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Muhammad Fadhly Rizky Octavio
Department of Accounting, Universitas Islam Indonesia, Yogyakarta, Indonesia
fadhlyvio@uii.ac.id

Falikhatuna
Department of Accounting, Universitas Sebelas Maret, Surakarta, Indonesia
falie.feuns17@gmail.com

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New learning method with ERP business simulation game: What can we learn?

Muhammad Fadhly Rizky Octavio[*1], Falikhatun[2]

[1]Department of Accounting, Universitas Islam Indonesia, Yogyakarta, Indonesia
[2]Department of Accounting, Universitas Sebelas Maret, Surakarta, Indonesia

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***Corresponding Author:**
fadhlyvio@uii.ac.id

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Abstract

This Study explores the effectiveness of Enterprise Resource Planning (ERP) business simulation games on user competencies. This Study Uses a qualitative descriptive methodology, and the informants of this research have been winning in national and international business simulation games (both students and alums). Traditional pedagogical approaches need to be revised to explain the rich dynamics arising from business environments. As a result, they also consider incorporating new educational aids into their curriculums, i.e., business simulation games. Participants indicated that interacting with these simulations enhanced their understanding of business topics and resulted in soft skills growth. Current working alumni said they felt more capable of acclimating to the professional world. However, the Study unearthed that comparatively few higher education institutions incorporate business simulation games in their teaching practices. The result shows that with the development of technology, there is a transformation in how business functions; integration of these tools into educational frameworks becomes essential to narrow the knowledge theory gap and knowledge application. These results suggest the importance of universities introducing technology tools, particularly ERP business simulations, into their curricula for Business and Economics courses (single or joint honors) alongside accounting.

Introduction

The rapid advancement of global technology has led to significant changes in internet usage patterns worldwide. According to the Global Stats Shot Report (Figure 1), as of 2022, approximately 63.5% of the global population, totaling 5.07 billion individuals, were active internet users. In Indonesia specifically, the Central Statistics Agency reported a substantial increase in internet adoption, with user numbers rising by 32.34% from 2017 to 2021, reaching 62.1% of the country's population (Badan Pusat Statistik Indonesia, 2021). While the proliferation of internet usage presents both opportunities and challenges for society, it is crucial to harness this technological progress for educational purposes. The ongoing digital transformation has far-reaching implications across various sectors, with education being a primary focus. Contemporary students are being prepared for success in an increasingly digitalized environment (Zhonggen, 2019). Consequently, active engagement with and integration of Information and Communication Technologies (ICT) has become an essential component of modern education systems. This is particularly pertinent in higher education, which serves as the final preparatory stage before students transition into the professional workforce (Beranič & Heričko, 2022).

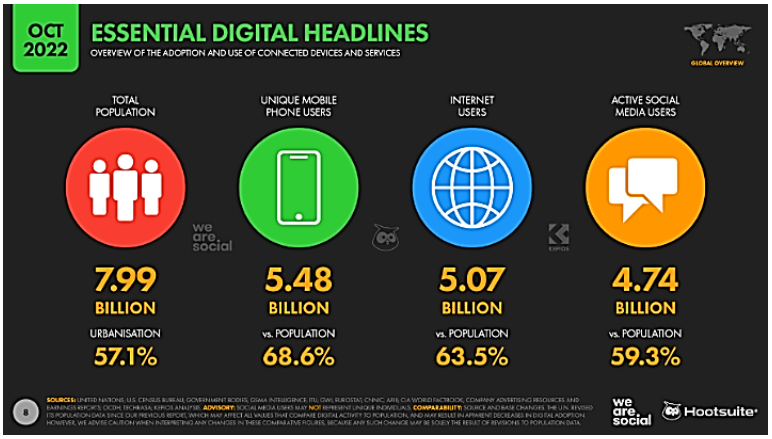

Figure 1. World internet users as of October 2022
(Source: global statistics report October 2022)

