BUSINESS SIMULATION IN ENTREPRENURSHIP EDUCATION: AN EMPIRICAL STUDY

NURFATHIAH NAJWA BINTI AHYA'ARIF

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2017

SUPERVISOR'S APPROVAL

BUSINESS SIMULATION IN ENTREPRENURSHIP EDUCATION: AN EMPIRICAL STUDY

NURFATHIAH NAJWA BINTI AHYA'ARIF

SUBMITTED TO THE

FACULTY OF TECHNOLOGY MANAGEMENT AND TECHNOPRENEURSHIP, IN PARTIAL FILFILMENT OF THE REQUIREMENT FOR BACHELOR DEGREE IN TECHNOPRENEURSHIP WITH HONOUR

DECLARATION OF ORIGINAL WORK

"I hereby declare that this project paper is the result of my own and independent work
except the summary and experts that have been specifically acknowledgement"
Signature:
Name: NURFATHIAH NAJWA BINTI AHYA'ARIF
Date:

DEDICATION

I would like dedicate the appreciation to my family members especially my parents Mr. Ahya'Arif bin Ngah Abdullah and Mrs. Noraini binti Saa'ya who motivate me in completing this research. They continuously give me support and advice to fulfil the requirement of the research.

ACKNOWLEDGEMENTS

First and foremost, praise to Allah Almighty for it was His will that I am able to complete this research report. All the obstacles and challenges would be impossible to overcome single-handedly, hence, I would like to express my gratitude towards my supervisor, Dr. Norhidayah binti Mohamad for her encouragement, guidance and support throughout the entire period of completing this research report.

My deepest appreciation to my family for their support and unconditional love.

And of course, to the rest of the lending hands whom I am not able to mention here, my utmost gratitude for all the favors that had been offered and extended my way, no matter how small or indirect it may seem to be.

Only God can return your kindness.

ABSTRACT

Nowadays, teaching and learning method has change to meet with demand of the new generation students that had born in the technology arena and always get connected. The impact of technology towards school has been quite significant. The widespread adoption of the technology in school has completely changed on how teachers teach the student. This research result aim to know the factors affect business simulation in entrepreneurship education: an empirical study. The research is increasing towards trend in the use of business simulations in high education on educational institutions Melaka. They are using business simulation games as enhancements to the traditional learning environment. Business simulation or business simulation games as a form of experiential learning focus to improve business decision making based on the method Technology Acceptance Model it is perceived usefulness and perceived ease of use by using students natural capacity for business simulation games. Business simulations provide a space in which learning performing is an outcome of tasks stimulated and executed by the content of the simulation playing, while the satisfaction level are developed base on using as a result of playing the simulation game. A cross sectional data was collected through survey on 300 students in Melaka with students are those who born between 1991 and 1998 with the age range from 20 to 26 years old during year 2016 and has concerned about business simulation. It found that in Malaysia potential games and simulations have in any classrooms and aspire to use of this experiential learning method in entrepreneurship education is important, because entrepreneurship educations prefer experiential learning for their students and recognize the relative shortcomings of a lecture-based entrepreneurship class. The results indicate that a business simulation is a positive learning experience for students.

Key words: business simulation, entrepreneurship education, learning performing, satisfaction level, perceived usefulness, perceived ease of use

