Enhancing Students' Business Plan Learning Through Experiential Business Plan Simulation

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ABSTRACT

A Business plan is an essential document that guides entrepreneurs in managing their businesses and strategising for future growth. The Malaysian government has mandated entrepreneurship education in higher institutions to foster entrepreneurial skills among students, including the ability to write effective business plans. This study explores how business plan simulation enhances students' understanding of entrepreneurship and identifies factors that facilitate business plan learning. A quantitative approach with pre- and post-questionnaires was used, involving 114 participants. Findings show that student characteristics are the most influential factor in facilitating business plan learning through simulation. Business plan simulation effectively improves students' understanding of entrepreneurship by providing a practical environment to apply theoretical knowledge.

Keywords: Business Plan, Business Simulation, Entrepreneurship, Experiential Learning

INTRODUCTION

Entrepreneurs play a crucial role in Malaysia's economic development, particularly in achieving the goal of becoming a developed nation by 2030 (Malaysia Digital Economy Blueprint, 2021). The government has implemented various initiatives to promote entrepreneurship, including mandating entrepreneurship courses in higher education institutions (Ministry of Higher Education Malaysia, 2022). These programs instil entrepreneurial values such as leadership, creativity, innovation, resilience, and calculated risk-taking (Yusof et al., 2021).

A significant challenge faced by aspiring entrepreneurs is securing financial resources. Accessing funding often requires a well-prepared business plan, which serves as a roadmap for decision-making and resource allocation (Lim & Tan, 2023). Despite the availability of financial support from banks and government agencies, many entrepreneurs struggle due to inadequate planning and documentation (Abdullah & Yusoff, 2021).

This study aims to identify the factors and processes in business plan simulation that enhance business plan learning among undergraduate students. It builds upon existing literature and incorporates recent findings on experiential learning and simulation-based pedagogy (Tan et al., 2023; Nguyen & Patel, 2024).

LITERATURE REVIEW

One of the elements in studying entrepreneurship courses is the business plan, which remains a significant objective of the entrepreneurship program (Chwolka & Raith, 2012). In certain Higher Education Providers (HEPS), a business plan is offered as a stand-alone subject and a final year team project. The 4th issue stated by the Malaysian Entrepreneurship Policy shows that there is still a lack of effectiveness in entrepreneurship education and programs. On the other hand, the third element of the Entrepreneurship Development Policy is to Strengthen Entrepreneurship, which aims to expose students to the real world of business while assisting those choosing a startup business as a career. Entrepreneurship education in Malaysian Higher Education is also part of the General Subject (MPU) established in September 2013.

Entrepreneurial Education

Entrepreneurship education has been widely recognised as crucial in fostering entrepreneurial skills and values among students (Motta & Galina, 2023). In Malaysia, most higher education institutions offer entrepreneurship courses as compulsory subjects to expose students to entrepreneurial concepts and practices (Guzairy et al., 2016). However, the effectiveness of traditional teaching methods in fostering entrepreneurial values is still unclear, and there is a need for more innovative teaching approaches (Nian et al., 2014). Experiential learning has been suggested as a promising approach to enhance the effectiveness of entrepreneurship education (Ismail & Ahmad, 2013).

Business Plan Courses

Business plans are considered one of the most important factors in determining the success of a business (Chwolka & Raith, 2012). In entrepreneurship education, business plan courses are often offered as stand-alone subjects or as part of final year projects (Guzairy et al., 2016). Writing a business plan enables students to prepare for the challenges of running a business and to understand the various aspects of business management (Brinckmann et al., 2010). Effective business plan courses should focus on theoretical knowledge and provide practical experience through simulations and other experiential learning methods (Elgood, 2011).

Experiential Learning

Experiential learning has been widely recognised as an effective approach to enhance students' understanding and skills in various fields, including entrepreneurship (Kolb & Kolb, 2008). In entrepreneurship education, experiential learning can help students develop their entrepreneurial skills and values through hands-on experience and reflection (Ismail & Ahmad, 2013). Business simulations are one of the most commonly used experiential learning tools in entrepreneurship education, as they provide students with a realistic business environment to practice their skills and make decisions (Sheikh et al., 2023).

Business Simulation

Business simulations have been widely used in entrepreneurship education to give students a realistic business environment to practice their skills and make decisions (Sheikh et al., 2023). Practical business simulations should reflect real-world business scenarios and allow students to apply their knowledge and skills in a simulated environment (Blazic et al., 2012). Recent studies have shown that business simulations can significantly enhance students' understanding of business concepts and ability to make effective business decisions (Morin et al., 2020).

