A Human Collaboration with ChatGPT: Developing Case Studies with Generative AI

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Abstract

Generative Artificial Intelligence tools such as ChatGPT provide opportunities to create updated and specialized content at fast speeds. This content may include case studies which are often embedded in the pedagogy of educational institutions to present “real world,” experiential learning to students. Indeed, case studies are an integral component of many business curriculums, especially among MBA graduate programs. This paper explores the challenges and opportunities of creating a Business Case for an MBA program through ChatGPT. Furthermore, this paper lists the lessons learned while developing the case study. This paper outlines the risks and limitations of both approaches, and it concludes with areas for future research. The purpose of this paper is to share the lessons-learned for educators wishing to utilize Generative Artificial Intelligence for content creation and, more specifically, case study creation.

Keywords: ChatGPT, Generative Artificial Intelligence, Information Systems Education, Prompt Engineering, Case Study Creation.

1. INTRODUCTION

The Master of Business Administration (MBA) is the most popular graduate management degree (Herrington, 2010). As a generalist degree, the MBA equips students with a holistic view of business across disciplines that include operations, finance, and marketing, while developing soft skills like human resource management and leadership. Business case studies are central to the MBA curriculum, and they serve as useful tools to hone students' analytical thinking, strategic decision-making, and problem-solving capabilities.

These case studies present real-world scenarios that MBA candidates must understand and analyze before recommending actionable solutions that mirror the challenges they will encounter in business.
Traditionally, developing comprehensive and diverse business case studies demanded substantial time and resources, often involving collaborations with actual businesses and extensive data collection. Faculty often have to make sacrifices to adopt cases that may not match their content with the course goals directly. However, technological advancements now provide a new path to the creation of these case studies.

ChatGPT, an AI language model developed by OpenAI, has demonstrated capabilities in understanding context, generating coherent text, and simulating human-like conversations. Leveraging vast datasets and machine learning algorithms, ChatGPT can effectively analyze multifaceted business scenarios, interpret complex data, and generate dynamic business case studies tailored to the unique needs of MBA students. This paper explores the potential of using ChatGPT to create case studies and to enhance the learning experience and prepare future business leaders for the challenges of a fast-paced and interconnected global economy.

By harnessing the power of ChatGPT, business educators can unlock a vast repository of virtual business scenarios, enabling MBA candidates to immerse themselves in an extensive array of industries, markets, and organizational challenges.

This paper highlights the lessons learned while using ChatGPT to develop a business case study, using an iterative method where the educator provided refined contextual information to ChatGPT within each iteration. Additionally, this paper delves into the ethical implications of utilizing AI technologies in business education, emphasizing the need for responsible AI usage, data privacy, and transparency. While ChatGPT opens new avenues for generating business case studies, it also raises critical questions about the authenticity and reproducibility of AI-generated content. As we explore the possibilities and limitations of this technology, ethical considerations remain paramount in shaping a sustainable and equitable future for business education.

Through the exploration of ChatGPT's impact on business case study development, we aim to shed light on the transformative potential of AI in shaping the future of business education and its implications for preparing MBA graduates to lead with confidence and integrity in an ever-evolving global business environment.

2. LITERATURE REVIEW

John McCarthy first coined the phrase “artificial intelligence” at a computer conference at Dartmouth College in 1955. Working with Marvin Minsky, Nathaniel Rochester, and Claude Shannon, McCarthy proposed a two-month study on AI based on the conjecture that “every aspect of learning . . . can in principle be so precisely described that a machine can be made to simulate it” (McCarthy, 1955).

McCarthy and his colleagues, like most geniuses, were prescient, speculating in front of the technological tsunami created by confluence of hardware and software advancements (Mack, 2011; Aiello, 2016).

Language recognition and predictive writing was one of the many transformational outcomes that resulted from improvements in integrated circuits and creative software design. In 2013, Google developed word2vec, a program that computed word embedding, allowing for the meaning of words to be represented mathematically (Taylor, 2023). In 2017, a team at Google Brain integrated word embedding into a neural network as a step toward predicting meaning and the sequencing of words in sentences and paragraphs of text. This work grew into the development of layers, called “attention mechanisms” that weighted narrative successors based upon a scrub of billions of prior writings. In turn, attention layered neural networks, known as transformers, allowed for the creation of Large Language Models (LLMs), a fundamental component of GPT (Generative Pre-trained Transformer) technology (Le, 2015; Ollivier, 2023).

