BUSINESS SIMULATIONS AND GENERATIVE ARTIFICIAL INTELLIGENCE: SYNERGY FOR BETTER UNDERSTANDING AND DECISION-MAKING

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ABSTRACT

Business simulations have transformed business education. Generative artificial intelligence (GAI) has taken business decision-making and business education to new levels. Combining business simulations and GAI has led to significant new pedagogical synergies. The number of business factors considered and explored can quickly increase. The purpose of this paper is to explore the ways faculty can coach simulation participants in prompting GAI and discerning how to apply the results to specific decision-making contexts. GAI rapidly equips faculty to embrace each teachable moment with simulation and real-world applications. The paper contains several examples of prompts applied in the context of the Income|Outcome (ASI) business simulation.

INTRODUCTION

Business simulations have long been embraced as a powerful tool in helping participants hone their strategic business decision-making skills (Kurtz, 2003; Schwarz, 2009). Some of the sources of pedagogical power include: experiential learning (Humphreys, Bakir, & Babb, 2022), the opportunity to try new strategies in a low risk environment (Mubaraz & Mezrar, n.d.), the opportunity to practice business management and decision-making in a collaborative team-based environment (Anderson & Lawton, 2009), and business simulations allow participants to develop strategic and operational decision making skills (Levant, Coulmont, & Sandu, 2016).

Generative artificial intelligence (GAI) is a relative newcomer to the world of business-decision making. According to Chat-GPT 3.5, GAI “plays a crucial role in business decision-making by automating tasks, generating insights, and facilitating innovation” in several ways (OpenAI, 2023).

Published studies regarding the impact of the current state of GAI on the world of education are still in their early stages. Much has been exploratory writing. Research has addressed using GAI to promote personalized and interactive learning and formative assessment activities that provide ongoing feedback (Baidoo-Anu, 2023). In a comprehensive study of 207 research papers, Bahroun, Anane, Ahmed and Zacca (2023) report articles have addressed using GAI for assessment, personalized learning support, and intelligent tutoring systems. Little has been written regarding the use GAI as a decision support tool while participating in external business simulations.

This paper explores the pedagogical synergies created when business simulation participants draw on GAI for decisions and tasks. The scope of this paper is limited to considering the ways in which GAI enhances content delivered to participants in a specific business simulation and sets the stage for practicing context-based result discernment.

Combining business simulations and GAI creates pedagogical synergies that take instruction to new levels (Babin, 2023; Taylor et al. 2021). Faculty/facilitators can use live GAI prompts to populate discussions with considerations, strategies, and pros and cons of various business decisions (Moser, 1986; Ferreira, González-González, & Adamatti, 2021; Paschen, Wilson, & Ferreira, 2022). The speed at which content is delivered makes GAI ideal for either synchronous or asynchronous learning environments.

These synergies help student/participants develop skills of innovation and discernment. Discernment plays a crucial role in making business decisions as it involves the ability to distinguish between different options, assess their implications, and make well-informed choices (OpenAI, 2023). OpenAI (2023) continues, “discernment involves the ability to sift through vast amounts of data and information, separating relevant and reliable sources from irrelevant or biased ones. In the business world, this is vital for making decisions based on accurate and credible information.” This definition explains where GAI shines. GAI sorts through the world wide web finding pertinent information. It is then up to the user to decipher the information that is pertinent to their own context and environment. The facilitator/faculty can guide the participants in learning how to ask good questions and how to discern which GAI results apply to which situations. Context is key in discerning which information is usable and which can be applied to the set of decisions at hand.

The simulation to be considered in this paper is Andromeda Simulation International's Income|Outcome. Income|Outcome is a live face-to-face or remote business simulation that replicates making strategic and operational decisions in a competitive team-based environment. Each team manages their own company and competes against other teams in an open market environment. This is the same business simulation used by The Coca-Cola Company, General Electric, Michelin, BASF, Hewlett Packard and other international business organizations to train their management. Further information about the simulation can be found on the world wide web at http://www.income-outcome.com/how-it-works/ (Andromeda Simulations Intl., n.d.). The Income|Outcome gameboard is provided in Figure 1.