In today's era of disruption, the use of Information and Communication Technology (ICT) is an essential requirement in the corporate environment. Today's business environment is very complex, so to stay afloat, organizations have only one option: to implement modern technology, in this case, ERP, into the company. Implementing ERP systems affects many aspects of an organization's functioning. Therefore, integration must be critical to prevent companies from losing their competitive advantage (Costa et al., 2020). The need to educate students in this area increases the importance of educational games. These games, based on game concepts with specific elements of computer games and provide fun yet intelligent cognitive tasks for business education, are placed into a student-centered learning methodology - experiential learning (Peterková et al., 2022). Interactive activities relating to theory and real-world applications generally fall under business simulation games. This approach uses Realistic simulations to improve student engagement and academic outcomes (Huang et al., 2022). Business Simulation Games are a category of Educational Simulations that span enterprise ERP simulations, production process training, and other similar applications that allow students to engage in business concepts (Schmuck, 2021).

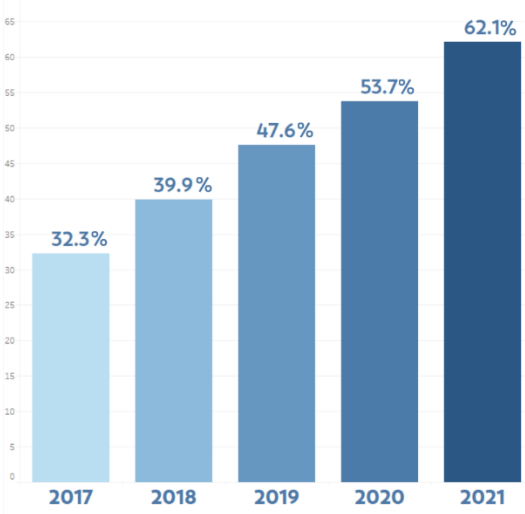

Figure 2. Individuals Who Used the Internet
(Source: Central Statistics Agency)

The program offers ERP business simulation games that feature many scenarios, thus representing real-world businesses. The game can increase students' motivation to make data-driven decisions and play different roles within the company. The utilization of these games is

crucial, given that developing business skills is indispensable in the global business arena (Beranič & Heričko, 2022). This experiential learning adds depth to students' knowledge. The game is widely used in Information Systems to teach the basics of ERP systems and business processes (Dick & Akbulut, 2020). Many companies use system-based simulations to help employees understand how businesses work (Utesch et al., 2016). In an educational context, students are divided into teams that adopt different roles required to face decision-making challenges in diverse functional contexts. One round of the game is usually equivalent to one month of virtual business operations, thus allowing students to see the consequences of their decisions from a long-term perspective (Peterková et al., 2022).

Integrating games into the educational process has many benefits and provides several impacts that can be directly identified through gamification. These include games supporting learning for students (Connolly et al., 2012). Business simulation games (BSGs) are widely accepted as educational tools that help students learn business management knowledge and skills. BSGs facilitate a simulated business environment where students can make decisions and partly learn management. BSG uses computer-guided instruction; this type of teaching allows students to see the outcome if they make business decisions without testing them directly in an actual business environment (Sitzmann, 2011). The widespread adoption of game-based education in higher education curricula is increasingly observed due to the various advantages offered by this method (Vlachopoulos et al., 2017). Novel teaching techniques are newly developed solutions to modern educational problems. As a result, game-based methods are relevant in various fields of economics, business, management, and accounting education (Buil et al., 2019; Calabro et al., 2019). The use of business simulation games in the classroom is expected to influence implementation globally with the recent 2017 AACSB revised guidelines for undergraduate programs focusing on new knowledge areas (Dick et al., 2018):

> *"Evidence-based decision making that integrates current and emerging business statistical techniques, data management, data analysis, and information technology into the curriculum. Student experiences include the integration of real-world business strategies, privacy and security issues, ethical considerations, data management, data analytics, technology-driven changes in the work environment, and the intricacies of decision making."* (AACSB, 2017).