The first Generative Pre-Trained Transformer (GPT) was released in June 2018. The program, developed by OpenAI out of San Francisco consisted of 117 million parameters and used deep learning techniques to generate human-like text (Ollivier, 2023). GPT-1 was followed by GPT-2 (February 2019, 1.5 billion parameters), GPT-3 (June 2020, 175 billion parameters), and GPT-4 (14 March 2023, 1.7 trillion parameters) (Marr, 2023). Each subsequent version of the GPT Large Language Model (LLM) became more powerful as the associated Chatbot was trained on increased volumes of data. For example, the most current version of ChatGPT was feed 45 terabytes of text data to refine its capabilities (Ollivier, 2023).
The potential of AI, as viewed from the power of ChatGPT is significant. Linchfield (2023) contended that the AI could be as big a deal as the internet itself. He posited that LLMs, fine-tuned on specific tasks or bodies of text could turn AI into powerful academic tools. Imagine a HarvardBusinessReviewGPT focused on business case studies. It would be a powerful instructional resource.

The continued presence of AI is our zeitgeist and we should learn to maximize its utility (Chen, 2022; Cao, 2023; Tufekci, 2022). While not every scholar agrees to the benefits (Gapper, 2022; McGee, 2023; Shidiq, 2023) many academics are advocates and are developing their own pedagogical approaches to tech tools like ChatGPT (Ahmad, 2022; Xia, 2022).

The authors of this paper contend that ChatGPT is a powerful resource that, if properly harnessed, can be an invaluable learning assistant, one that increases teaching engagement as it reduces content preparation.

Challenges of Case Study Development
Since the publication of the General Shoe Company the Case Method has been an invaluable tool to help business students "learn how to learn" (Biddle, 1921; Donham, 1922). Yet, times change. While touting the "enduring nature of the Case Method" Srikant Datar, Dean of the Harvard Business School offered that future case pedagogy may embrace more interactive technology and incorporate more real time information (Harvard Business School, 2003). Datar’s observation illuminates the multiple challenges of case study development, which include timeliness and relevance.

Current case studies, developed by academics are often aged at creation. Sparks and Langford (2012) concluded that standard case questions were no longer sufficient to ensure learning. Their research found that 87% of Harvard Business Review case solutions are available on the internet and therefore students can find an answer to the assignment within 7.4 minutes.

Writing a case study requires multiple time-consuming steps (Søilen & Huber, 2006) resulting in average completion times ranging from one to six months depending upon the depth of the research, permission approvals, and the editing and publication process.

Once published the relevance countdown begins. Herfors (2016) stated that the significance of most case studies “last” between three to six months. Endorsing this finding, Manu (2022) found that most cases are not generalizable and are often superseded by changing societal values.

Students often view their assigned cases as outdated or stale. The challenge is to keep it interesting and at pace with the rapidly changing zeitgeist (Wentzel, 2006). In 2006, senior members of the Academy of Management promoted efforts to find research that is less formulaic and more “interesting.” Research that is “interesting” is more likely to produce learning; to be read, understood, and remembered; and to attract and keep bright students in academia (Ramirez, 2015).

Generative AI and ChatGPT
Although studies have been conducted to examine the effect of ChatGPT on academic writing and research (AlAfnan, 2023; Hill-Yardin, 2023; Mohammed, 2023), there is a paucity of peer-reviewed articles specific to the use of ChatGPT to create business case studies. The authors of this paper seek to add to this shortfall.

Ethics
Kshirsagar (2021) suggested that good AI projects must be done in collaboration with partners who are experts in the domain in question. Stahl (2021) supported this view stating, “For now, ethics remains a moral philosophy of right/wrong developed by humans. As such, the ethical use of AI demands its control by human users and designers.

Heeding this precaution, the academic must remain as the first designer and the final “peer-reviewer” of AI products.

Efficiency
Stahl (2021) posited three purposes of Artificial Intelligence: AI for efficiency, AI for social control, and AI for human flourishing. As a case study writing assistant, AI enhances work efficiency, providing the economic benefits of time/cost savings. The opportunity cost of creating a case study is reduced to minutes versus months.

AI will expand creative partnerships through inventive interactions between humans and their repurposed creative histories. Such partnerships already resonate harmonically in the world of music. An example is AIVA (Artificial Intelligence Virtual Artist), the virtual composer (Zulić, 2019).
Limitations
Currently AI is a tool to assist the Academic but there are limitations. Ippolito (2022) found that AI lacked a distinctive voice, the suggestions were uninteresting, and it was difficult to control the tool to accomplish specific writing tasks.