FIGURE 1

The Income|Outcome Gameboard (Andromeda Simulations International)

The Income|Outcome Manual begins by explaining the "winner" of the simulation is the team that ends the simulation with the highest retained earnings. From the outset simulation participants can use GAI to find ways real-world companies increase retained earnings. An initial prompt using Chat-GPT provides the following results:

CHAT-GPT 3.5 PROMPT AND RESULTS:

"How do you increase retained earnings?"

Retained earnings represent the accumulated profits of a company that have not been distributed to shareholders as dividends. Increasing retained earnings can be achieved through various financial strategies and operational decisions. Here are some methods to increase retained earnings:

1. **Increase Profits:** The most direct way to boost retained earnings is to increase the company's net income. You can achieve this by improving sales, reducing costs, and enhancing profitability. This may involve strategies like increasing prices, expanding your customer base, or optimizing operations.

2. **Reinvest Profits:** Instead of distributing all profits as dividends, reinvest a portion back into the business for growth. This reinvestment can take the form of capital expenditures, research and development, or expansion into new markets. Reinvesting profits can lead to increased future earnings.

3. **Control Dividend Payouts:** Consider reducing the dividend payout ratio, which is the proportion of profits paid out as dividends. By retaining a larger portion of earnings, you can increase the amount that contributes to retained earnings.

4. **Asset Management:** Efficient management of assets can lead to increased profitability and, subsequently, higher retained earnings. For instance, better inventory management can reduce carrying costs, while effective accounts receivable management can expedite cash flow.

5. **Debt Management:** Managing debt wisely can have a significant impact on retained earnings. Reducing interest expenses and the cost of debt can increase net income, thus raising retained earnings. This may involve refinancing debt at lower rates or retiring high-cost debt.

6. **Tax Planning:** Explore tax-saving strategies that can reduce the company's tax liability. This can free up additional funds that can be retained and reinvested.

7. **Cost Control:** Continuously review and streamline your operating expenses. Reducing unnecessary costs can directly contribute to higher net income and, subsequently, increased retained earnings.

8. **Profit Allocation:** Be strategic in how you allocate profits within the company. Consider directing a portion of profits to a reserve or surplus account, which can later be transferred to retained earnings.

9. **Dividend Policy:** If your company has flexibility in its dividend policy, consider paying dividends in the form of stock rather than cash. This can preserve cash while maintaining shareholder value.

10. **Transparency and Reporting:** Maintain transparent financial reporting and disclosures to build investor and stakeholder confidence. This can positively impact stock performance and market value, indirectly contributing to retained earnings.

Remember that the specific approach to increasing retained earnings will depend on your company's unique circumstances, goals, and industry. Additionally, it's essential to maintain a balance between retaining earnings for reinvestment and rewarding shareholders through dividends to keep them satisfied.

To support these strategies with academic references, you can search for articles on topics like financial management, dividend policy, and profit allocation in academic databases, using the APA citation style when referencing these sources.

It is at this point that simulation participants need to begin applying results to context. Results 1, 4, 5, and 7 apply to Income|Outcome and can be used to guide future decision-making in the simulation. The full set of results provides the simulation facilitator/faculty with an excellent teaching moment. The facilitator can explain how the other options have the potential of being viable retained earnings enhancement strategies. Discernment is key because not all ChatGPT returned options are viable. For example, #10 “Transparency and Reporting” is not a viable method of increasing retained earnings. The necessity for discernment provides faculty with teachable moments during simulation rounds. Student participants are presented with immediately applicable instruction.

STRATEGIC VS OPERATIONAL DECISIONS

GAI supports both strategic and operational decision making. The results of prompts bring factors involved in both types of decisions to the participants’ attention. This paper provides examples of prompts and results at both levels of decision making.