ABSTRAK

Pada masa kini, kaedah pengajaran dan pembelajaran mempunyai berubah untuk memenuhi permintaan daripada pelajar generasi baru yang telah dilahirkan di arena teknologi dan sentiasa berhubung. Kesan teknologi terhadap sekolah telah agak ketara. Penggunaan meluas teknologi di sekolah telah menukar sepenuhnya kepada bagaimana guru mengajar pelajar. Kajian ini semakin meningkat ke arah trend dalam penggunaan simulasi perniagaan dalam pendidikan tinggi di institusi pendidikan Melaka. Mereka menggunakan permainan simulasi perniagaan sebagai tambahan kepada persekitaran pembelajaran tradisional. simulasi perniagaan atau permainan simulasi perniagaan sebagai satu bentuk tumpuan pembelajaran berasaskan pengalaman untuk memperbaiki keputusan perniagaan membuat berdasarkan kaedah Technology Acceptance Model ia dilihat kegunaan dan dilihat kemudahan penggunaan dengan menggunakan pelajar keupayaan semula jadi untuk permainan simulasi perniagaan. Simulasi perniagaan menyediakan ruang di mana prestasi pembelajaran adalah hasil daripada tugas-tugas dirangsang dan dilaksanakan oleh kandungan permainan simulasi, manakala tahap kepuasan yang dibangunkan berdasarkan menggunakan akibat bermain permainan simulasi. Data keratan rentas dikumpulkan melalui kajian ke atas 300 pelajar di Melaka dengan pelajar adalah mereka yang lahir antara 1991 dan 1998 dengan lingkungan umur dari 20 hingga 26 tahun pada tahun 2016 dan telah mengambil berat tentang simulasi perniagaan. Ia mendapati bahawa di Malaysia berpotensi permainan dan simulasi dalam apa-apa bilik darjah dan bercita-cita untuk menggunakan kaedah pembelajaran berasaskan pengalaman ini dalam pendidikan keusahawanan adalah penting, kerana pendidikan keusahawanan lebih suka pengalaman pembelajaran untuk pelajar mereka dan mengiktiraf kelemahan relatif kelas keusahawanan berbentuk syarahan. keputusan menunjukkan bahawa simulasi perniagaan adalah satu pengalaman pembelajaran yang positif untuk pelajar.

Kata kunci: simulasi perniagaan, pendidikan keusahawanan, berprestasi pembelajaran, tahap kepuasan, kegunaan dilihat, mudah dilihat penggunaan

TABLE OF CONTENTS

CHAPTER	CONTENTS	PAGE
	DECLARATION OF ORIGINAL WORK	i
	DEDICATION	ii
	ACKNOWLEDGEMENT	iii
	ABSTRACT	iv
	ABSTRAK	v
	TABLE OF CONTENTS	vi
	LIST OF FIGURE	xi
	LIST OF TABLES	xii
CHAPTED 1	1 INTRODUCTION	1
CHAPTER 1	1. INTRODUCTION	1
	1.1 General Overview	1
	1.2 Research Background	2
	1.3 Statement Of Problem Statement	4
	1.4 Research Questions	5
	1.5 Objectives Of The Research	6
	1.5.1 General Objective	6
	1.5.2 Specific Objective	6
	1.6 Scope Of Study	7
	1.7 Significant Of The Study	7
	1.8 The Definition Of Terms	8
	1.9 Organization Of The Thesis	10
	1 10 Summary	11

CHAPTER 2	LITERATURE REVIEW	
	2.1 Introduction	12
	2.2 Business Simulation	13
	2.2.1 Perceived Usefulness (PU)	17
	2.2.2 Perceived Ease Of Use (PEU)	18
	2.3 Entrepreneurship Education	19
	2.3.1 Satisfaction Level	20
	2.3.2 Learning Performances	21
	2.4 Education In Malaysia	23
	2.4.1 Education In Melaka Malaysia	26
	2.5 Research Framework	28
	2.6 Research Hypotheses	29
	2.7 Summary	31
CHAPTER 3	RESEARCH METHODOLOGY	
	3.1 Introduction	32
	3.1 Introduction3.2 Research Design	32 32
	3.2 Research Design	32
	3.2 Research Design3.3 Collecting Data	32 33
	3.2 Research Design3.3 Collecting Data3.3.1 Primary Data	32 33 34
	3.2 Research Design3.3 Collecting Data3.3.1 Primary Data3.3.2 Secondary Data	32 33 34 35
	 3.2 Research Design 3.3 Collecting Data 3.3.1 Primary Data 3.3.2 Secondary Data 3.4 Sampling Method 	32 33 34 35 36 36
	 3.2 Research Design 3.3 Collecting Data 3.3.1 Primary Data 3.3.2 Secondary Data 3.4 Sampling Method 3.4.1 Target Population 	32 33 34 35 36
	 3.2 Research Design 3.3 Collecting Data 3.3.1 Primary Data 3.3.2 Secondary Data 3.4 Sampling Method 3.4.1 Target Population 3.4.2 Sampling Frame And Sampling 	32 33 34 35 36 36
	 3.2 Research Design 3.3 Collecting Data 3.3.1 Primary Data 3.3.2 Secondary Data 3.4 Sampling Method 3.4.1 Target Population 3.4.2 Sampling Frame And Sampling Location 	32 33 34 35 36 36
	 3.2 Research Design 3.3 Collecting Data 3.3.1 Primary Data 3.3.2 Secondary Data 3.4 Sampling Method 3.4.1 Target Population 3.4.2 Sampling Frame And Sampling Location 3.4.3 Sampling Element 	32 33 34 35 36 36 37

