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Management Education in Transformation: How Generative AI Can Create Engaging Synthetic Case Studies

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Abstract

Management education is undergoing significant change, driven by technological advancements and evolving pedagogical demands. In this regard, this article addresses the potential of Generative Artificial Intelligence, specifically ChatGPT, as a tool for creating synthetic case studies tailored to management education. By employing different prompt-generating techniques, this study highlights ChatGPT's capabilities to create contextually relevant and pedagogically sound case studies that reflect the complexities of the contemporary business world. The research question is: How can generative artificial intelligence help to create new synthetic case studies for management education? Accordingly, this research contributes to academia by presenting the effectiveness of AI-generated content in enhancing the learning experience through synthetic case studies. It also contributes to practice by showing how time constraints, normal to the classroom environment, might be addressed through such AI-produced shorter cases. Finally, there is also a contribution to public policymaking, as the results found here may serve as the basis for structuring national curricula that take advantage of tools such as ChatGPT to foster a more dynamic, immersive, and enriching educational journey.

Keywords: Synthetic case studies. ChatGPT. Management Education. AI-generated content.

1 Introduction

Teaching has become increasingly laborious for different reasons such as the necessity of faculty to do more managerial work within the institution, lower salaries, more demanding students as well as new pressures both from markets and regulatory bodies (Nguwi, 2023). In this sense, planning, a key activity for quality teaching, has also become essential for a lecturer to be more effective to their students by providing them with the hard and soft skills needed to perform successfully (Rahman & Watanobe, 2023).

Accordingly, the use of digital tools like quizzes, virtual reality, and online games has grown into popularity among faculty and students. These tools have already been systematically tested and their effectiveness has also been confirmed by prior research, which leads us to seek other useful instruments to improve the quality of lectures and enhance students' learning as well as to look for ways to make faculty more efficient and effective (Singh et al., 2022). In other words, the aim is to make teachers employ their time in a way that does not exhaust them but also does not compromise learners' outcomes.

In this regard, Artificial Intelligence (AI) and Generative Artificial Intelligence (GenAI) have much potential to be a fundamental tool to fulfill the issues above. It is so because it can reduce teachers' "manual labor" by making it possible to compile and write information more rapidly, it also enables faculty to search for plagiarism faster, expand

networks, proofread articles, and optimize research time through a variety of search engines (Dwivedi et al., 2023). Moreover, it allows us to create new material like case studies to be used in the classroom and boost students' learning results.

To take advantage of the most recent advancements in GenAI and apply them to the classroom environment, we developed this research on how to create synthetic case studies using ChatGPT (Rahman & Watanobe, 2023; Grassini, 2023). This GenAI tool has grown in popularity and has become an Internet sensation quickly, being tested to perform the most diverse set of tasks and showing itself capable of delivering impressive results (Ratten & Jones, 2023).

We opted for the creation of synthetic case studies because lectures have become shorter over time as well as students' attention span, thus, shorter cases can potentialize learners' progress within the contemporary constraints such as less attention from students and less time to lecture them on specific topics. In other words, this paper aims to show how ChatGPT can be used to create these synthetic cases, the prompts that can be utilized to do so, and the outcomes generated.

ChatGPT's goal is to increasingly reproduce human interaction models. Besides interacting with people and bringing answers to questions, the system is capable of creating music, scripts, articles, and even poems. The new chat has been trained with reinforcement learning with human feedback, which means that ChatGPT can answer follow-up questions, admit its mistakes, and reject inappropriate requests (Wandelt et al., 2023).

Considering the aspects above, this paper provides a four-fold contribution. First, it contributes to academia by expanding the literature on how case studies, specially shorter ones, can be created and structured by the use of GenAI. Second, it contributes to practice by presenting the cases themselves, the prompts that generated them, and how these cases were used in the classroom. Third, it can contribute to public-policy makers by demonstrating how GenAI can be used as a tool to make teaching and learning more efficient, which can be given scale by related public policies. At last, it contributes to policy making since it outlines paths to more efficient planning, which has much potential to make educators able to implement national standards more quickly as these A features might potentially empower teachers' work.

For structural purposes, this article is divided as follows. After this introduction, readers can see the theoretical backgrounds that discuss case studies in management and the use of GenAI; methods that discuss the rationale used to create case studies; results that show prompts and outputs; discussion, and conclusion.