Strategic Decisions

Strategy is the group of decisions that explain how an organization plans to fulfill its mission and vision. Strategic decisions affect the next three to five years of an organization’s life. Income|Outcome explores strategic decision-making by asking participants to consider the pros and cons of five different scenarios. The scenarios can be seen in Table 1.

TABLE 1
Income|Outcome strategic decisions

What happens if you:	Pros	Cons
Maintain existing capacity?		
Expand capacity?		
Submit the minimum number of bids?		
Prepare a bid for every order?		
Target a relationship customer?		

Artificial intelligence can help the participant build a list of the pros and cons for each decision.

Factory Maintaining Existing Capacity

Simulation participants are faced with the decision of either maintain existing production capacity, expanding the capacity of existing production machines or installing additional machines. Each decision has its own ramifications in the context of the simulation. Participants can prompt GAI in weighing reasons for each decision. A sample prompt is given next.

CHAT-GPT 3.5 PROMPT AND RESULTS:

“Pros and cons of a factory maintaining existing capacity”

Maintaining existing capacity in a factory has its own set of pros and cons, depending on the specific circumstances and goals of the business. Here are some of the key advantages and disadvantages:

Pros:

1. **Stability and Reliability:** Maintaining existing capacity provides a stable and reliable production environment. It ensures that the factory can consistently meet demand without unexpected disruptions.

2. **Cost Efficiency:** It can be more cost-effective to maintain existing capacity rather than invest in expanding or upgrading facilities. This is especially true if the factory is already equipped with efficient machinery.

3. **Faster ROI:** The return on investment (ROI) is typically faster when you continue using the equipment and infrastructure you already have, as opposed to making large capital investments in new machinery or facilities.

4. **Preservation of Skills:** Maintaining existing capacity can help preserve the skills and expertise of the workforce. Employees are already familiar with the equipment and processes, reducing the need for retraining.

5. **Environmental Impact:** In some cases, upgrading or expanding a factory may have a greater environmental impact due to construction, transportation, and the disposal of old equipment. Maintaining existing capacity can be more environmentally friendly.

Cons:

1. **Technological Obsolescence:** Older machinery and technology may become obsolete or less efficient over time, leading to higher operating costs and decreased competitiveness.

2. **Limited Capacity:** Existing capacity may not be sufficient to meet growing market demand. This can result in missed opportunities and potentially losing market share to competitors.

3. **Quality and Productivity Issues:** Older equipment may not produce products of the same quality as newer machinery. It may also be less productive and require more maintenance, leading to downtime.

4. **Increased Maintenance Costs:** As equipment ages, maintenance costs tend to increase. The factory may need to spend more on repairs and maintenance to keep the machinery running efficiently.

5. **Energy Inefficiency:** Older equipment is often less energy-efficient, leading to higher utility bills and a larger carbon footprint. This can be a concern in today's environmentally conscious business environment.

6. **Competitive Disadvantage:** Businesses that fail to upgrade their facilities may fall behind competitors who invest in modernization. This can result in a loss of market share and reduced profitability.

7. **Limited Innovation:** Sticking to existing capacity may discourage innovation in production methods, product design, and efficiency improvements that could drive growth and competitiveness.

The decision to maintain existing capacity in a factory should be based on a thorough analysis of the specific circumstances, market conditions, and long-term goals of the business. In many cases, a balanced approach that involves incremental improvements and targeted upgrades to existing capacity may be a viable strategy to address some of the cons while preserving the pros of maintaining stability and cost efficiency.

Utilizing that same prompt but limiting results to those that have APA references limits the results. See the following revision of the previous prompt

REVISED CHAT-GPT 3.5 PROMPT AND RESULTS:

"Pros and cons of a factory maintaining existing capacity with APA peer reviewed references"

Maintaining existing factory capacity can have various advantages and disadvantages for a business. Here are some of the pros and cons, supported by APA-style peer-reviewed references:

Pros of Maintaining Existing Factory Capacity:

1. **Cost-Efficiency:**
   - Maintaining existing capacity can be cost-effective as it avoids the significant upfront costs and risks associated with building new facilities (Gatignon & Xuereb, 1997).
   Reference:
   - Gatignon, H., & Xuereb, J. M. (1997). Strategic orientation of the firm and new product performance. Journal of Marketing Research, 34(1), 77-90.

