

**THE CONTRIBUTION OF ORGANIZATIONAL, TECHNOLOGICAL AND  
INDIVIDUAL FACTORS ON INFORMATION SYSTEM SUCCESS  
IN THE MALAYSIAN PUBLIC SECTOR**

**By**

**RAMLAH HUSSEIN**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in  
Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

**March 2005**

## DEDICATION

*To my parents,*

*Haji Hussain Osman and Hajjah Zakiah Mohd Zain,*

*for their love and prayers.*

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirements for the degree of Doctor of Philosophy

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**By**

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**March 2005**

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**Faculty: Computer Science and Information Technology**

Information System success has been widely discussed in the past two decades. As systems and technologies are being improved and developed, discussions on their effectiveness and evaluation on their success have been continuously debated by researchers, scholars and practitioners throughout the years. Consequently, factors affecting success of such systems are equally important. Based on the up-stream portion of the DeLone & McLean IS success model, the study investigates the antecedent factors and their combined effect on IS success.

Using perceptual measures, survey questionnaires were gathered from 201 users from four central Malaysian government agencies located at the central administration complex in Putrajaya. The study examined three important antecedent factors of IS

success. These were organizational, technological and individual factors. Consequently, the study identified systems quality, information quality, perceived usefulness, and user satisfaction as the IS success dimensions of the study.

The study identified seven organizational factors, which are decision-making structure, managerial IT knowledge, top management support, resources, budgeting method, goal alignment and management style. The study also identified IS facilities, IS integration, IS competency, IS structure and user support as technological factors to influencing IS success. Hypotheses were formulated based on the research framework developed in the study.

The study found that system quality, information quality and perceived usefulness as significant predictors of user satisfaction. Perceived usefulness was identified as the principal predictor of user satisfaction. The study also found that users from all levels of the Malaysian public sector are satisfied with the systems they are using in their work.

All the organizational and technological factors identified, correlated significantly to the IS success dimensions. Further analyses using multiple regression analysis found goal alignment, centralized decision-making structure and management style as the significant organizational factors to influence IS success; whilst IS facilities, IS competency and IS integration as the significant technological factors were to influence IS success. Also, the findings show attitude towards IS, frequency of IS use and IS training as significant individual factors to influence IS success.

Using stepwise multiple regression analyses, the study found that attitude towards computer is the main predictor of IS success from the individual factor. The other two higher predictors of IS success came from goal alignment from the organizational factor and IS facilities from the technological factor. Hence the study evidently supports the hypothesis of the joint impact of the three antecedent factors on IS success and this consequently conclude the three antecedents, the individual, the organizational and the technological factors collectively had an influence on IS success. Based on the research findings, several implications for the IS success and public management theory and practice and future research are stated and proposed.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia  
sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**SUMBANGAN FAKTOR ORGANISASI, TEKNOLOGI DAN INDIVIDU  
KE ATAS KEJAYAAN SISTEM MAKLUMAT DI SEKTOR AWAM DI  
MALAYSIA**

Oleh

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**Mac 2005**

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Kejayaan sistem maklumat (SM) telah mendapat perhatian meluas di dua abad yang lalu. Perbincangan terhadap keberkesanan dan penilaian keatas kejayaan telah dibahaskan secara berterusan oleh para penyelidik, cendekiakawan, dan pengamal SM, memandangkan sistem dan teknologi sentiasa di perbaharui dan di bangunkan. Berkaitan dengan ini, faktor-faktor yang mempengaruhi kejayaan sistem maklumat adalah juga penting. Berdasarkan kepada model kejayaan sistem maklumat DeLone & Mc Lean (1992), kajian ini mengkaji faktor-faktor antisiden yang mempengaruhi kejayaan SM dan kesan kombinasi faktor-faktor ini terhadap kejayaan SM.

Dengan menggunakan ukuran persepsual, soal selidik kajian di kumpul dari 201 pengguna sistem maklumat di empat agensi kerajaan Malaysia yang terletak di Putrajaya.

Kajian ini telah menerokai tiga faktor penting yang mempengaruhi kejayaan sistem maklumat. Faktor-faktor tersebut adalah faktor organisasi, faktor teknologi dan faktor individu. Kajian ini juga telah mengenalpasti kualiti sistem, kualiti maklumat, tanggapan kegunaan, dan kepuasan pengguna sebagai dimensi kejayaan sistem maklumat.

Disamping itu, tujuh faktor iaitu, struktur pembuat keputusan, pengetahuan pengurus terhadap IT, bantuan pihak atasan, bekalan, kaedah belanjawan, keseimbangan matlamat, dan stail pengurusan dikenalpasti sebagai faktor organisasi. Kemudahan SM, integrasi SM, kompetensi SM, struktur SM, dan bantuan pengguna turut dikenalpasti sebagai faktor teknologi yang mempengaruhi kejayaan SM. Berdasarkan kepada rangka kajian, hipotesis dibentuk bagi menguji hubungan antara faktor-faktor yang dikaji.

Kajian ini mendapati kualiti sistem, kualiti maklumat, tanggapan kegunaan, sebagai prediktor yang signifikan bagi kepuasan pengguna. Tanggapan kegunaan dikenalpasti sebagai prediktor tertinggi kepuasan pengguna. Kajian ini juga mendapati pengguna SM di sektor awam Malaysia di setiap peringkat berpuashati terhadap SM yang digunakan di dalam kerja mereka.

Kesemua faktor organisasi dan teknologi yang didapati berhubung secara signifikan dengan keempat-empat dimensi kejayaan SM. Analisis tambahan dengan menggunakan analisis regresi mendapati keseimbangan matlamat, pembuat keputusan berpusat, dan stail pengurusan adalah faktor organisasi yang signifikan mempengaruhi kejayaan SM, manakala, kemudahan SM, integrasi SM, dan kompetensi SM adalah faktor teknologi

yang signifikan mempengaruhi kejayaan SM. Sikap terhadap SM, frekuensi penggunaan dan latihan pula dilihat sebagai faktor individu yang signifikan mempengaruhi kejayaan SM.

Dengan menggunakan analisis regresi stepwise, kajian ini menemui sikap terhadap komputer merupakan prediktor utama yang mempengaruhi kejayaan SM. Prediktor yang kedua dan ketiga tertinggi bagi kejayaan SM terdiri dari keseimbangan matlamat dari faktor organisasi dan kemudahan SM dari faktor teknologi. Oleh itu, kajian ini menyokong hipotesis terhadap impak kolektif ketiga-tiga antisiden ini, dan seterusnya menyimpulkan bahawa ketiga-tiga faktor antisiden kejayaan SM, iaitu faktor organisasi, faktor teknologi dan faktor individu secara kolektif mempengaruhi kejayaan SM. Berdasarkan kepada penemuan kajian, beberapa implikasi terhadap kejayaan SM dan pengurusan awam dari sudut teori dan praktis and kajian berikutnya di maklumkan dan di cadangkan.



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I certify that an Examination Committee met on **16<sup>th</sup> March 2005** to conduct the final examination of Ramlah Hussein on her Doctor of Philosophy thesis entitled "The Contribution of Organizational, Technological and Individual Factors on Information Systems Success in the Malaysian Public Sector " in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

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**DECLARATION**

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.

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**RAMLAH HUSSEIN**Date : 8<sup>th</sup> April 2005

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