2 Theoretical Backgrounds

2.1 Case studies in Management Education

In the field of Management Education, different pedagogical methods have been used to provide quality education to students. Among these methodologies, the use of

case-based teaching has been regarded as one of the most valued, not only for its ability to teach theories and concepts, but also for allowing students to actively engage in simulations of real or hypothetical business situations (Herreid, 2007).

Looking into the concept, case-based teaching involves detailed accounts capturing the essence of challenges, problems, or dilemmas faced by organizations. These cases, whether based on real or fictional situations, are designed to promote student analysis, discussion, and decision-making in a controlled environment, emulating the complexity and ambiguity of the business world (Ellet, 2007). In other words, the cases serve as a vehicle to move students from theory to practice and permit them to make decisions without feeling the consequences of mistakes or failures in the real world.

Nonetheless, case methodology is not a modern concept. It has its roots in the early 20th century, when Harvard Business School, searching for alternatives to traditional pedagogical approaches, decided to incorporate real business case studies into its curriculum. This groundbreaking move was motivated by the desire to prepare students for real-world challenges and to give them the opportunity to analyze, discuss, and solve complex problems in an academic setting (Garvin, 2003). Since then, the methodology has been adapted, refined, and adopted by institutions around the world and has gained a permanent role in Management education.

The literature on the issue highlights several benefits associated with the use of cases in the classroom. First, it develops critical thinking by analyzing cases, since students are encouraged to ask questions, evaluate information from different perspectives, and propose innovative solutions to business problems, thereby sharpening their critical and analytical thinking (Barnes et al., 1994). Second, it prepares students for professional realities: cases reflect the details and complexities of the business world and equip students to face challenging situations with confidence and competence when they enter the job market (Mauffette-Leenders et al., 2001).

Third, it fosters active learning: instead of being mere spectators, students become active participants, exploring situations, analyzing data, discussing points of view, and coming to conclusions. This transforms the classroom into a dynamic and interactive environment in which learning is experiential (Bonwell & Eison, 1991). Fourth, it promotes collaboration and group discussion: the collaborative format of the case study method strengthens interpersonal skills such as communication, negotiation, and teamwork, critical for effective leadership and management (Hansen, 2011).

Despite its contributions, the case-based teaching method is not perfect. Some scholars argue that while cases provide rich contextualization, in some cases they do not fully capture the diversity and volatility of the current business world. There are also concerns that over-reliance on this method may discourage students from learning about other equally valuable pedagogical approaches (Mintzberg & Gosling, 2002). Therefore, to maximize pedagogical potential, it is critical that educators combine cases with other teaching methods.

2.2 The Use of Generative Artificial Intelligences in Management Education

In the digital age, Artificial Intelligence (AI) has proven to be a disruptive influence in many areas. Education, especially in business subjects, is facing an unprecedented opportunity for change. Generative AIs (GenAI) using models such as ChatGPT can provide revolutionary tools and methodologies that surpass traditional pedagogical approaches (Goodfellow et al., 2014).

Within the broad spectrum of AI models, GenAIs stand out for their unique ability to generate, adapt, and modify data. Using advanced neural networks and sophisticated algorithms, these models can generate data resembling the original inputs but with unique characteristics. This makes them highly relevant to educational environments seeking authenticity and relevance. This generative property can catalyze the creation of educational content, realistic simulations, and sophisticated scenarios reflecting the complexity of the contemporary business world (Chen et al., 2020).

Moreover, since Management is a discipline combining theory and practice, it provides fertile ground for the use of generative AI. First, it generates more dynamic case studies as AI enables not only the creation of new studies but also the adaptation of existing cases by incorporating new elements or challenges, thus mirroring the changes present in the current business environment. Thus, it ends up offering a learning experience that mimics the fluid and volatile nature of global markets (Bostrom & Yudkowsky, 2014).

Second, it provides more customizable business simulations as these are not purely static ones, but rather constantly evolving virtual environments. Such simulations can respond as well as adapt to students' strategies and provide insight and feedback, improving decision-making and strategic skills (Zhang et al., 2019). Third, they bring forward more personalized educational assistance since they can be based on deeper analyses of students' behavior, progress, and feedback. Accordingly, the AI can recommend, adapt, or even create specific educational materials, ensuring a truly individualized teaching approach (Woolf, 2010).