2. **Quick Response to Market Changes:**
   - Existing capacity allows for a more rapid response to changes in market demand, as production can be adjusted relatively quickly (Kannan & Tan, 2019).
   Reference:
   - Kannan, V. R., & Tan, K. C. (2019). Sustainable operations: Their impact on the triple bottom line. International Journal of Production Economics, 115(1), 107-127.

3. **Operational Experience and Efficiency:**
   - Established factories often have experienced staff and well-optimized processes, which can lead to higher operational efficiency and quality control (Flynn, 1990).
   Reference:
   - Flynn, B. B. (1990). Empirical research methods in operations management. Journal of Operations Management, 9(2), 250-284.

Cons of Maintaining Existing Factory Capacity:

1. **Obsolete Technology and Equipment:**
   - Existing factories may have outdated technology and equipment, which can hinder competitiveness and productivity (Vanhaverbeke, Duysters, & Noorderhaven, 2002).
   Reference:
   - Vanhaverbeke, W., Duysters, G., & Noorderhaven, N. (2002). External technology sourcing through alliances or acquisitions: An analysis of the application-specific integrated circuits industry. Organization Science, 13(6), 714-733.

2. **Limited Scalability:**
   - Maintaining existing capacity can limit the ability to scale up production quickly in response to increased demand, potentially leading to missed opportunities (Kannan & Tan, 2019).
   Reference:
   - Kannan, V. R., & Tan, K. C. (2019). Sustainable operations: Their impact on the triple bottom line. International Journal of Production Economics, 115(1), 107-127.

3. **Environmental and Regulatory Concerns:**
   - Older factories may not meet modern environmental and regulatory standards, leading to potential compliance issues, fines, and reputational damage (Jabbour et al., 2013).
   Reference:
   - Jabbour, C. J. C., Teixeira, A. A., Jabbour, A. B. L. D. S., Latan, H., & de Oliveira, J. H. C. (2013). Environmental management in Brazil: Is it a consequence of the country's development stage? Environmental Quality Management, 23(2), 39-57.

In summary, maintaining existing factory capacity can be cost-effective and provide quick responses to market changes, but it may also entail challenges related to obsolete technology, limited scalability, and environmental and regulatory concerns. The decision to maintain or expand capacity should be made considering the specific context and objectives of the business.

.As can be observed, the number of pros and cons is limited when pros and cons are limited by the requirement returned items come from peer reviewed sources. It should be noted additional iterations of the same prompts sometimes return either a different number of pros and cons or different pros and cons. The citations must also be verified before they are utilized. It appears that discernment on the part of the user is paramount. In addition, it is imperative the participant understands the decision-making context to understand the value of the results returned by Chat-GPT 3.5. Not all results benefit decision making in the context of the simulation equally. Nevertheless, simulation facilitators/faculty can use the simulation platform to segue into discussions regarding more comprehensive strategic decisions. The simulation provides the context while GAI provides extended content.

Operational Decisions

Operational decisions cover the daily operations of an organization. In the Income|Outcome simulation the following are some of the tasks done each simulation month:

- Update Receivables
- Update Liabilities
- Buy Inventory for Cash or Credit
- Take Depreciation and Pay Expenses/Labor
- Consider Supply and Demand in the Simulation Environment
- Pay Advertising
- Participate in the Market

Management of Accounts Receivable and Accounts Payable

Management of accounts receivable and accounts payable directly affects cash flow in the simulation. Management of accounts receivable and accounts payable is simulated in Income|Outcome through monthly update checklists and decisions at the simulation market. GAI provides participants with factors and guidance on how each process can be accomplished in the real world. Management of accounts receivable is considered here. The following prompt helps participants explore ways to manage accounts receivable.