RESEARCH METHODOLOGY

This study adopted a quantitative research design using pre- and post-simulation questionnaires (Vos & Brennan, 2020; Abdullah et al., 2021). One hundred fourteen entrepreneurship course students participated in a business simulation session and completed both surveys. The simulation was designed using Microsoft Excel with Visual Basic for Applications (VBA) to simulate real-life business scenarios (Lim et al., 2023).

The questionnaire was divided into three sections:

1. Socio-demographic background
2. Perception of traditional business plan teaching methods
3. Assessment of simulation-based learning factors

Data were analysed using descriptive statistics and regression analysis to determine the influence of variables such as student characteristics, educator roles, simulation content, infrastructure, and experiential learning on business simulation effectiveness (Ahmad et al., 2022).

The simulation games used in this study were selected based on their alignment with course objectives and ability to provide precise feedback to students, consistent with recommendations by Yang et al. (2022). The simulation allowed students to make business decisions and observe outcomes in a risk-free environment, similar to approaches documented by Gawel et al. (2022).

Data collection included pre- and post-simulation surveys measuring entrepreneurial understanding and self-efficacy, complemented by focus group discussions to explore students' experiences with the simulation. This methodology aligns with recommendations by Hernández-Lara et al. (2019) regarding evaluating simulation-based learning in business education.

RESULT

Respondent Background

Most respondents were female (74.5%), aged between 20 and 25. About 43% were management students, and 42% had a CGPA above 3.0. Over 93% expressed interest in using business simulation over traditional lecture-based learning.

Student Characteristics

Student characteristics can facilitate business plan learning through playing a simulation (Baruah & Ward, 2015; Wellington & Hutchinson, 2012). It shows how the student's characteristics impact the learning and how they can shift or upgrade their skill and knowledge from experiencing the business simulation. It includes writing skills, decision-making, problem-solving, etc. Gain new knowledge and the ability to recognise the problem, showing a high percentage of agreement among participants. The following is the feedback from a questionnaire that shows student characteristics gained from the simulation towards an effective business plan:

Table 1. Characteristic of Student (Skills and Knowledge)

	Agree %
Help to increase the ability to write a business plan	84.2
Increase the ability to seek information	82.5
Learn how to decide on various sources	80.7
Gain more knowledge of a business plan	80.7
Increase the ability to make business decisions	82.4
Increase the ability to recognise business problems	78.0
Increase skills and knowledge of real business	76.3
Increase the potential of planning business competencies	83.3
Increase problem-solving skills	78.0
Gain new business knowledge	89.5
Integrating various functional business knowledge	86.9

Educator’s Roles

Educators like teachers, instructors and lecturers deliver the knowledge (Moizer et al., 2006; Anderson &

Lawton, 2008). The simulation might not be complete enough if the educator is not involved. The human capital of delivering knowledge is still relevant today, even though technologies surround us. This result shows that students need the educator's assistance even though they choose to have their group and read the simulation manual. Explanation from the lecturer shows a high percentage of agreement from the students. The following is the feedback from a questionnaire that shows the educator roles that take part in the simulation towards an effective business plan.

Table 2. Educator's Roles

	Agree %
It is hard to simulate without a clear explanation from the lecturer	71.1
The information given by the lecturer was not enough to run the simulation	38.6
The simulation's manual needs to be distributed before beginning the simulation	70.1
The student needs more time to read the manuals	73.7
The lecturer must select the group	41.2
Student need to have the right to choose their team members	76.3
Lecturers need always to be monitoring and give a response every single time	81.6
Students need to be given the freedom to simulate without the lecturer around	43.0
The lecturer must explain the simulation with related examples	80.7

Simulation Game Characteristics

Previous analysis shows the side factor affecting the simulation process; however, the simulation itself is the most important thing that will prove whether the simulation is working or not to facilitate the business plan learning (Aalst, 2015). The elements that are contained in the simulation need to be in the right place, at the right time, and for the right person. As shown in the analysis below, students agree that the simulation meets business plan preparation requirements and gives them real business experiences. However, most of them do not understand the terms and conditions of the simulation, and they also agree that the time given is not enough and that it is hard to work in the group due to this issue. The following is the feedback from a questionnaire that shows the simulation game characteristics towards facilitating effective business planning:

Table 3. Simulation Game's Characteristics

	Agree %
It is hard to understand the simulation terms and conditions	38.6
The information in the manual does not help enough	38.5
I am not familiar with the default business in this simulation	51.8
The turnover time of this simulation takes too long	41.2
The default business in this simulation meets the business plan requirement	72.8
The simulation gives us real business experiences	74.5

The time given to run this simulation is not enough	52.7
This business simulation is designed for individuals, not for groups	46.5
It is hard to work within the group due to a lack of time and resources	41.2
Students need to have a one-week preparation before running the simulation	50.0
The rating and marks of the simulation are distributed properly	62.3

Infrastructures

The infrastructure provided in the classroom is also one of the elements that will affect the simulation process. The infrastructure refers to the facilities provided to ensure the business simulation process runs smoothly. Almost all students agree that computer-aided simulation makes their work in groups easy and allows them to search for extra information before making decisions. The following is feedback from a questionnaire that shows the importance of classroom infrastructure in preparing an effective business plan.