Traditional methods and techniques in business education and skills development have proven inadequate in preparing young students to face dynamic changes and thrive in diverse environments. Consequently, there is a pressing need to shift the teaching approach towards more modern methodologies (Zulfiqar et al., 2019). Business Simulation Games can play a crucial role in enhancing students' professional and decision-making skills, as they require participants to make informed choices based on simulated environments and provided options (Lainema & Nurmi, 2006). Therefore, implementing a more contemporary approach in the educational process, particularly at the higher education level, is essential to ensure its acceptance among students. Previous research on the application of business simulations has yielded mixed results, as evidenced by several studies (Goi, 2019; Hernández-Lara & Serradell-López, 2018; Horng-Jyh, 2016; Joldoshov & Sayakbaeva, 2018; Wang et al., 2020). However, there is a dearth of evidence regarding the impact of these simulations on student achievement (Calabor et al., 2019). Given this research gap, the present study aims to investigate the effectiveness of Business Simulation Games on high-achieving students.

RQ: What are the benefits of learning through Business Simulation Games?

To address the research question, this study gathered insights from two groups: current high-achieving students and accomplished alumni who excelled in Business Simulation Games between 2018 and 2022, both at national and international levels. The inclusion of outstanding current students was complemented by the participation of alumni who demonstrated success during their

academic tenure and are currently employed. These high-performing students were considered valuable informants due to their extensive knowledge acquisition, enabling them to articulate the benefits gained and direct impacts experienced. The incorporation of perspectives from both outstanding students and successful alumni provides added depth and value to this research.

Research Method

This research employs a qualitative methodology, utilizing a descriptive case study approach to summarize and describe the benefits derived from implementing Business Simulation Games in university curricula (Anisah & Falikhatun, 2021; Elman et al., 2016). The study targets university students and alumni who have achieved recognition in business simulation games at both international and national levels, as well as alumni with professional work experience. The list of informants is presented in Table 1. Data collection was conducted through direct observation and interviews. The interview process employed a semi-structured or in-depth format, where initial questions were outlined and subsequently refined based on emerging circumstances during the interview. The researcher adapted and developed questions in response to interviewee feedback (Anisah & Falikhatun, 2021; Broadhurst, 2015; Elman et al., 2016).

Table 1. List of Informants

Informant's Name	Achievement	Status
FA	1st Place in Brand A Business Simulation Game Asia Region 2022 (October)	Student at the Islamic University of Indonesia
FF	1st Place in Brand A Business Simulation Game Asia Region 2022 (October)	Student at the Islamic University of Indonesia
RA	1st Place in Brand A Business Simulation Game Asia Region 2022 (October)	Student at the Islamic University of Indonesia
SN	1st place in the world class Brand B business simulation game 2022 (November)	Student at the Islamic University of Indonesia
SP	1st place in the world class Brand A business simulation game 2022 (July)	Student at the Islamic University of Indonesia
JE	1st Place in National Level Brand B Business Simulation Game 2022 (September)	Student at the Islamic University of Indonesia
DM	1st Place in Brand A Business Simulation Game Asia Region 2022 (October)	Student at the Islamic University of Indonesia
RM	1st place in the world class Brand B business simulation game 2022 (November)	Student at the Islamic University of Indonesia
LR	1st Place in Brand A Business Simulation Game Asia Region 2022 (October)	Student at the Islamic University of Indonesia
IZ	2nd Place in the 2021 World Brand B Business Simulation Game (November)	Alumni of the Islamic University of Indonesia and Currently Working
VM	2nd Place in the 2021 World Brand B Business Simulation Game (November)	Alumni of the Islamic University of Indonesia and Currently Working
AF	1st place in the 2020 world class Brand B business simulation game (November)	Alumni of the Islamic University of Indonesia and Currently Working
MN	1st Place in the 2019 National Brand B Business Simulation Game (December)	Alumni of the Islamic University of Indonesia and Currently Working
AA	1st place in the 2018 Asia Pacific Region International Brand A business simulation game (March)	Alumni of the Islamic University of Indonesia and Currently Working