CHAT-GPT 3.5 PROMPT AND RESULTS:

"How can a company manage accounts receivable include APA peer reviewed references"

Managing accounts receivable is critical for a company's financial health. Below, I provide a general overview of how a company can manage accounts receivable, along with guidance on how to find APA peer-reviewed references to support these strategies:

1. **Credit Policy and Evaluation:**
   - **Technique:** Develop a clear credit policy and evaluate customer creditworthiness.
   - **Reference:** You can cite sources like Mian, S. L., & Smith, C. W. (1992) for insights into credit policy and evaluation.

2. **Invoice Management:**
   - **Technique:** Issue invoices promptly and accurately.
   - **Reference:** Explore articles by Baker, K. R., & Nofsinger, J. R. (2002) on best practices in invoice management.

3. **Collection Procedures:**
   - **Technique:** Establish a systematic collection process.
   - **Reference:** Reference Smith, J. R. (2017) for collection procedure strategies.

4. **Cash Flow Forecasting:**
   - **Technique:** Create cash flow forecasts.
   - **Reference:** Look for literature on cash flow forecasting, e.g., Weston, J. F., et al. (2019).

5. **Early Payment Incentives:**
   - **Technique:** Offer discounts for early payment.
   - **Reference:** Refer to Johnson, M. (2016) on the impact of early payment incentives.

6. **Factoring and Financing:**
   - **Technique:** Explore accounts receivable financing options.
   - **Reference:** Consider referencing Harris, R., & Martinez, J. (2015) for research on factoring.

7. **Customer Relationship Management (CRM):**
   - **Technique:** Utilize a CRM system.
   - **Reference:** Find articles on CRM from authors like Kim, S., & Kim, Y. (2017).

8. **Automated Receivables Management Software:**
   - **Technique:** Implement receivables management software.
   - **Reference:** Consider sourcing articles by Hain, D., & Poulis, K. (2020) on automation.

9. **Dispute Resolution Process:**
   - **Technique:** Establish a clear dispute resolution process.
   - **Reference:** Research articles on dispute resolution in accounting, e.g., Smith, A. L. (2018).

Once again considering context, results 4, 6, and 7 apply specifically to the Income|Outcome environment. Faculty can use this foundation to explore real-world considerations. Participants now have a base upon which to build understanding.

Earning Sales by Winning Bids at the Market

Strong financial performance requires consistent generation of sales. Each round in the simulation has an open market. Participants in the Income|Outcome simulation earn sales during each round by winning bids at the market. Each team competes for orders and the team with the lowest bid price on each order wins that order. A list of sample orders is presented in Table 2.

TABLE 2
Sample Monthly Market Orders

Order	Quantity of units in order	Credit terms	Your total bid
#203	4 units	Cash	
#204	3 units	n/30 Days	
#205	3 units	n/90 Days	

The market process provides participants with another opportunity to draw on the power of GAI. The following is a sample decision that a team will make before approaching the market competition table.

CHAT-GPT 3.5 PROMPT AND RESULTS:
"Deciding between selling with shorter terms and lower prices and longer terms with higher prices"

The decision between selling with shorter terms and lower prices versus longer terms with higher prices is a strategic choice that can have significant implications for your business. Here are some factors to consider when making this decision:

1. Cash Flow:
- Selling with shorter terms and lower prices can provide quicker cash inflows, which can be critical for covering operating expenses and investments.
- Longer terms with higher prices might improve cash flow in the short term but may also tie up capital in accounts receivable, affecting liquidity.

2. Customer Base:
- Consider your target market and their preferences. Some customers may value lower prices, while others may be willing to pay more for flexibility in payment terms.
- Evaluate the demand elasticity of your products or services. If demand is price-sensitive, shorter terms with lower prices may be more attractive.

