STUDENTS’ ACCEPTANCE OF COMPUTER-AIDED LEARNING:
AN EMPIRICAL INVESTIGATION USING THE TECHNOLOGY ACCEPTANCE MODEL (TAM)

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ABSTRACT

This quantitative project paper entitled Students’ Acceptance of Computer-Aided Learning: An Empirical Investigation Using the Technology Acceptance Model (TAM), aims to determine the effect of perceived ease of use (PE) and perceived usefulness (PU) as the independent variables on students’ attitude towards acceptance of the computer-aided learning as the dependent variable (ATT). This study also intends to examine whether any differences on the students’ attitude towards acceptance of the computer-aided learning (CAL) exist among the respondents from the urban and rural areas. Respondents for this study comprised 619 Form Four secondary schools students from the adjacent districts of Klang (urban) and Kuala Langat (rural) in Selangor. Three schools in Kuala Langat and four schools in Klang were selected randomly using random selection method of Microsoft Office Excel for the distribution of the questionnaires. Data were analyzed using SPSS version 17. Tests conducted were Pearson correlation, multiple regressions, T-test and One-way ANOVA. The Pearson correlation showed that PE and PU were correlated with ATT. The Pearson correlation result of PE to ATT was 0.75. The Pearson correlation result of PU to ATT was 0.710. Multiple regressions showed that PE and PU had significant effects on ATT. Without the mediator, the PE to ATT β-value was 0.750 for p < 0.01. The PU to ATT β-value was 0.504 with the same level of confidence. Perceived ease of use also had a significant effect on perceived usefulness. For the mediation effect, perceived usefulness mediated the relationship between perceived ease of use and students’ attitude towards acceptance of the CAL. With the mediation effect, the PE.PU to ATT β-value was 0.372 for p < 0.01. This showed that PU was the partial mediator since the β-value was reduced and p-value was still p < 0.01. R² changed significantly from 0.562 to 0.640 when PU was substituted. This also indicated that PU was the mediator. The finding of the T-test showed that there was a significant difference of students’ acceptance of the CAL between the rural and urban areas. Recommendations were suggested for the betterment of the educational system that are new policy enforcement, comprehensive training and skill development for teachers, and monitoring of the development and implementation of the CAL.
ABSTRAK

Kertas projek kuantitatif ini iaitu Penerimaan Pelajar Terhadap Sistem Pembelajaran Berbantukan Komputer: Suatu Kajian Empirikal Menggunakan Teori Model Penerimaan Teknologi, bertujuan mengetahui kesan kesedaran kemudahgunaan (PE) dan kesedaran kebergunaan (PU) sebagai pemboleh ubah bebas kepada sikap pelajar terhadap penerimaan pembelajaran berbantukan komputer (ATT) sebagai pemboleh ubah bersandar. Kajian ini juga bertujuan untuk mengenalpasti adakah terdapat perbezaan sikap terhadap penerimaan pembelajaran berbantukan komputer (PBK) di antara pelajar di kawasan bandar dengan luar bandar. Responden kajian terdiri daripada 619 pelajar Tingkatan Empat di sekolah menengah di dua daerah bersebelahan di Selangor iaitu Klang (bandar) dan Kuala Langat (luar bandar). Sebanyak tiga buah sekolah di Kuala Langat dan empat buah sekolah di Klang telah dipilih dengan menggunakan teknik pemilihan secara rawak "Microsoft Office Excel" untuk pengedaran borang soal selidik. Data dianalisis menggunakan SPSS versi 17. Ujian yang digunakan ialah korelasi Pearson, regresi berganda, ujian-T dan ANOVA satu hala. Ujian korelasi Pearson menunjukkan PE dan PU mempunyai korelasi dengan ATT. Keputusan korelasi PE kepada ATT ialah 0.75. Manakala korelasi PU kepada ATT ialah 0.71. Ujian regresi berganda menunjukkan PE dan PU mempunyai kesan yang signifikan kepada ATT. Tanpa pengantaraan, PE kepada ATT mempunyai nilai $\beta = 0.75$ dengan $p < 0.01$. Manakala PU kepada ATT mempunyai nilai $\beta = 0.504$ dengan aras keyakinan yang sama. PE juga mempunyai kesan yang signifikan terhadap PU. Untuk kesan pengantaraan, PU adalah pengantara di antara PE dengan ATT. Dengan adanya pengantaraan, PE.PU kepada ATT mempunyai nilai $\beta = 0.372$ dengan $p < 0.01$. Dapatkan kajian menunjukkan PU ialah pengantaraan sebahagian dengan berkurangnya nilai $\beta$ dengan aras keyakinan yang sama. $R^2$ juga berubah secara signifikan daripada 0.56 kepada 0.64 apabila PU dimasukkan. Ini juga membuktikan yang PU ialah pengantara. Dapatkan ujian-T menunjukkan terdapat perbezaan yang signifikan dalam penerimaan pelajar terhadap PBK di antara bandar dengan luar bandar. Cadangan penambahbaikan dalam sistem pendidikan adalah penguatkuasaan polisi baru, latihan dan pembangunan kemahiran yang komprehensif kepada guru, dan pemantauan terhadap pembangunan dan pelakanaan PBK tersebut.
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List of Abbreviations
ICT - Information and Communication Technology
CAL - Computer-Aided Learning
MOE - Ministry of Education
TAM - Technology Acceptance Model
SAG - School Average Grade
SPM - Sijil Pelajaran Malaysia
TRA - Theory of Reasoned Action
TPB - Theory of Planned Behavior
PU - Perceived Usefulness
PE - Perceived Ease of Use
ATT - Acceptance of the Computer-Aided Learning
NGO - Non-governmental Organization
PBC - Perceived Behavioral Control
CB - Control Beliefs
PF - Perceived facilitation
CHILD – Computer Helping Instruction and Learning Development
NECTEC – National Electronics and Computer Technology Center
ANOVA – Analysis of Variance
β - Beta Value
KMO - Kaiser-Meyer-Olkin
MSA - Measure of Sphericity Adequacy

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CHAPTER 1

INTRODUCTION

1.0 Background of the Study

One of the many challenges facing developing countries today is preparing their societies and governments for globalization and the information and communication revolution. Policy-makers, business executives, NGO activists, academics, and ordinary citizens are increasingly concerned with the need to make their societies competitive in the emergent information economy.

1.1 ICT in Education

Globalization and technological changes, the processes that have accelerated in tandem over the past fifteen years, have created a new global economy. This scenario, in turn, has serious implications on the nature and purpose of educational institutions. As information continues to shrink and access to information continues to grow exponentially, schools cannot remain mere venues for the transmission of a prescribed set of information from teachers to students over a fixed period of time.

Concerns over educational relevance and quality coexist with the imperative of expanding learning opportunities to those made most vulnerable by globalization: low-income groups, girls and women as well as low skilled workers. Global changes also put pressure on all groups to constantly acquire and apply new skills. Information and communication technologies (ICTs)
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