In response to Ippolito, as AI advances, development of an unwanted “voice” may become significant. Currently the Harvard Business School produces about 350 cases per year with a library of more than 7,000 cases (Jack, 2018). Similarly, the Institute of Chartered Financial Analysts of India (ICFAI) produces hundreds of cases per year (IFHE, 2021). Three faculty members alone (D. Pukayastha, I. Perepu, & S.M. Qumer) have written over 2,000 cases since 2015 (Bleizeffer, 2021). Drawing from this wealth of published content, it would be easy for AI to write in the style of the most prolific writer or business school, for good or for bad.

3. BACKGROUND

RedLine, First Responder Gear Cleaning and Inspection,1,2 was founded in 2020 by Michael and Ron Matros, a son/father business team from Malborough, Massachusetts (see: https://redlinegearcleaning.com/). Michael, a firefighter, created RedLine after attending the funeral of Jeff J., a peer who had died from cancer. Matros knew that firefighters had a 62% higher risk of esophageal cancer than the general population (Casjens, S., Brüning, T., & Taeger, D., 2020). In fact, his friend Jeff J. had this malignancy. This was not the first funeral Matros had attended where a firefighter had succumbed to the ravages of cancer. He had been to scores of similar griefings and knew dozens more. “Enough,” Michael thought, “how can I be part of the solution?”

Matros understood that sanitized gear was essential to maintaining the health of firefighters. During a fire, carcinogenic particles are dispelled on, and absorbed into, the helmet, pants, jacket, gloves, and boots of a first responder. Failure to thoroughly clean the “turnout gear” exposed the firefighter to an elevated risk of cancer and respiratory illness (Hansen, 1990).

The current practice of gear cleaning involved packaging the equipment and sending it out for sanitization. This process takes five to ten days and was costly. Matros proposed flipping the decontamination process by taking the cleaning process to the fire station and sanitizing the gear on site. This new approach decreased turnaround time, and increased customer interface and satisfaction. To achieve this end the entrepreneur developed a Mobile Extraction Unit (MEU), a sanitization system inside an intermodal container, pulled by a Freightliner Hauler (truck). The MEU would provide cleaning on demand, capable of on-site sanitization within 48 hours of exposure, with a capacity of 40 sets of gear per day.

With his MEU, Matros demonstrated the viability of on-site cleaning to several fire chiefs in his region. Within weeks the word of this new cleaning service spread throughout the firefighter community and CEO RedLine was approached with offers to buy the MEU. Rather than sell just the truck, the CEO decided to expand his business through franchising, with the intent of spreading the health benefits of his service while becoming a nationally recognized brand.

Toward development of his dream, Mr. Matros approached Nichols College, a private business school in Dudley, Massachusetts and asked a class of MBA graduate students for support in developing his franchise concept. That RedLine class project is the basis of this case study.

Following are the case study objectives:
- **Create** a business plan for a franchise offering focused on on site cleaning of firefighter turnout gear.
- **Evaluate** locations (cities) where franchise sales would be most successful.
- **Analyze** city demographics focused on firefighters per capita to support marketing of a franchise offering.

4. METHODOLOGY

In this section, we outline the methods employed to develop a comprehensive mobile firefighter apparatus franchise case study utilizing OpenAI's ChatGPT.

The aim was to create an engaging and informative resource for working professionals pursuing their MBA, with a specific focus on franchise business expansion within the Mobile Firefighter Turnout Gear Cleaning domain.

Our initial step encompassed gathering relevant information for the case study. This encompassed details regarding the Mobile Firefighter Turnout Gear Cleaning franchise, the CEO’s background, and the critical link between gear cleanliness and firefighter well-being. Moreover, we looked into publicly accessible data, encompassing firefighter
health risks, industry benchmarks, and localized market dynamics.

Our approach hinged on skillful utilization of prompts to guide interactions with ChatGPT. ChatGPT prompts include two types of messages, system messages and user messages. The difference between a system message and a user message in ChatGPT prompts lies in their respective roles and purposes within the conversation with the AI.

A system message is an initial instruction or context-setting message that helps guide the AI's behavior and tone throughout the conversation. It is typically used at the beginning of the interaction to provide important information to the AI about the role it should assume and the context of the conversation. The AI processes the system message to understand its role and respond accordingly. Importantly, the AI does not provide a direct response to the system message; rather, it uses the provided context to inform its responses to subsequent user messages. The system message sets the stage for the AI's understanding of the conversation's theme and objectives.