	3.5.1 Questionnaire Design	39
	3.5.2 Pilot Testing	40
	3.6 Construct Measurement	40
	3.6.1 Scale Measurement	40
	3.7 Data Processing	41
	3.7.1 Questionnaire Checking	41
	3.7.2 Data Editing And Coding	41
	3.7.3 Data Cleaning	41
	3.8 Time Horizon	42
	3.9 Procedures Of Data Analysis	44
	3.9.1 Descriptive Analysis	44
	3.9.2 Scale Measurement	44
	3.9.2.1 Reliability Test	44
	3.9.3 Inferential Analysis	46
	3.9.3.1 Pearson Correlation	46
	Analysis	40
	3.9.3.2Simple Linear Regression	46
	Analysis	40
	3.10 Summary	47
CHAPTER 4	DATA ANALYSIS AND RESULT	
	4.1 Introduction	48
	4.2 Descriptive Analysis	50
	4.2.1 Demographic Profile	50
	4.3 Validity And Reliability Test	53
	4.3.2 Validity Test	53
	4.3.2 Reliability Test	54
	4.3.2.1 Pilot Test	54
	4.5 Descriptive Analysis	58

Viii

	4.5.1 Perceived Usefulness	58
	4.5.2 Perceived Ease Of Use	60
	4.5.3 Satisfaction Level	61
	4.5.4 Learning Performance	62
	4.6 Pearson Correlation Coefficient	63
	4.7 Multiple Regression Analysis (MRA)	67
	4.7.1 Anova	69
	4.7.2 Coefficients	71
	4.8 Hypothesis Testing	75
	4.8.1 Hypothesis 1	75
	4.8.2Hypothesis 2	76
	4.8.3 Hypothesis 3	77
	4.8.4Hypothesis 4	78
	4.9 Summary	79
CHAPTER 5	RECOMMENDATION AND CONCLUSION	J
	5.1 Introduction	80
	5.1 Introduction5.2 Discussion of the results	80 81
	5.2 Discussion of the results	81
	5.2 Discussion of the results5.3 Summary Of Statistical Analysis	81 82
	5.2 Discussion of the results5.3 Summary Of Statistical Analysis5.3.1Respondents Demographic	81 82 82
	5.2 Discussion of the results5.3 Summary Of Statistical Analysis5.3.1Respondents Demographic5.3.2Reliability Test	81 82 82 85
	 5.2 Discussion of the results 5.3 Summary Of Statistical Analysis 5.3.1Respondents Demographic 5.3.2Reliability Test 5.3.3Pearson Correlation Test 	81 82 82 85 86
	 5.2 Discussion of the results 5.3 Summary Of Statistical Analysis 5.3.1Respondents Demographic 5.3.2Reliability Test 5.3.3Pearson Correlation Test 5.3.4Regression Analysis 	81 82 82 85 86
	 5.2 Discussion of the results 5.3 Summary Of Statistical Analysis 5.3.1Respondents Demographic 5.3.2Reliability Test 5.3.3Pearson Correlation Test 5.3.4Regression Analysis 5.4 Discussion Of Major Findings 	81 82 82 85 86 86
	 5.2 Discussion of the results 5.3 Summary Of Statistical Analysis 5.3.1Respondents Demographic 5.3.2Reliability Test 5.3.3Pearson Correlation Test 5.3.4Regression Analysis 5.4 Discussion Of Major Findings 5.4.1 Objective 1 	81 82 82 85 86 86 87
	 5.2 Discussion of the results 5.3 Summary Of Statistical Analysis 5.3.1Respondents Demographic 5.3.2Reliability Test 5.3.3Pearson Correlation Test 5.3.4Regression Analysis 5.4 Discussion Of Major Findings 5.4.1 Objective 1 5.4.2 Objective 2 	81 82 82 85 86 86 87 87

5.6 Implication Of The Research	92
5.7 Limitation Of The Research	92
5.8 Recommendation For Future Study	93
REFERENCE	94
APPENDIX	
A: Gantt Chart FYP	99
B: Questioner	101