Moreover, the introduction of GenAI in management education is not just theoretical; its impact is already being felt. First, it allows further scaling and deeper personalization since these models offer an idiosyncratic combination of mass service and customization. In other words, it can serve thousands of students simultaneously while providing a near-tailored learning experience for each individual (Kulik, 2003).

Furthermore, it provides a more personalized kind of feedback as instead of the traditional teaching and assessment cycle, GenAI enables a continuous approach in which students receive near-instant feedback, promoting faster correction and better understanding (VanLehn, 2011). Third, it enables the more agile incorporation of emerging trends since with its continuous learning capability, GenAI can quickly absorb and incorporate new trends, data, or developments, making sure curricula and educational materials are updated more frequently (Kapoor et al., 2018).

Nevertheless, the benefits of GenAI may have the following setbacks. First, there are ethical issues such as the collection of student data, especially on a large scale, which raises dilemmas. The problems that fall into how this data is stored, who has access to it,

and how it is used to shape or impact student behavior are critical questions to be considered (Dignum, 2018).

In addition, the utilization of GenAI can have a positive and negative impact on educational outcomes. If students become too dependent on these tools, it can lead to a decrease in their ability to think critically and develop independent analytical skills (Selwyn, 2019). Third, some institutions may not be able to take full advantage of the benefits of GenAI due to financial or technical limitations, which could lead to an increase in educational inequality between the more privileged and less privileged educational institutions (Crawford & Calo, 2016).

3 Method

In this article, we adopted a methodological approach focused on exploring the potential of GenAI, specifically ChatGPT, in creating a synthetic case study for management education. Our aim was to demonstrate how GenAI can be used to develop rich and complex educational materials, tailored to the dynamic needs of business administration teaching.

The methodology is structured in distinct stages, starting with the identification of the essential elements that make up an effective case study. We then analyzed advanced prompt engineering techniques to optimize the quality and relevance of the cases generated by GenAI. We also set clear objectives for the cases, ensuring alignment with the competencies and skills required in the field of management.

The design of the synthetic case study is outlined, incorporating the topics and characteristics identified as crucial for effective learning. We selected and configured the GenAI tool, in this case, ChatGPT, given its widespread adoption and capabilities demonstrated in academic studies. The interaction with GenAI for the generation of the case study is detailed, followed by a thorough review and necessary adjustments to ensure pedagogical suitability and content accuracy.

3.1 Identification of the main topics in a Case Study

To create effective synthetic case studies with the help of GenAI, it is important to identify the fundamental elements that comprise a traditional case study. These elements ensure that the case is relevant, educational, and stimulating for management students. In this article, we utilized a general structure of a case study, which involved several key components (Andersen & Schiano, 2014; McFarlane, 2015; You, 2022; Farashahi & Tajeddin, 2018; Rosier, 2022), as detailed in Table 1.

Table 1 - Structure of a Case Study

Part of the Case Study	Topic	Topic description
The case	Organizational Context and Introduction	The case study should begin by setting the scene, introducing the organization, its history, industry, and any other relevant information that gives students a clear understanding of the business environment and the challenges faced.
	Character Description and Roles	Key characters, such as business leaders, employees, customers, and other stakeholders, should be introduced with descriptions that help illustrate their personalities, motivations, and the roles they play in the case scenario.
	Management Problem or Dilemma	Management dilemma or problem that needs to be solved. This problem should be presented in a clear and challenging manner, encouraging students to apply their analytical and creative skills.
	Additional Data and Information	Relevant data, such as financial information, market data, or company performance statistics, which students can use to analyze the problem and formulate solutions.
	Discussion Questions	Although cases do not have "answers" in the traditional sense, it is useful to include guiding questions that help direct student discussion and exploration of the case.
Teaching notes	Learning Objectives	Description of the specific educational objectives of the case. Skills and competencies that the case aims to develop in students (for example, critical thinking, strategic analysis, leadership skills etc.).
	Case Summary	A brief summary of the case study, highlighting the key points and main themes.
	Analysis of the Central Problem	Detailed discussion of the problem or dilemma presented in the case (perspectives and challenges associated with the problem).
	Discussion Questions and Suggested Answers	Detailed questions that the professor can raise in the classroom, along with answers or suggested directions for each question. Guidelines to encourage in-depth discussion.
	Teaching Strategies and Tips	Suggestions for teaching methods and techniques to engage students with the case. Tips for managing class time and ensuring that all important aspects of the case are covered.
	Supplementary Resources	References to additional materials, such as articles, books, reports, or videos, that can complement the understanding of the case.
	Evaluation and Reflection	Suggestions for assessing students' understanding and participation. Guidelines for reflections and feedback after the case discussion.