3. Competitive Positioning:
- Analyze your competitors' strategies. If they are offering longer terms with higher prices, providing a lower-price option could set you apart in the market.
- Conversely, if your competitors are already offering lower prices and shorter terms, you may differentiate by providing longer terms with higher prices and additional value.

4. Risk Management:
- Longer terms may increase the risk of non-payment or delayed payment, especially if your customers face financial difficulties.
- Assess your risk tolerance and consider implementing credit policies and risk mitigation strategies accordingly.

5. Profit Margins:
- Longer terms with higher prices can potentially result in higher profit margins, while shorter terms may yield lower margins but quicker turnover.
- Analyze your cost structure to determine the impact on profitability for each approach.

6. Customer Relationships:
- Consider the impact on customer relationships. Longer terms and higher prices can be perceived as providing more value and trust.
- Shorter terms and lower prices might lead to faster sales, but they may not build the same level of loyalty.

7. Marketing and Branding:
- Your pricing and terms strategy should align with your brand and marketing efforts. Ensure consistency with your brand image and messaging.

Ultimately, the decision should be based on a comprehensive analysis of your company's financial situation, market dynamics, and customer preferences. You can also consider a mix of both strategies, offering different pricing and terms options to cater to a broader customer base.

To support your decision with academic references, you can search for articles in academic databases (e.g., Google Scholar) related to pricing strategy, cash flow management, and customer preferences. These articles will provide you with valuable insights and references that can help you make an informed choice. When citing these references, follow the APA citation style.

Based on how the simulation is managed, all of these recommendations apply to both Income|Outcome and the real-world.

RATIO ANALYSIS

One of the strengths of the many business simulations is the requirement that participants prepare and review financial ratios. At the conclusion of each simulation month Income|Outcome participants complete financial statements and then prepare the "triangle of forces": asset turnover, return on sales, and return on assets. These ratios are then compared against other teams in the simulation environment to gauge performance. Once again GAI can assist participants in exploring factors that affect ratios.

Improving a Company's Asset Turnover

As an example, participants can query how they can improve their company's asset turnover. The following prompt helps participants understand the methods by which real world companies can enhance their asset turnover.

CHAT-GPT 3.5 PROMPT AND RESULTS:

"How do you increase asset turnover?"

Increasing asset turnover is a key financial metric that measures a company's efficiency in generating sales revenue from its assets. A higher asset turnover ratio indicates that a company is utilizing its assets more efficiently. Here are several strategies to increase asset turnover:

1. **Improve Sales and Revenue:**
   - Increasing sales revenue directly impacts asset turnover. Focus on expanding your customer base, launching new products, or entering new markets to drive sales growth.

2. **Inventory Management:**
   - Reduce excess inventory by optimizing your supply chain, implementing just-in-time inventory management, and closely monitoring inventory turnover rates. This will reduce tied-up capital and increase asset turnover.

3. **Accounts Receivable Management:**
   - Speed up cash collections by implementing efficient accounts receivable procedures, offering discounts for early payments, and carefully reviewing credit terms. This reduces the average collection period and boosts asset turnover.

4. **Asset Efficiency:**
   - Dispose of or sell underperforming or obsolete assets. This includes selling idle machinery, equipment, or real estate that is not contributing to your core operations.

5. **Fixed Asset Utilization:**
   - Maximize the use of fixed assets such as machinery and equipment. This can be achieved by operating these assets closer to their capacity or renting them out when not in use.

6. **Improve Working Capital Management:**
   - Efficiently manage working capital by optimizing the balance between current assets and current liabilities. This can free up cash and increase asset turnover.

7. **Rationalize Product Offerings:**
   - Evaluate your product or service portfolio and consider discontinuing or divesting underperforming or low-margin offerings to focus on higher-performing ones.

8. **Lean Operations:**
   - Implement lean principles to eliminate waste in your production and operational processes. This can reduce the need for excess assets and improve asset turnover.

9. **Outsourcing:**
   - Consider outsourcing non-core activities to reduce the need for assets. This can be particularly relevant in industries with high capital requirements.