The data analysis technique employed in this study involved several sequential steps. The process began with a comprehensive collection of all relevant data, followed by data reduction, presentation, and conclusion drawing. These conclusions were then compared with findings from previous studies for comparative analysis (Anisah & Falikhatun, 2021; Dumez, 2015; Elman et al., 2016). To ensure the accuracy and reliability of the collected data, a triangulation approach was applied, utilizing diverse sources of information. These sources included current competition-winning students and alumni who had achieved victory between 2018 and 2022. The data collection phase commenced on October 25, 2022, employing a combination of virtual platforms (such as Zoom) and in-person interactions. This hybrid approach was adopted to accommodate sources outside the researcher's geographical location. To further enhance data validity, this research utilized the triangulation method. Data triangulation is a collection technique that combines a variety of different sources and serves as a method for verifying data from various sources using varied approaches and timeframes (Sugiyono, 2015).

Table 2. List of Questions

No	A List Of Questions	Information
1	How do you benefit from playing business simulation games on your college experience?	For students and alumni
2	Do you feel you have gained certain soft skills through this game, and how have these soft skills benefited you?	For students and alumni
3	Do you feel that the material taught in this game is relevant to the theory studied in college?	For students and alumni
4	What do you think about the experience of playing this business simulation?	For students and alumni
5	How can the learning from this game be implemented in the context of the world of work?	For alumni

Results and Discussion

Benefits of using business simulation games in education.

Education is changing faster than realized, from traditional classroom-based delivery methods to technology-enabled teaching. Modern education methods involve more simulative exercises in various situations that simulate reality. These games are a well-accepted method of providing in-depth subject knowledge through experience - similar to what one can expect when working in a professional environment. Simulation games are instrumental in translating theoretical knowledge into practical classroom scenarios. This creates a conducive learning atmosphere for students to ease the understanding of the theory delivered by the instructor. However, when it comes to business economics education, simulation has become a game changer as this is where students get hands-on experience after learning theory. It can also be a way to reduce future risks regarding the direct application of business economics concepts in practical cases (Moca, 2021). Business simulation games empower students to experiment with economic and business decisions in a safe and controlled educational environment. This allows them to act according to the best interests of their product experiments without worrying about financial repercussions. As a result, students can improve their knowledge and skills in economic and business concepts without taking actual risks.

As a Business Simulation Game, Enterprise Resource Planning (ERP) games simulate the real business world in several different scenarios. The global business community values this position as it allows one to see a broader picture of the business landscape (Beranič & Heričko, 2022). ERP simulation games have proven to be a valuable tool in teaching ERP systems and business processes (Dick & Akbulut, 2020). These simulations are derived from ERP systems used by many companies and aim to improve students' understanding of real-world operational

mechanisms (Utesch et al., 2016). ERP systems provide highly complex processes requiring a high level of student effort to understand interrelated business processes. The design objectives for Business Simulation Games are aimed at providing learning fulfillment and enriching knowledge of business processes and functionality in each ERP area (Cronan et al., 2012; Cronan & Douglas, 2012).

Business simulation games give students a tool to enhance their understanding of how businesses work and operate. One of the main benefits of these games is that they indirectly apply the theory learned by playing them. They also intentionally help us know how things work with an applied focus on ERP - Enterprise Resource Planning. This success is because these business games emphasize business learning through designing and implementing end-to-end processes within the company. Our interviewee, FA, explains this perspective with his statement:

> *"In my opinion, participating in this business simulation game provides valuable reinforcement for the knowledge gained during the lectures, especially on accounting information systems and ERP application systems. Participating in this business simulation game not only facilitated my learning process for the ERP application system course but also allowed me to understand the practical implementation in the real world."* ***(FA)****.*

The arguments from FA were backed by FF and RA, who argued that business simulation games do more than improve scientific knowledge through theoretical understanding. While these games offer a host of indirect benefits, they also act as an arena to hone undergrad students' business acumen. These may be nurturing solid team collaboration, building collegial responsibility and developing an overarching business view (Badibanga & Ohlson, 2021; Bell & Loon, 2015; Martínez-Pérez et al., 2018). A view supported by Kent et al. (2016) argued that the use of online applications directly impacts knowledge acquisition and relationships with other people. For example, both FF and RA stated in the interview that soft skills could be trained with participation in business simulations.