It is worth noting that when using GenAI to generate synthetic case studies, each of these elements can be configured and adjusted to create varied and stimulating scenarios, promoting a rich and dynamic learning environment for management students.

3.2 Identification of prompt engineering techniques in academic literature

For the purpose of this study, it was also important to employ effective Prompt Engineering techniques. These techniques are designed to enhance the accuracy,

relevance, and creativity of the responses generated by AI (Reynolds & McDonell, 2021). In the academic literature, several techniques have been explored and developed. Here, we highlight the main approaches in Table 2.

Table 2 - Prompt Engineering techniques

Technique	Description
Zero-shot	Refers to the ability of an AI model to understand and execute a task without having received specific training for it. In this context, the model uses its prior knowledge acquired during its general training to infer answers or perform tasks in domains or with instructions it has never seen before (Zhao et al., 2021; Kojima et al., 2022).
Few-shot Learning	Involves training or fine-tuning an AI model with a very small number of examples or data. Unlike traditional training, which requires large amounts of data, the few-shot approach allows the model to learn or generalize from just a few examples (Zhao et al., 2021; Zhou et al., 2022; Ye & Durrett, 2022).
Chain of Thought (CoT)	Involves the creation of prompts that guide the AI to explain its reasoning step by step until reaching a conclusion. This approach can be particularly useful for developing the narrative and context of Case Studies, where it is necessary to show the logical sequence of events or decisions (Wei et al., 2022; Fu et al., 2022; Shum et al., 2023; Press et al., 2022; Zelikman et al., 2022).
Tree of Thought (ToT)	Expands the concept of Chain of Thought (CoT), structuring reasoning in a tree-like form that considers multiple branches or scenarios. Tree of Thought (ToT) can be used to create multiple dimensions or perspectives in a Case, allowing for a richer analysis and various potential solutions (Yao et al., 2023; Long, 2023)

The identification and application of these Prompt Engineering techniques from academic literature are essential to guide the creation of synthetic case studies, ensuring that the material generated is not only technically accurate but also pedagogically valuable and stimulating for management students.

3.3 Definition of the objective of Case Study

When creating synthetic case studies with the help of GenAI, clearly defining the educational objectives is an important step. The objectives should reflect the learning needs of the students, aligning with the competencies and skills that are essential in the field of management (You, 2022; Farashahi & Tajeddin, 2018; Rosier, 2022).

Clarity in objectives is essential not only for the effective creation of case study content but also for guiding classroom discussion and assessing student learning (You, 2022; Farashahi & Tajeddin, 2018; Rosier, 2022). For example, if the goal is to improve students' strategic decision-making abilities, the case might be centered around a complex management dilemma, requiring students to evaluate different strategic options and their potential consequences. If the focus is on leadership skills, the case should include elements that challenge students to consider aspects of ethical leadership, effective communication, and team management.

Moreover, when defining objectives, it's important to consider the students' level of experience and prior knowledge. Case studies intended for MBA students, for example, might address more complex and advanced issues compared to those for undergraduate students.

In other words, we needed to define clear and specific objectives for the case study created, to ensure that the generated material is relevant and valuable, promoting deeper and more engaged learning in key management concepts. In our case, we used GenAI to help us define these objectives.

3.4 Synthetic Case Study design

The design of the synthetic case study was grounded in a detailed understanding of the common topics that make up a case study (Andersen & Schiano, 2014; McFarlane, 2015). The design involved the careful selection of points of interest (mentioned in "Identification of the Main Topics in a Case Study") to ensure that each aspect of the case contributed to the established learning objectives.

Most commonly, case studies are referred based on the Harvard method, which has a structure of 20 pages and is famously employed since the 1940s. Nevertheless, this kind of case takes too much time to be worked thoroughly, thus, using synthetic case studies is a viable way to implement such a method when lectures are shorter.

Considering that the structure used here comprised 100-minute lectures, synthetic case studies were regarded as the most efficient strategy to use it in a context in which there is little time to employ these cases and professors as well as students do not have much time to dedicate to the activities.