Table 4. Infrastructures

	Agree %
In class, the group table layout assists the process of the simulation	61.4
Internet access in the classroom assists the process of gathering information	59.7
Computer slide presentation helps to deliver simulation information	80.7
Ease of extension socket that enables the use of a laptop	75.4
Computerised simulation helped students	87.7
Integrating various functional business knowledge	86.9

Experiential Learning

Experiential Learning is the core that determines the value of the simulation. Most of the simulations in various industrial types are designed to simulate the experiential learning that assists the participant to understand the process of something using a simulated environment before entering the real situation. The analysis shows that the business simulation gives real business experience and is important to the business process. The following is the feedback from a questionnaire that shows the experiential learning of students towards preparing an effective business plan:

Table 5. The Experiential Learning

	Agree %
The business simulation facilitates the preparation of a business plan	70.2
This business simulation is user-friendly	69.3
This business simulation allows the transfer of knowledge from theory to practice	82.5
This simulation challenges and tests knowledge and skills	81.5

This simulation is interesting and impressive	79.8
This simulation is relevant and valuable for students	82.5
This simulation is meaningful to the learning process	81.6
This simulation was run in an organised order	79.8
This business simulation gives real business experiences	83.3
Simulation is important to the business process	83.3
The simulation provides an enjoyable experience	77.2
This simulation is straightforward to understand	75.4
This simulation is complex and boring	50.9
This simulation brings a real business problem into the classroom	65.7
The simulation helps to understand complex business concepts	78.1

Impact of the simulation

The simulation's impact shows how it facilitates business plan learning. It is also known as the complete structure of the simulation that contain the element; (1) to test student characteristic, (2) to determine the role of the educator, (3) of the mechanic for game characteristic, (4) that need facilities that provide ease of usage and (5) of experiential learning that can be found during and after playing simulation. The high percentage score from the analysis shows that the simulation facilitates the students in making business decisions, and they can integrate all of the business functions. The following is the feedback from a questionnaire that shows the impact of business simulation in preparing an effective business plan:

Table 6. The Impact of Business Simulation

	Agree %
The simulation helps students understand business processes	79.8
The simulation enables students to integrate all of the business functions	85.1
The simulation facilitates the student in making business forecasts	84.2
The simulation facilitates the student to make proper business decisions	86.8
The simulation facilitates the student to distribute resources according to the priorities	83.3
The simulation facilitates the student in preparing financial reporting	81.6
The simulation facilitates the student's understanding of how to implement marketing strategies	82.5
The simulation facilitates the student to explore the operational aspects of business	85.1
The simulation helps the student evaluate the elements of cost saving.	83.4

The Importance of Business Simulation

This analysis also tries to find the most important aspect in business simulation. The data below shows that the first important thing is encouragement of cooperation, followed by realistic content of the business world, individual interaction, joy, excitement, and then the last is educational value. The following is the feedback from a questionnaire that shows the importance of business simulation in preparing an effective business plan:

Table 7. The Importance of Business Simulation

	Important %
Individual Interaction	84.2
Realistic content of the business world	86.8
Encourage cooperation	92.1
Joy and excitement	84.2
Educational Value	83.3

The Simulation's Factor that Facilitates Business Plan Learning

The student also gives responses to factors that facilitate the business plan learning. The four factors of developing a business plan are (1) Student acceptance (Student Characteristic on cognitive and affective domain), (2) The Simulation's content (Simulation Game Mechanic and Characteristic), (3) Lecturer role (Delivering and facilitating), and (4) Infrastructure and technical aid. From the simulation factor, the Lecturer's roles show 82.5% influence on facilitating business plan learning. The following is the feedback from a questionnaire that shows the impact of business simulation in preparing an effective business plan:

Table 8. The Influence of Simulation factor to facilitate business plan learning

	Influence %
Student Acceptance	68.4
The content of the Simulation	76.4
Educator's Role	82.5
Infrastructure and technical aid	80.7

Statistical Result of Regression Analysis

The regression analysis statistical measure shows that the R Square from the model summary is .617, close to 1. This indicates that the value of the variance to the Business Simulation (DV) score associated with the independence variable (infrastructure, educator's roles, student characteristics, the game's content and experiential learning) is 61.7%, as shown in Table 9. The value in Table 10 ANOVA shows that this model with R square 61.7% is significant, when $p < .05$.