> *""While playing the business simulation game, I gained hands-on experience in communicating effectively with others. Good communication became important in determining success during game play, as each team member had important information that needed to be conveyed to others. Any mistake in communication could potentially cause problems in the context of a business simulation game. In addition, I honed my skills in critical thinking and quick decision-making. Given the many unforeseen circumstances during gameplay, coupled with my role and responsibilities as an analyst, I found myself consistently tasked with making the right decisions. Such decisions range from liaising with the sales manager to collaborating with the production manager, especially on matters relating to products to be marketed and manufactured." (FF)*
>
> *"...Being involved in this business simulation game demands speed, responsiveness and effective communication. In the game, I played the role of Human Resource Development (HRD). The advantages I have gained by playing this business simulation game include developing the capacity to make decisions quickly and wisely, thereby reducing potential losses arising from unexpected events. In addition, I have cultivated the ability to maintain a calm demeanour and focused concentration when faced with unexpected challenges during decision-making." (RA)*

In line with the responses from FA, FF and RA regarding the benefits of the business simulation game, the game has more than one purpose. The other benefits of the game are not limited to the comprehension of academic material but extend to developing critical soft skills. This further emphasizes the advantages and popularity of incorporating business simulation applications into courses. Implementing this will utilize the Technology Acceptance Model (TAM) theory, which states that technology is accepted when its usefulness is helpful to tasks but can face rejection when it is negatively perceived to hinder operations (Buabeng-Andoh, 2018). Based on these views, business simulation games may be integrated for Business Economics and accounting courses. This

is also supported by previous literature, which shows that the use of business simulation in the curriculum is influenced by its positive effects (Lohmann et al., 2019; Pando-Garcia et al., 2016). In addition to the perceived benefits of using the application, the level of ease of using the application also contributes to the intention to use the business simulation game application (Pando-Garcia et al., 2016). If students find it easy to use the app and the interface of the business simulation game attractive, they are likely to use the app more often. This sentiment was further confirmed in the interviews when informants SN and SP reported the same (both agreed):

> *"... hmm, I think this game is quite easy to use, and this ease has contributed to the improvement of my understanding and practical application of the theories discussed in lectures. It is very useful in understanding the company's business processes, from procurement procedures, production processes, to product sales ..." (SN)*
>
> *"... In my opinion, disseminating lecture content through a medium such as this, i.e. a business simulation game, enhances the delivery of knowledge. This approach not only adds an element of enjoyment to the course but also facilitates a smoother and easier-to-understand understanding of the subject matter." ...." (SP)*

The statements from SN and SP further corroborate that business simulation games provide students with an accessible means to comprehend and apply knowledge acquired in class. When this sense of comfort is established, students are more likely to engage positively with the application (Buabeng-Andoh, 2018). This increased engagement, in turn, enhances students' capacity to understand the material presented. Consequently, such games exert a significant influence on students' comprehension and contribute to the creation of an enjoyable learning environment, particularly when the educational system incorporates a business simulation game approach.

Educational material that will be obtained in the ERP-Game business simulation

In today's era of intense competition, companies need sophisticated information systems for day-to-day operations and decision-making, mostly ERP solutions. Enterprise Resource Planning is an integrated, end-to-end system that improves and unifies business performance, helping make enterprise-level decisions. Understanding business processes and effective use of enterprise software systems soon became a highly desirable skill in the trade. Business schools respond to these industry-specific requirements by implementing ERP skills training in their curriculum (Chen et al., 2015). ERP software is almost a standard in professional business school curricula, but it has become difficult to teach about this topic due to its complexity (Zhao et al., 2021). The need to teach advanced ERP or business process courses threatens to surpass the complexity of commonly used tools, and a potential pedagogical solution can be found in business simulation games. So, the simulations offered and the business processes integrated with operations are valuable pieces so far. They need to be immersed in scenarios that link between ERP system modules and can work smoothly at an international level for students (Hwang, 2018). As our interviewees, JE and DM, explained, this proposition will affect students' engagement in the ERP Business Simulation Game:

> *"In the ERP simulation, I was able to ascertain the optimal selling price of a product and measure the effectiveness of our marketing strategy based on the volume of products sold during the simulation. This knowledge translates into real-world applications, where insights gained from business simulations can help with actual operational aspects of the business, such as pricing and execution of marketing efforts." (JE)*
>
> *".... My participation in the simulation game significantly improved my understanding of system operations within the framework of business operations. It covers a wide spectrum, from financial management procedures to the intricacies of production, marketing and sales processes. Each of these domains is highly structured and complicated...." (DM).*

The statements made by JE and DM clearly demonstrate the efficacy of business simulation games as pedagogical tools for comprehending complex business processes. Real-world business operations inherently involve considerable complexity, and many educators may face challenges in providing comprehensive guidance and insights regarding these authentic processes. Through simulations, educators are empowered to more effectively convey an accurate representation of how a company's business processes evolve, thereby allowing students to engage in deeper analyses without the concern of potential financial losses. Figure 3 illustrates the educational content packaged within one of the business simulation games. This visual representation highlights the provision of elaborate features designed to facilitate students' understanding of business, economics, and accounting knowledge delivered in the classroom.

Figure 3. Business simulation game learning materials
(Source: Website M which is one of the providers of business simulation games)

Additional perspectives shared by interviewees RM and LR highlight the comprehensive knowledge encapsulated within the business simulation game, encompassing areas such as management, supply chain, and planning. One of the fundamental lessons derived from the game pertains to supply chain management. This understanding is crucial, as supply chain management plays a pivotal role in enhancing economic value throughout the supply chain, thereby maximizing profits (Assumpção et al., 2022). Consequently, a robust grasp of this concept is essential. The utilization of this business simulation game also streamlines the instructional process, facilitating the application of theoretical concepts. RM and LR corroborated these sentiments, having experienced the impact of the learning process through the lens of supply chain management, as elaborated in their statements below:

> *"... The actions I perform in the Business Simulation Game are transferable to work activities in the real world. The game includes a comprehensive view of supply chain management, which includes everything from overseeing inputs such as resources to the final stage of delivering goods or services to consumers." ..." (RM)*
>
> *"... The gameplay was surprisingly thrilling. In addition to simulating team-based business operations, we were taught the intricacies of production management, sales, employee management, and financial oversight. Basically, the game covers all aspects of company operations, educating us on how to effectively navigate these aspects to prevent bankruptcy." (LR)*

Business simulation games exert a positive influence on education by effectively conveying a practical understanding of classroom concepts in relation to real-world business processes. However, their impact extends beyond enhancing academic proficiency; these games also foster the development of non-academic skills among students. Hernández-Lara and Serradell-López

(2018) found that business simulation games not only facilitate the comprehension of classroom material but also cultivate broader competencies such as information processing, decision-making, teamwork, uncertainty management, and negotiation. These findings align with the results of our study, wherein students demonstrated an improved understanding of subjects including supply chain management, business operations, cost management, and record keeping. Furthermore, students acquired a diverse array of skills, encompassing teamwork, effective communication, swift and accurate decision-making, and leadership. The summarized results are presented in Table 3, as detailed below:

Table 3. Benefits of Business Simulation Games

No	Proficiency in business, Economics and Accounting	Self-development skills
1	Improve understanding of integrated business processes (ERP)	Improve Leadership Skills
2	Improve understanding of sales management through pricing and marketing decisions.	Improve the ability to make decisions quickly.
3	Improve understanding of supply chain management.	Improve teamwork skills.
4	Increase understanding of human resource management.	Improve problem solving skills.
5	Improve understanding of business analysis.	Improve critical thinking skills.
6	Improve understanding of financial management, including determining cost of goods sold and cost savings strategies to drive profits.	Improve interpersonal communication skills.
7		Improve accuracy and precision skills in determining strategy