3.5 Selection of the Artificial Intelligence tool

For the creation of the case study presented in this article, we opted for the ChatGPT tool, given its growing popularity and significant presence in management scientific literature (Keiper, 2023; Koç et al., 2023; Kim et al., 2023; Short & Short, 2023; Akter et al., 2023; Tekic & Füller, 2023) and in management education focused articles as well (Duong et al., 2023; Keiper et al., 2023; Ratten & Jones, 2023; Peres et al., 2023; Vecchiarini & Somià, 2023; Lim et al., 2023).

It is important to note that the use of ChatGPT was not limited to just text generation. The tool was also strategically used to simulate different perspectives and solutions and to make content adaptations and personalizations. This careful choice of the ChatGPT tool allowed not only for the efficient creation of a high-quality synthetic case study but also opened new possibilities for customizing and adapting teaching materials, reflecting significant innovation in management education.

Following the selection and configuration of ChatGPT, the next step in the development of the synthetic case study involved direct interaction with the GenAI tool. This interaction was guided by advanced Prompt Engineering techniques, aiming to optimize the quality and relevance of the generated content. Techniques such as Chain of Thought (CoT), Tree of Thought (ToT), zero-shot, and few-shot learning, among others,

were strategically employed to shape the GenAI's responses and align them with the educational objectives of the case.

3.6 Review and adjustments of the created Case Study

This stage involved a meticulous review and possible adjustments of the generated material. This review was conducted with critical and detailed thinking, focusing on the accuracy, relevance, and pedagogical impact of the cases. As authors of this article, we took on the responsibility to ensure that each case not only met the highest academic standards but was also effective and engaging from a management teaching perspective.

During the review, various aspects of the cases were evaluated. Firstly, we analyzed the coherence and logic of the narrative, ensuring that the flow of the case was natural and easily understandable for the students. We checked whether the context, characters, and central dilemma were well-developed and authentically reflected the challenges of the business world.

Additionally, we focused on the quality of the data and information included in the cases. It was crucial that these elements were not only realistic but also relevant and sufficiently challenging to stimulate analysis and debate among the students. The accuracy of the facts and figures presented was checked to avoid any errors or inconsistencies that might divert the students' attention from the main learning objective.

The evaluation of the discussion questions and the potential solutions proposed by the cases were also important parts of the review process. We aimed to ensure that the questions were thought-provoking, allowing for multiple interpretations and in-depth analyses, and enabling students to explore different problem-solving strategies and decision-making processes.

Adjustments were made whenever we identified areas that could be improved, whether in terms of content, clarity, or engagement. This included restructuring parts of the case, rewriting segments for greater clarity or impact, and adding details or additional contexts to enrich the discussion.

4 Results

The synthetic case study was created with the aim of identifying how students could learn from a case study about the negotiation variables information, communication, time and power and their correct observance in the negotiation process, considering these are fundamental variables for overcoming objections in a negotiation environment, as well as the strategies and tactics for controlling them, requiring skill and knowledge from the negotiator.

In one of the cases produced, the interaction with ChatGPT began with the following prompt using the zero-shot technique "...could you remind me about a great [business negotiation]?". With this in mind, the tool was used to generate a real example from the tool's database, the output generated was an example of AT&T's acquisition of Time Warner in 2016.

Afterwards, ChatGPT was asked for an example of a business negotiation between Brazilian companies, and the prompt employed the zero-shot technique: "...could you

explain with a [Brazilian] case...". As a result, the case presented was of a major business merger between two large multinational food companies.

To introduce the case by presenting the companies, the AI was asked to contextualize the companies' histories before the merger between Brazilian food organizations, and the prompt request was "...could you give me a presentation of the start of the companies...? ", the generated result presented the history of both companies with their respective locations and year of foundation, as well as describing their main productive activity, main products and also described the date of the merger which was one of the largest and most significant in the country. The AI concluded that the merger also consolidated the companies as ones of the largest in the food sector in the world.

Furthermore, to design the synthetic case study, a careful selection of points of interest was sought to guarantee the established learning objectives, so a prompt was used to explore the concept of a thinking tree (ToT). The focus was to seek new dimensions for the case, thus, the prompt set was: "...could [you] report the main challenges of the merger of the companies, observing the four important factors present and interconnected in the negotiation: time, information, power and communication...". The result was that the companies faced various challenges in the negotiation and integration process, generating eight results, two for each variable presented.