LIST OF FIGURES

Figures	Number	Page
2.1	A graphical representation of the set of games and its subsets	16
2.1	Technology acceptance model	17
2.3	Column Chart Education Statistics In Malaysia	25
2.4	Table Education Statistics in Malaysia	25
2.5	Theoretical Framework	28

LIST OF TABLE

Table	Number	Page
3.1	Gantt chart of Timeline of Research	43
3.2	Ranges of Cronbach Alpha Value	45
4.1	Format for Demographic Factor	50
4.2	Case Summary of Pilot Test	54
4.3	Reliability Statistics of Pilot Test	55
4.4	Case Summary of full Reliability	57
4.5	Reliability Statistics of full Reliability	57
4.6	Descriptive Analysis of Perceived usefulness	59
4.7	Descriptive Analysis of Perceived Ease of Use	60
4.8	Descriptive Analysis of satisfaction level	61
4.9	Descriptive Analysis of Learning performance	62
4.10	Rules of thumb about Correlation Coefficient	63
4.11	Correlation (DV is SL and LP)	64
4.12	Model Summary of MRA for satisfaction level	67
4.13	Model Summary of MRA for learning performance	67
4.14	ANOVAa Satisfaction Level	69
4.15	ANOVAa Learning Performance	69
4.16	Coefficientsa for satisfaction Level	71
4.17	Coefficientsa for Learning Performance	71
4.18	Coefficient Table for Variable 1	75
4.19	Coefficient Table for Variable 2	76
4.20	Coefficient Table for Variable 3	77
4.21	Coefficient Table for Variable 4	78
4.22	Summarize for saver result	79
5.1	Summary of Major Findings	91

CHAPTER 1

INTRODUCTION

1.1 General Overview

This chapter is about the overall research is an increasing trend towards use of business simulations in all levels of education in educational institutions among students in Melaka. The students are using business simulation games as enhancements to the traditional learning environment. Business simulation or business simulation games as a form of experiential learning are focused on improving business decision making skills by using student's natural capacity for technology. Follow by outlining the problem statement and objective in this research questions are used to guide the whole research and hypotheses used to from a proposed conceptual framework.

1.2 Research Background

In this era of technology today the developing supporting and assisting students in developing high level competencies is very challenging. Students are expected to develop a broad range of skills like critical thinking, problem solving and cognitive skills in order to be prepared to manage effectively at their future work. Thus, in this situation, the economies today are changing rapidly generating more and more requirements towards the students in terms of developing an ability to be skillful, flexible and adaptable. Nevertheless, the conventional methods and tools used for teaching business skills are insufficient to cope with the complexity of contemporary organizations and unpredictable market dynamics (Lehtinen, 2002). Meanwhile, that requires transformation of teaching approaches and educational methods.

However, the new methods of teaching leadership and other practical skills which can meet those new requirements and prepare students to be the better cope with the complexity of the business world could be implementation of business simulation into their lectures. According to the European Parliament and European Council (2006), Business simulations as active methods of teaching and learning can be used in the upper classes of high school, during higher education and in adult education. Value of the implementation of business simulations in the learning process is in developing of two competences for lifelong learning: the entrepreneurial and digital.

Business simulation games serve as a realistic representation of the real operations in a virtual environment, and use it to develop managerial skills primarily in corporate decision-making. Contemporary economic development requires re-orientation and ongoing modification of educational programs, while the learning process is expected to be focused on strengthening the knowledge, skills and attitudes in line with labor market needs (Machuca, 2000).

Malaysia's preparation to become an outstanding developed country should also include the business models, competitive dynamics and strategic challenges to have a dramatic impact in the organizational success. However, sweeping forces in today's business environment are accelerating the pace of change to be the deep understanding of market dynamics, organization fundamentals, key challenges and trade-offs, and also the financial levers are critical for entrepreneurs and managers must be succeed in the contemporary businesses.

Meanwhile, Business simulations enable managers to experience the competitive dynamics, general trends, business challenges, interdependencies and profitability drivers that are unique to an industry, and therefore, the business simulations are useful method in the development of human resources in support of decision-making in most business organizations (Yang Xu, 2010).

1.3 Statement of Research Problems

The simulation begins as an early start-up manufacturing firm in an emerging market. After the initial investment, the students must organize a management team to take over the firm and make thirty decisions each quarter including pricing, marketing, marketing research, production, inventory, employment, employee training, and financial decisions. In addition to these decisions, the simulation has eight management dilemmas to challenge the team.