Benefits of using business simulation games after entering the world of work

The benefits of learning through business simulation games extend beyond the realm of formal education. Graduates continue to experience the profound impact of this learning methodology as they embark on their professional journeys. The educational exposure to business simulation games reflects the practical nature of real-world operations, effectively preparing alumni to navigate the complexities of actual work environments. ERP Business Simulation Games provide students with authentic scenarios that emulate real-world operational contexts. Within this framework, students are tasked with making business decisions based on gathered information, necessitating collaboration across various organizational functions. This immersive experience offers a holistic perspective of the business landscape—a viewpoint highly valued by the global business community (Beranič & Heričko, 2022). This sentiment was corroborated by our interviewee, IZ VM, who stated:

> *"....Through the Business Simulation Game, I gained invaluable insights into the importance of resource management in the professional realm. Examples from real work scenarios highlighted the need for increased resources within a company. This endeavour required a significant financial commitment, given the large sums involved. In addition, it involves the involvement of trainers who are essential for employee training." (IZ)*
>
> *".... Understanding the business concepts presented in the simulation game has given me a practical advantage in my professional journey. This new understanding has simplified my grasp of business processes in my work. In addition, refining my communication skills, fostering teamwork, and honing problem-solving abilities have proven to be extremely beneficial. These skills are crucial in my role as an ERP Consultant, where effective coordination with teams and users is paramount. In addition, my capacity to provide appropriate solutions, backed by careful analysis, has been highly beneficial. highly supported...." (VM)*

According to the accounts provided by informants IZ and VM, the experience garnered through the business simulation game closely mirrors real-life situations. This verisimilitude equips

participants to navigate work scenarios in the professional world with enhanced confidence. AF's statement further corroborates this notion, emphasizing that the benefits extend beyond mere knowledge acquisition to encompass the development of crucial soft skills through business simulation games. These competencies are instrumental in preparing students for the practical demands of the professional sphere. AF and MN also reinforced this sentiment, stating:

> *".... I believe the benefits I gained include understanding the importance of cooperation and hard work. While engaging in the Business Simulation Game, I needed to collaborate in a team and strive to be the best. I have come to realise that this is equally important in the professional world. While classroom teaching has value, the practical experience gained from the Business Simulation Game is equally valuable to me. Through this experience, I have refined my soft skills in team leadership, decision-making, time management, adaptation, problem-solving, and most importantly, communication...." (AF)*
>
> *"...In my opinion, Business Simulation Games, when combined with lectures, are very helpful in applying the knowledge that students gain during lectures. This allows for a direct comparison between theory and practice and hones students' ability to make decisions quickly and accurately. Analytical thinking, as well as both individual and team skills, also improved through this game. In addition, its advantages also extend to the professional world, making it easier to adapt to the work environment due to the knowledge and tools gained from Business Simulation Games..." (MN)*

The impact of business simulation games extends beyond the confines of academic lectures, significantly influencing the transition to the professional sphere. The statements provided by AF and MN clearly demonstrate that the skills acquired through participation in business simulation games have direct applicability in the workplace. As alumni, they have derived tangible benefits from their engagement with the game, enabling them to transfer acquired competencies to their current professional roles. These individuals have found practical application for skills such as problem-solving, time management, and effective performance under pressure. An additional perspective regarding the relevance of business simulation games in the professional realm is offered by AA, who asserts:

> *"..... Business Simulation Games are invaluable for understanding various aspects of business processes, including purchasing, sales, HR, and finance, because they place us in a managerial role. This learning significantly influences decision-making regarding how departments achieve their goals. Key Performance Indicators (KPI) However, in the world of work, the application of this is still very limited, especially if we are not in a position that allows us to make decisions on targets due to factors such as the work environment and lack of incentives. Combining these two elements is a challenge in itself. Business Simulation Game ...." (AA)*