Based on the variables provided, another task was requested, namely, asking the generative AI to use the dimensions to enrich the companies' story with the concepts presented in the previous command. Thus, the prompt was "...tell me the history of the fusion considering these questions presented in an extended form...". The result was a fascinating contextualization of how the variables played a critical role in negotiations of great magnitude.

To enrich the case, the GenAI used the few-shot learning technique to insert excerpts from selected journalistic and scientific texts on the subject, which made it possible to train the generation of information. Among the journalistic texts, specialized clippings on the great negotiation were taken, inserting into the chat a historical context of the challenges presented, informing the AI of the dates of the texts, as well as looking for excerpts from scientific articles specializing in negotiation to boost the proposal.

Accordingly, the prompt used was "...[text] Can you rewrite?..." repeated several times as soon as the texts were inserted, employing the few-shot technique. After that, the complete synthetic case study was inserted and the prompt was "...could you report on the main challenges of the merger of the companies, observing the four important factors present and interconnected in the negotiation: time, information, power and communication..." was repeated.

The result generated denser and more consistent examples, so the case became clearer, and the students were asked a similar question to the prompt. Finally, the Chain of Thought (CoT) technique was applied, in which the AI explained how it came to its conclusions based on the text provided.

In this regard, the prompt used was "...could you explain how you came to these conclusions?". In its output, the ChatGPT explained how it came to the conclusions based on the case study. For example, it is mentioned that the merger had to be completed in a

relatively short time, this is an indication the "time" factor was an important challenge and it goes on to explain the logical sequence of events in line with its decision.

This previous step was very important for setting up a correction mirror, but the regenerate function then was used and other possible answer paths were presented, displaying other possibilities and avenues students could explore the case for discussion and skill development.

To review the synthetic case study, the GenAI was then used to evaluate the teaching material. The prompt focus was to simulate the behavior of an expert, using the Chain of Thought (CoT) technique. The command was "... suppose you are an expert in the development of synthetic case studies and give me a technical and in-depth answer on how the above case addressing the negotiation variables: Time, Information, Power and Communication can contribute to the development of students' technical negotiation skills...".

The results of this interaction showed results for the time variable, such as "... students can learn to deal with time pressure and make strategic decisions under time constraints, which involves the ability to prioritize, plan effectively and manage negotiation time efficiently...". In addition, the prompt also generated the following outcome: "...students can practice scenario analysis, risk assessment and informed decision-making under pressure, essential skills for successful negotiations...". A summary of techniques, prompts and results can be found in the Table 3 below.

Table 3 - Results of Prompt Engineering techniques

Technique	**Prompt**	**Result**
Zero-shot Learning	"Could you remind me of a major [business negotiation]?"	Example of AT&T's acquisition of Time Warner in 2016.
Zero-shot Learning	"Could you explain with a [Brazilian] case..."	Case of a business merger between Brazilian companies.
Tree of Thought (ToT)	"Could you tell me about the main challenges of the merger of companies, considering the four important interconnected factors in negotiation: time, information, power, and communication..."	Eight challenges related to the variables.

Few-shot Learning	"[Text] Can you rewrite it?..." (to insert excerpts from journalistic and scientific texts)	Enrichment with historical and academic information.
Chain of Thought (CoT)	"Could you explain how you arrived at these conclusions?"	Logical explanation of conclusions based on the case.
Chain of Thought (CoT)	"Suppose you are an expert in developing synthetic case studies, and answer me in a technical and in-depth way how the above case, addressing the negotiation variables: Time, Information, Power, and Communication, can contribute to the development of technical negotiation skills in students?"	Evaluation of the contributions of the case.

5 Discussion

Based on the results above, this study offers a theoretical contribution exploring artificial intelligence applications within educational methodologies, particularly in the creation and structuring of synthetic case studies. Such exploration is significant because it addresses a gap in the literature in which there is limited understanding of how AI can be employed to design educational materials (Kapoor et al., 2018; Selwyn, 2019; Zhang et al., 2019). This study advances as it shows the processes and methodologies involved in generating these case studies, assessing the effectiveness of GenAI generated content in replicating the complexities and nuances typically found in traditional case materials.

By suggesting approaches to create and employ GenAI generated synthetic case studies, this research also contributes to educational innovation. Moreover, it invites a multidisciplinary conversation among educational theorists, AI scholars, and curriculum developers, which can lead to new theories on knowledge transfer, educational psychology, and the cognitive influence of GenAI content on learners. In addition, it provides an avenue to future research, such as how synthetic case studies might affect critical thinking skills, problem-solving abilities, and the application of theoretical knowledge in practical scenarios.