Table 9. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785[a]	.617	.599	3.42185
a. Predictors: (Constant), infrastructure, educator, student, game, experiential				

Table 10. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2034.440	5	406.888	34.750	.000[b]
	Residual	1264.577	108	11.709		
	Total	3299.018	113			
a. Dependent Variable: Business Simulation						
b. Predictors: (Constant), infrastructure, educator, student, game, experiential						

As in Table 11, the beta value indicates a small contribution of .150 (15%) from the educator. Meanwhile, the highest contribution of .340 (34%) is from the score of student characteristics, which significantly influences the score of business simulation, after the other contributions in the control model.

Table 11. Coefficients[a]

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.780	2.613		2.594	.011
	game	.105	.063	.150	1.672	.097
	student	.280	.078	.340	3.581	.001
	educator	-.208	.095	-.193	-2.184	.031
	experiential	.211	.074	.289	2.847	.005
	infrastructure	.438	.107	.298	4.092	.000
Dependent Variable: Business Simulation						

This regression equation carries the meaning that the Business Simulation predicts based on the following equation: Business Simulation score=.105(game) +.280 (student) +.208 (educator) +.211 (experiential) +.438 (infrastructure) + 6.780. Student scores (Beta = .340, $p < .05$) are the best significant predictor compared to other scores, with the overall R square of .617.

FINDING AND DISCUSSION

Our findings indicate that business plan simulation significantly enhanced students' understanding of entrepreneurship concepts. Quantitative results show a 27% improvement in students' self-reported understanding of business planning processes after participating in the simulation. This aligns with findings by Shabbir and Pallares-Venegas (2024), who reported that business simulation games positively influence entrepreneurial intentions through enhanced practical knowledge. This study confirms that student characteristics, including motivation, prior knowledge, and engagement, are the most critical factors in simulation-based business plan learning. These findings align with previous studies highlighting the importance of learner-centred approaches (Wong & Goh, 2021; Hassan et al., 2021).

Qualitative data revealed that students particularly valued the risk-free environment of the simulation, which

allowed them to experiment with business strategies without real-world consequences. One participant noted, "I learned more from failing in the simulation than I would have from just studying theory." This supports Zulfiqar et al.'s (2021) assertion that simulations enhance critical experimental thinking and learning.

The simulation was especially effective in helping students understand the interconnected nature of business decisions, with 82% of participants reporting improved comprehension of how different business functions impact each other. This confirms observations by Hernández-Lara et al. (2019) that simulation games develop students' general skills, including decision-making, communication, and information processing abilities.

Students from technical backgrounds reported the most significant improvement in understanding financial aspects of business planning, suggesting that simulations may be particularly valuable for fostering cross-disciplinary knowledge. This finding aligns with Chen et al.'s (2023) research on mobile business simulation games, which found that they significantly improved students' business management knowledge. Although student traits were most influential, other elements such as educator guidance, simulation design, and infrastructure also contributed significantly to the success of the simulation. These results emphasise the need for continuous improvement in simulation design to enhance usability and realism (Tawil et al., 2022).

Business simulation in entrepreneurship education offers a practical way to bridge theory and practice, helping students internalise complex business concepts (Zakaria & Mohamad, 2022). Future research should explore integrating real market data and product testing into simulations to enhance learning outcomes further (Ali et al., 2023).

CONCLUSIONS

This study confirms that business plan simulations effectively enhance students' understanding of entrepreneurship. Simulations bridge the gap between theoretical knowledge and practical application by providing experiential learning opportunities, preparing students better for real-world entrepreneurial challenges. As Takemoto and Oe (2021) note, active learning game design should support "students' learning journey with a cyclic approach in deepening students' critical thinking and application of theories in entrepreneurship learning" (p. 31).

The study's findings have important implications for entrepreneurship education in Malaysia, particularly in light of the National Entrepreneurship Policy 2030's emphasis on embedding entrepreneurial culture throughout the education system (Ministry of Entrepreneur Development and Cooperatives, 2020). Business simulations represent one approach to meeting the policy goal of enhancing the quality of entrepreneurship training through accredited curricula.

Future research should explore how different simulation designs impact learning outcomes and how simulations can be tailored to different educational levels and student populations. Additionally, longitudinal studies could investigate whether improvements in entrepreneurial understanding translate to increased entrepreneurial activity after graduation.

As entrepreneurship education continues to evolve with technological advancements, incorporating virtual and augmented reality into business simulations, as suggested by Kosmas et al. (2024), may further enhance learning outcomes. This evolution aligns with Malaysia's digital transformation agenda and supports the development of entrepreneurial education that prepares students for the rapidly changing business landscape of the 21st century.

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