10. **Asset Leverage:**
    - Utilize asset leverage strategies, such as leasing or renting, to reduce the capital tied up in assets. This can free up resources for other investments.

11. **Increase Asset Utilization Rate:**
    - If you operate in a cyclical industry, consider extending the utilization of assets during off-peak periods or diversify to keep assets productive year-round.

12. **Maintenance and Repairs:**
    - Regularly maintain and repair assets to keep them in good working condition. This can extend their useful life and improve their contribution to revenue.

13. **Streamline Processes:**
    - Continuously assess and streamline business processes to eliminate bottlenecks or inefficiencies that may hinder asset utilization.

To support these strategies with academic references, you can search for articles on topics related to asset turnover, efficiency, and financial management in academic databases using the APA citation style when referencing these sources. Remember that the effectiveness of these strategies may vary depending on your industry, business model, and market conditions, so it's important to tailor your approach to your specific situation.

CONCLUSION

GAI is going to bring a paradigm shift to the world of business education. Business simulations have done much to provide faculty with environments in which students can apply and practice classroom concepts and skill sets. GAI now brings the world of business knowledge into the simulation environment. Faculty can demonstrate how to build prompts to retrieve powerful results. Faculty can then instruct students in how to discern which AI results to the context at hand. The coming paradigm shift will result in students being better equipped with the knowledge and discernment skills necessary for them to become next generation business leaders.

REFERENCES

Anderson, P. H., & Lawton, L. (2009). Business simulations and cognitive learning: Developments, desires, and future directions. *Simulation & Gaming, 40*(2), 193-216.

Andromeda Simulations Intl. (n.d.). *How it works.* Income Outcome Business Simulations: Andromeda Simulations International. www.income-outcome.com/how-it-works/

Babin, R. (2023). How can ai be used to enhance case simulations? In EDULEARN23 Proceedings (pp. 699-706). IATED.

Baidoo-Anu, D. & Ansah, L. O. (2023). Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. *Journal of AI*, 7(1), 52-62.

Bahroun, Z.; Anane, C.; Ahmed, V.; Zacca, A. (2023). Transforming education: A comprehensive review of generative artificial intelligence in educational settings through bibliometric and content analysis. *Sustainability,* 15, 12983. https://doi.org/10.3390/ su151712983

Ferreira, C. P., González-González, C. S., & Adamatti, D. F. (2021). Business simulation games analysis supported by human-computer interfaces: A systematic review. *Sensors*, 21(14), 4810.

Humpherys, S. L., Bakir, N., & Babb, J. (2022). Experiential learning to foster tacit knowledge through a role play, business simulation. *Journal of Education for*

Business, 97(2), 119-125.

Levant, Y., Coulmont, M., & Sandu, R. (2016). Business simulation as an active learning activity for developing soft skills. Accounting Education, 25(4), 368-395.

Kurtz, J. (2003). Business wargaming: Simulations guide crucial strategy decisions. *Strategy & Leadership*, *31*(6), 12-21.

OpenAI. (2023). ChatGPT (September 25 version) [Large language model]. https://chat.openai.com/chat

Moser, J. G. (1986). Integration of artificial intelligence and simulation in a comprehensive decision-support system. *Simulation, 47*(6), 223-229.

Mubaraz, S., & Mezrar, B. (n.d.). Case of Business Simulations. *Sisällys/content*, 28.

Paschen, J., Wilson, M., & Ferreira, J. J. (2020). Collaborative intelligence: How human and artificial intelligence create value along the B2B sales funnel. *Business Horizons, 63*(3), 403-414.

Schwarz, J. O. (2009). Business wargaming: Developing foresight within strategic simulation. *Technology Analysis & Strategic Management. 21*(3), 291-305.

Taylor, S. J., Son, Y. J., Branke, J., Rose, O., & Sanchez, S. M. (2021, December). Using simulation and artificial intelligence to innovate: are we getting even smarter? In 2021 Winter Simulation Conference (WSC) (pp. 1-9). IEEE