AA's statements offer an alternative perspective on the utility of business simulation games. According to AA, while these games are valuable for learning and application in professional contexts, they are subject to certain limitations. AA posits that although business simulation games encompass a wide array of scenarios, not all of these can be readily replicated in authentic work environments. AA emphasizes that the feasibility of implementing these scenarios in real work settings is contingent upon an individual's managerial level. This viewpoint is further elucidated in Table 4, which delineates the various stages that university graduates typically traverse as they enter the professional sphere. Each stage is characterized by unique tasks and responsibilities, giving rise to discrepancies when compared to business simulation games. The games are designed with a simplified approach to facilitate comprehension of work-related concepts. Consequently, variations emerge when these concepts are applied to the complex realities of the professional world, resulting in disparities between business simulation game applications and practical work scenarios.

Table 4. Management Levels in Organizations

Types of Management	Management Level Qualifications
Top management	Top management requires strong conceptual skills to effectively lead an organization or company comprehensively and form a cohesive work team. This echelon includes the Board of Directors, Executives, President, Directors, Heads of Representatives, and Division Heads (Alam & Rudianto, 2013).
Middle management	Middle management serves as a bridge between top management and front-line management. Middle managers, also known as professional managers, are responsible for supervising and directing the operations of other managers. They may also hold positions as operational staff, such as branch managers, supervisory authority heads, department heads, or division heads (Alam & Rudianto, 2013).
Low Management	Lower-level management requires strong technical skills to effectively supervise and guide operational staff. This management tier interacts directly with operational staff or employees. Illustrative roles include factory supervisors, department managers who directly oversee clerical and administrative staff in large offices, or technical supervisors in the automotive industry (Alam & Rudianto, 2013).

The integration of business simulation games into higher education curricula is experiencing a gradual upward trend. However, the adoption rate remains relatively low. According to the official website of a prominent provider, *****NSIM.com, only 268 universities worldwide have incorporated their simulation application into their academic programs. This statistic underscores the considerable potential for increased implementation of such educational tools in academic institutions globally. It is crucial to recognize that the incorporation of business simulation games can significantly enhance the learning experience when effectively integrated into educational curricula. These applications offer students practical, hands-on experience in a simulated business environment, bridging the gap between theoretical knowledge and real-world application. Despite these potential benefits, several factors impede the widespread adoption of these tools among universities. One of the primary barriers to adoption appears to be the associated financial implications. The implementation of business simulation games at the institutional level often requires a substantial financial commitment, as universities must typically subscribe to these applications on an ongoing basis. This recurring cost can pose a significant challenge, particularly for institutions with limited budgets or those in regions with constrained resources for educational technology investments. Consequently, this financial factor may be a key reason why only a small proportion of universities have incorporated business simulation games into their teaching methodologies.

Conclusion

Teachers must help students understand the nuances of business in today's world. Traditional classroom teaching methods must often be faster to cope with today's fast-paced business landscape. Cutting-edge learning systems are needed to convey classroom knowledge more effectively among students. As a result, simulation games are more popular among educators who hope to help students familiarise themselves with new learning concepts. In this case, a new phenomenon suggests a suitable solution using this game as a context to provide such insights. The essence of the game is to simulate various scenarios that mimic real-world business phenomena and environments. Students will feel more comfortable engaging in such experiments without facing severe real-world implications by facilitating such experiments.

Responses from current students indicate a strong effect of the business simulation game on their learning evolution. This impact manifests in a better understanding of the business-related theories at the game's core. In addition to these tremendous benefits, students improve several

workplace soft skills, including problem-solving, teamwork, communication, time management and critical thinking. This is also echoed by professionals who are already in the workforce. They stated that thanks to business simulation games, they are more adaptable to real-world work scenarios and gain skills in thinking and solving problems logically with the ability to think critically and be an effective communicator that can be easily applied in their careers. Although business simulations have been integrated into several sectors across the university, their use across the university environment still needs to be improved. This hurdle is acceptable as universities must pay to use game development companies' services and make playing possible. However - game-based learning could become an essential part of university courses. If so, this could generate students with realistic work experience.

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