The simulations should be an integral pedagogy in entrepreneurship courses, and then the question remains of how the students' learning experience can be demonstrated. Any attempt to answer this question is filled with challenges, because it is difficult to quantify the learning benefits of a business simulation and it recognize that satisfaction is a moving target and the instrument will need continuous refinement as technologies, pedagogies, and school missions change Henderson and Lawton (2002. p108) identified two key questions: —Two key questions surrounding the use of simulations have been troubled users since the very earliest days of gaming are: (1) what do participants learn from engaging in a simulation experience? (2) Is a simulation better than alternative pedagogies for accomplishing certain learning objectives?"

Despite all the mentioned above, business simulation in entrepreneurship education are the impact of resource bundling and the management of information to realize the opportunities that have been identified in the process of entrepreneurship. And the learning motivation and classroom climate from the perspective of learning, as well as perceived attractiveness and perceived playfulness from the perspective of playfulness and attractiveness were also added to.

Therefore, it is important for this Study to explore business simulation in entrepreneurship education proposes to go further and be more thorough in future studies on either business simulation games or other educational settings.

1.4 Research Questions

This research addresses the following research question:

- 1. What is the relationship between perceived usefulness of business simulation games and student's satisfaction level?
- 2. What is the relationship between perceived ease of use of business simulation games and student's satisfaction level?
- 3. What is the relationship between perceived usefulness of business simulation games and student's learning performance?
- 4. What is the relationship between perceived ease of use of business simulation games and student's learning performance?

1.5 Objectives of the research

The purpose of this research is to solve the problem statement as stated above by outline the general objective, which was developed into individual specific objectives.

1.5.1 General Objectives

The main objective of this Study is to identify the factors affect business simulation in entrepreneurship education: an empirical Study. It tries to examine and interpret whether the factors was affect the students a Study in Malacca.

1.5.2 Specific Objectives

- 1. To examine the relationship between perceived usefulness of business simulation games and student's satisfaction level.
- 2. To identify the relationship between perceived ease of use of business simulation games and student's satisfaction level.
- 3. To examine the relationship between perceived usefulness of business simulation games and student's learning performance.
- 4. To identify the relationship between perceived ease of use of business simulation games and student's learning performance.

1.6 Scope of Study

The scope of this Study is focus around the Melaka areas which are at Universiti Teknikal Malaysia Melaka (UTeM), Multimedia University (MMU), Pusat latihan Teknologi Tinggi (ADTEC) Melaka and other University and college in Melaka. This location was chosen to be the main scope of this Study is due to be areas of focus groups of students. In addition, there are many students come those areas for relax and rest. Apart from that, this location is not only visit by local students, but also students from among foreign tourists.

1.7 Significant of the Study

The importance of this Study is to determine the business simulation in entrepreneurship education: an empirical Study. There are several related background theories and information base on the serve as a common ground that can help us in having a better understanding of students the business simulation in entrepreneurship education. These are the Technology Acceptance Model (TAM), include perceived usefulness of business simulation and perceived ease of use of business simulation.

1.8 The Definition of Terms

Business Simulation

Business simulation is simulation used for business training, education or analysis. It can be scenario-based or numeric-based. Most business simulations are used for business acumen training and development. Learning objectives include: strategic thinking, decision making, problem solving, financial analysis, market analysis, operations, teamwork and leadership.

Simulation

Simulation is the imitation of the operation of a real-world process or system over time. The act of simulating something first requires that a model be developed; this model represents the key characteristics or behaviors/functions of the selected physical or abstract system or process.

Simulation games

A simulation game attempts to copy various activities from real life in the form of a game for various purposes such as training, analysis, or prediction. Usually there are no strictly defined goals in the game, with players instead allowed to freely control a

character. Well-known examples are war games, business games, and role play simulation.

Entrepreneurship Education

Entrepreneurship education seeks to provide students with the knowledge, skills and motivation to encourage entrepreneurial success in a variety of settings. Variations of entrepreneurship education are offered at all levels of schooling from primary or secondary schools through graduate university programs.

Students

A student is a learner, or someone who attends an educational institution. In Britain those attending university are termed "students". In the United States, and more recently also in Britain, the term "student" is applied to both categories. In its widest use, student is used for anyone who is learning, including mid-career adults who are taking vocational education or returning to university.