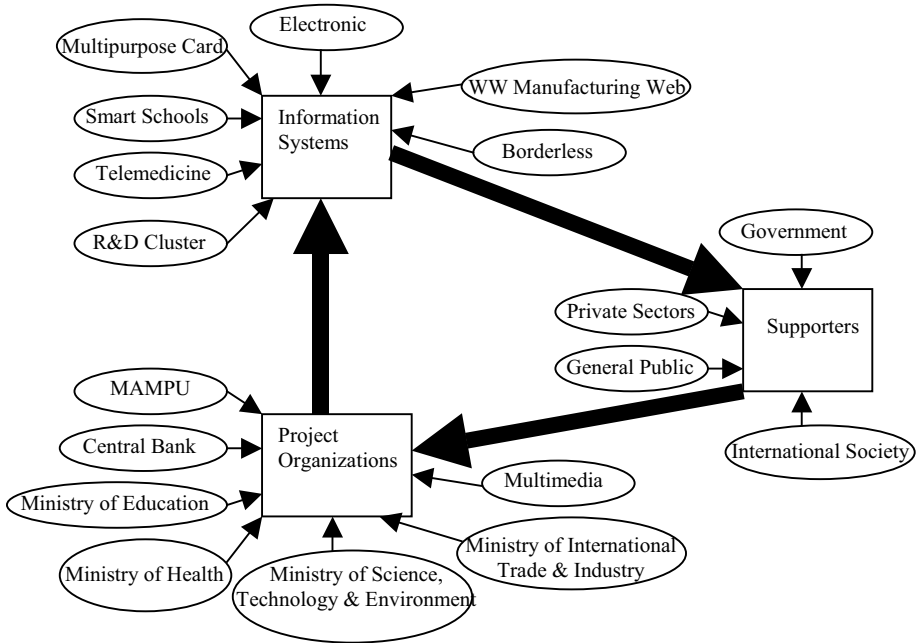
Fig. 1. Triangle of Dependencies in MSC Project.

3   Conclusion

SC is a giant project initiated by the Malaysian Government for a test bed to justify whether Information Systems implementation will be a success or not. Based on the triangle of dependencies model, we can conclude that Malaysia has already put in place the appropriate strategies to establish a successful implementation of information systems nationwide. The eagerness in creating a society of knowledge worker and government strategies to jump onto the knowledge economy managed to cultivate the correct momentum for Malaysian to enhance their knowledge and develop sharing culture. Future research will look into the risk factors and the critical success factors of these projects on the MSC triangle dependencies model established to show its successful implementation.

References

1. Azlinah Mohamed: Evolution of Information Systems in Malaysia (full text article). http//www.tmsk.uitm.edu.my/~azlinah (2004)
2. Bailey J.E. and Pearson, S.A.: Development of a tool for measuring and analyzing computer user satisfaction. Management Science, Vol 29 No 5 (1983)
3. Flowers, S.: Towards Predicting Information Systems Failure. Key Issues in Information Systems, McGraw-Hill Maidenhead (1997) 215-28

4. Forestar, T. & Morrison, P.: Compute Ethics: Cautionary Tales and Ethical Dilemmas in Computing, Basic Blackwell Oxford (1990)
5. Ives, B., Olson, M.H. and Baroudi, J.J.: The measurement of user information satisfaction. Communications of ACM, Vol. 26 No 10 (1983)
6. Mahathir Mohamad: Multimedia Super Corridor, Pelanduk Publications (1998)
7. Miller, J. and Doyle, B.: Measuring the effectiveness of computer-based information systems in the financial services sector. MIS Quarterly, Vol 11 No 1 (1987) 107-24.
8. Raman, KS.: From a Resource Rich Country to An Information Rich Society: An Evaluation on Information Technology Policies in Malaysia. Information Technology for Development, Vol 7 No 3 (1996) 109-131
9. Sauer, C.: Why Information Systems Fail: A Case Study Approach. Alfred Waller Henley (1993)
10. Whyte, Grafton and Bytheway, Andy. Factors affecting information systems' success. International Journal of Service Industry Management, Vol 7 No 1 (1996) 74-93
11. Zani, William M.: Blueprint for MIS. Harvad Business Review 48 Nov-Dec (1970)