On a practical contribution level, synthetic case studies generated through GenAI can be a resource for professors by introducing new approaches to classroom activities that can be adapted and utilized in different subjects and learning levels. This contribution is particularly pertinent as educators at large tend to keep searching for more innovative strategies (Dignum, 2018), which are connected with student populations closely linked to state-of-the-art technologies.

These synthetic case studies generated by GenAI can also work as a template for educators, demonstrating how to integrate technology into pedagogy effectively. This is not only a tool for engagement but also offers customization to suit different learning objectives, student backgrounds, and educational settings. For example, these case studies might be customized to mirror the diversity of contemporary society, fostering the inclusion in educational materials that had been previously lacking.

Our findings also offer guidelines on how to use synthetic case studies generated by GenAI to stimulate debates, promote collaborative learning, and assess student understanding. Furthermore, it can help faculty to allocate time more efficiently, as AI-generated materials can reduce the need for extensive material preparation, thereby allowing educators to focus more on facilitation and direct student interaction.

There is also a contribution to public policymaking as the blending of GenAI in education introduces an opportunity for policymakers to reconsider and restructure planning and implementation (Woolf, 2010 ;Crawford & Calo, 2016). In this regard, the use of GenAI to synthetic case studies in education systems can make them more adaptive and responsive to the demands of a dynamic student demographic as well as to the needs of an equally changing job market.

Furthermore, at the policy level, our findings signal the development of standards and benchmarks for educational tools, making sure they meet quality and efficacy criteria. This study also invites policymakers to fund research and development in AI educational technologies, to promote the training of educators in AI tools, and can potentially lead to the establishment of partnerships between educational institutions and technology companies.

Finally, policymakers could also take into account the long-term benefits of GenAI in education, such as scalability and cost-effectiveness (Bostrom & Yudkowsky, 2014; Chen et al., 2020). With AI, educational resources like case studies might be propagated with less concern for geographical or socioeconomic obstacles. This more democratized access to better educational materials could help fill educational gaps and promote equity in learning opportunities.

6 Conclusion

In the rapidly changing field of management education, the integration of state-of-the-art tools and methodologies is a necessity. Considering such a statement, this explored GenAI potential, with a particular focus on ChatGPT, to apply its functionalities to management education. The main aim was to leverage the capabilities of ChatGPT to create synthetic case studies that were not only contextually relevant, but also pedagogically robust.

Our findings confirmed the potential of GenAI to revolutionize traditional case study generation paradigms. Through the use of ChatGPT, educators are now able to craft dynamic, relevant, and customized case studies that reflect the diverse challenges and intricacies of contemporary businesses. These GenAI synthetic case studies not only bring a breath of fresh air to the curriculum but are also able to address the challenges posed by

the shortened duration of lectures and the dwindling attention span of learners in the digital age.

Correspondingly, the strategic use of advanced prompt engineering techniques amplifies the quality, depth, and relevance of the content, making GenAI a valuable instrument in the repertoire of management educators. However, it is important to underscore that whereas the advance of technology is undeniable, it is also essential to ensure that its integration is parsimonious. Management education needs to keep fostering critical thinking, nurturing analytical capacities, and promoting independent problem-solving.

As previously stated, this study provides three orders of contributions. First, it contributes to theory by expanding the literature on the creation and structuring of synthetic case studies using GenAI, providing educators with a fresh perspective on pedagogical tools. Second, there is a practical contribution as synthetic case studies generated serve as an activity that professors can use in the classroom environment, offering a blueprint for educators to enhance student engagement and learning outcomes. Third, our findings have public policymaking implications, highlighting the potential of GenAI in streamlining educational planning and implementation.

Nevertheless, this study is not without limitations. It is necessary to cite that the synthetic nature of the case studies, though innovative, might not always capture the nuances of real-world business scenarios. To cope with the mentioned limitation, future studies could analyze the integration of multiple GenAI tools to craft a more diverse set of short case studies. Researchers could also look into the long-term impacts of using synthetic case studies on student learning outcomes and critical thinking skills. Furthermore, a comparative analysis between traditional and synthetic case studies generated by GenAI could provide more insights into their respective effectiveness.

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