A FRAMEWORK FOR MEASURING KNOWLEDGE TRANSFER PROCESS IN E-LEARNING ENVIRONMENT

By

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Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirement for the Degree of Master of Science

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DEDICATION

I want to dedicate this thesis to my dearest family, especially my beloved husband, Mr. Sazly Anuar and my dearest son, Iman Raziq and lovely daughter, Iman Nuryasmin for their support and love throughout my studies.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

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Chairman: Associate Professor Haji Mohd Hasan bin Selamat

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Efficiently transferring knowledge has proven to be a difficult challenge as well as to get people to use the knowledge (Seidman and McCauley, 2005). And as a part of ensuring that the knowledge transfer process is effectively conducted, there is a strong needs to measure its effectiveness. Although research in this area has been conducted in many settings, unfortunately less attention has been paid to examine the process in the virtual environment (Sarker, 2003), including the E-Learning. This may be due to the fact that lack of research has been found so far, which addressed a formal or specific guideline (or framework) for measuring the effectiveness of knowledge transfer process in E-Learning. As stated by Tillquist and Rodgers (2002), the existing measures often appear confusing and may not provide a satisfactory description of the process's effectiveness. Looking at the huge influence that E-Learning brought to Knowledge Transfer Process has motivates the attempt for developing the effectiveness measurement framework for knowledge transfer process in E-Learning environment. This framework is inspired from the E-Faculty, chosen as the case of this

research. It is an E-Learning system developed by FSKTM, UPM as complement to the traditional classroom.

This attempt however, sets its main concentration on proposing the appropriate measurement attributes for three key factors towards effective knowledge transfer process, which are knowledge to be transferred, knowledge receiver and knowledge transfer medium. This research applied the survey method in order to validate the proposed framework. The data was later analyzed using statistical analysis. Five out of eight developed hypotheses were evidently supported while three others were not supported. Consisting of three key factors to effective knowledge transfer process, this framework also provides the recommended measurement attributes for each key factor.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

RANGKA KERJA PENGUKURAN UNTUK MENGUKUR PROSES PEMINDAHAN ILMU PENGETAHUAN DI DALAM PERSEKITARAN E-PEMBELAJARAN

Oleh

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Pengerusi: **Profesor Madya Haji Mohd Hasan bin Selamat**

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Pemindahan ilmu pengetahuan yang efisien telah terbukti sebagai suatu cabaran sukar selain daripada membuatkan individu-individu menggunakan ilmu pengetahuan (Seidman and McCauley, 2005). Dan sebagai sebahagian daripada membuktikan bahawa proses pemindahan ilmu pengetahuan dilakukan secara efektif, maka perlunya pengukuran ke atas keberkesanan proses tersebut. Walaupun kajian di dalam bidang ini telah dilaksanakan di dalam pelbagai keadaan, malangnya hanya sedikit perhatian yang diberikan terhadap proses di dalam persekitaran maya (Sarker, 2003), termasuklah e-pembelajaran. Ini mungkin disebabkan kurangnya kajian yang ditemui sehingga kini yang menyediakan suatu panduan (atau rangka kerja pengukuran) yang formal atau khusus bagi mengukur keberkesanan proses pemindahan ilmu pengetahuan di dalam e-pembelajaran. Seperti yang pernah dikatakan oleh Tillquist dan Rodgers (2002), pengukuran yang ada kerapkali mengelirukan dan berkemungkinan tidak dapat memberi gambaran yang memuaskan mengenai keberkesanan sesuatu proses.

Melihat kepada pengaruh besar yang dibawa oleh e-pembelajaran terhadap proses pemindahan ilmu pengetahuan, telah memberi motivasi dalam usaha untuk membangunkan suatu rangka kerja pengukuran keberkesanan bagi proses permindahan ilmu pengetahuan di dalam persekitaran e-pembelajaran. Rangka kerja ini diilhamkan daripada E-Fakulti, yang dipilih sebagai kes kajian. Ia merupakan sebuah sistem e-pembelajaran yang dibangunkan oleh FSKTM, UPM sebagai pelengkap kepada kelas tradisional.

Walau bagaimanapun, usaha ini lebih memfokuskan kepada mencadangkan atribut-atribut pengukuran bagi tiga faktor utama iaitu ilmu pengetahuan yang akan dipindahkan, penerima ilmu pengetahuan dan medium pemindahan ilmu pengetahuan. Kajian ini mengaplikasikan kaedah survei untuk menentusahkan rangka kerja yang dicadangkan. Data-data yang diperolehi kemudiannya dianalisis menggunakan analisis statistikal. Lima daripada lapan hipotesis telah terbukti disokong manakala tiga yang lain tidak disokong. Terdiri daripada tiga faktor utama bagi proses pemindahan ilmu pengetahuan yang efektif, rangka kerja ini juga memcadangkan atribut-atribut yang perlu bagi setiap faktor tersebut.

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I certify that an Examination Committee has met on 29 June 2006 to conduct the final examination of Salfarina binti Abdullah on her Master of Science thesis entitled "A Framework for Measuring Knowledge Transfer Process in E-Learning Environment" 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.

_____

SALFARINA BT ABDULLAH

Date:

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