A user message is a message that represents the input or query from the user, the human participant in the conversation. User messages initiate the AI's responses and drive the direction of the conversation. When a user message is provided, the AI generates a response based on the content of the user message and any preceding messages, including system messages. User messages guide the AI's output by posing questions, making statements, or requesting information on a particular topic.

In summary, the system message serves as a contextual guide for the AI, while user messages drive the conversation forward by instructing the AI on what information or responses to provide. The system message provides the "what" and "why" of the conversation, while user messages provide the "how" and "what next." Together, these messages shape the interaction and help produce coherent and relevant AI-generated responses.

Commencing with a system message, we introduced the CEO as a former firefighter envisioning the expansion of a gear cleaning enterprise through franchising. This foundational system message delineated the context, aiding ChatGPT in understanding the overarching narrative and role allocation.

Sequentially, we engaged ChatGPT with user messages to prompt specific inquiries. For instance, a query about the operational mechanics of the Mobile Extraction Unit (MEU) triggered a sequence of elucidating exchanges. These user-generated prompts acted as navigational beacons, steering the AI's insights toward the MEU's intricate operations and its potential implications.

The following prompts were key components of the iterative refinement process:

Initial Prompt:
- System Message: "You are the CEO of RedLine, seeking to develop a franchise for a mobile firefighter turnout gear cleaning service in the New England Area. Your goal is to enhance firefighter health and safety. Please provide insights on the business strategy, technology integration, and potential challenges."
- User Message: "Describe the significance of clean turnout gear for firefighter health."
- AI Message: The AI-generated response added the mechanics of the MEU, its capabilities for on-site sanitization, and the potential impact on reducing exposure time to harmful particles.

The initial responses from ChatGPT did not have enough specifics regarding the case. Refined prompts were subsequently used to create a deeper, more specific case study.

Refined Prompt:
- System Message: "You are the CEO of RedLine, a former firefighter passionate about enhancing firefighter health. Please elaborate on the challenges faced by firefighters due to contaminated turnout gear and explain how on-site cleaning can mitigate these risks."
- User Message: "How does the Mobile Extraction Unit (MEU) contribute to on-site gear cleaning?"
- AI Message: The AI-generated response added the mechanics of the MEU, its capabilities for on-site sanitization, and the potential impact on reducing exposure time to harmful particles.

Throughout the iterative process, prompts were adjusted to enhance clarity, specificity, and alignment with the case study objectives. Refinements focused on guiding ChatGPT to
provide deeper insights into the franchise strategy, technology’s role, and ethical considerations.

To showcase the impact of generative AI, specific prompts were introduced to explore its application within the franchise strategy:

- User Message: "How can generative AI enhance customer engagement and predictive maintenance in the firefighting industry?"
- AI Message: The AI’s response highlighted the potential of generative AI, such as ChatGPT, in providing real-time customer support, predictive maintenance alerts, and customized solutions for firefighting gear upkeep.

Overall, 22 prompts (See Appendix A for full list) were used to develop the case study (see Appendix B), answers to critical thinking questions, and teaching notes including answers to critical thinking questions (See Appendix C).

Following are the final series of prompts:

Prompt 19: Write MBA case study to develop franchise business for a Mobile Firefighter Turnout Gear Cleaning. The objective of the case study is to understand the dynamics of business and gain leadership skills. The case study should include impact of technology, and how the franchise strategy can leverage it. Please make sure to add the impact of generative AI and add a section on the strategy for franchise expansion. End the case study with 10 though provoking questions. The case study is aimed at working professionals undertaking their MBA. Please use the following information as context. Please use all the figures and numbers provided.

The franchise will start in the New England Area of United States. The students reading this case study are working professionals. Use the following context and add these specifics to the case study: In March of 2022, the CEO of RedLine approached an MBA cohort for help in developing a firefighter turnout gear, mobile cleaning system franchise. The CEO, a former firefighter, knew that clean turnout gear is essential to maintain the health of firefighters. During a fire, carcinogenic particles are dispelled on and absorbed into the helmet, pants, jacket, gloves, and boots of a firefighter. Failure to thoroughly clean the turnout gear exposes the firefighter to an elevated risk of cancer and respiratory illness. In fact, firefighters have a 62% higher risk of getting esophageal cancer and a 39% increased risk of dying from that cancer than a non-firefighter (reference). The current practice of gear cleaning involves packaging the equipment and sending it out for sanitization. This practice takes five to ten days and is costly. The RedLine CEO proposed to flip the decontamination process by bringing the cleaning process to the fire station, sanitizing the gear on site, therefore decreasing the turnaround time, and increasing customer interface. To this end the entrepreneur developed a Mobile Extraction Unit (MEU), a sanitization system inside an intermodal container, pulled by a Freightliner Hauler (truck). The MEU would provide cleaning on demand, capable of on-site sanitization within 48 hours of exposure, with a capacity of 40 sets of gear per day. With the MEU, the RedLine CEO demonstrated the viability of on-site cleaning to several fire chiefs in his region. Within weeks the word of this new cleaning service spread throughout the firefighter community and CEO RedLine was approached with offers to buy MEU’s. Rather than sell just the truck, the CEO decided to expand his business through franchising to become a nationally recognized brand. Make sure the case study has the following components:

Please use the following format for the case study:

1. Executive Summary (100-200 words)
2. Introduction (200-300 words)
3. Problem Statement (100-200 words)
4. Analysis (1000-1500 words)
5. Data and Evidence (300-500 words)
6. Alternatives and Evaluation (500-800 words)
7. Recommendations (300-500 words)
8. Implementation Plan (300-500 words)
9. Evaluation and Measurement (200-400 words)
10. Ethical Considerations (200-400 words)
11. Lessons Learned (200-400 words)
12. References (Not included in the word count)
13. Appendices (Not included in the word count)
14. Discussion Questions (10-15 questions)

Please write the case study in an academic tone. The case study is aimed at working professionals, so please make sure all the content is specific. Avoid using any generic terms.

Prompt 20: please rewrite sections 5-14 with at least 300 words in each section.
Prompt 21: Write answers to the questions as you were the CEO of Redline. Embed some emotion in your answers.

Prompt 22: create a teaching note for the MBA instructor to teach this course. Use an academic tone.

Through the iterative process of prompts and guided interactions, ChatGPT's insights were effectively harnessed to develop a comprehensive case study. The refined prompts played a pivotal role in shaping AI-generated responses, allowing us to delve into the dynamics of business development, leadership strategies, technology integration, and ethical considerations pertinent to the mobile firefighter franchise.

5. LESSONS LEARNED

Providing specifics and context within prompts is a critical aspect of effectively engaging with AI models like ChatGPT. Specific prompts help guide the AI's understanding and generate more relevant and accurate responses. Contextual information sets the stage for the conversation, allowing the AI to tailor its answers to the given scenario. When crafting prompts for complex tasks such as developing a mobile firefighter franchise case study, specificity ensures that the AI comprehends the nuances of the subject matter and produces coherent and on-topic outputs.

For instance, in our case study development, the inclusion of detailed context about the Mobile Firefighter Turnout Gear Cleaning franchise, the CEO's background, and the challenges faced by firefighters established a foundation for meaningful interactions. The AI's responses were contextually aligned, addressing the intricate facets of the franchise business, technology integration, and ethical considerations. Without such specifics, the generated content could have lacked relevance and clarity, hindering the development of a comprehensive and insightful case study.

Prompts also play a crucial role in influencing the tone and style of AI-generated responses. By carefully crafting prompts, we can guide the AI to adopt a desired tone that aligns with the intended communication style. For instance, the tone can be adjusted to be formal and informative for academic contexts, casual and conversational for interactive scenarios, or even persuasive for marketing-related inquiries. The choice of words, phrasing, and instructions in prompts has a direct impact on the AI's output.

When providing prompts to ChatGPT for writing a business case study, instructors can include specific components to guide the AI in generating relevant and comprehensive content.

These components may include:

- **Case Background**: Provide a brief overview of the company or organization involved in the case study. Include details about its industry, size, market position, and any relevant historical context.

- **Business Challenge or Problem**: Clearly state the central issue or problem the case study aims to address. This could be a strategic dilemma, operational inefficiency, market entry decision, financial challenge, etc.

- **Context and Setting**: Describe the external environment in which the company operates, including economic, political, technological, and social factors. Highlight any specific industry trends or competitive dynamics.

- **Key Stakeholders**: Identify the individuals, groups, or entities with a vested interest in the case study's outcome. This may include executives, employees, customers, suppliers, shareholders, or regulatory authorities.

- **Data and Information**: Provide relevant data and information that ChatGPT can use to develop the case study. This may include financial statements, market research, industry reports, customer feedback, or internal documents.

- **Strategic Alternatives**: Prompt ChatGPT to propose various strategic alternatives or courses of action to address the central problem. These alternatives should be feasible and supported by evidence from the provided data.

- **Analysis Framework**: Suggest a suitable analytical framework or model that ChatGPT can use to structure its analysis. This could be a SWOT analysis, Porter's Five Forces, PESTEL analysis, or any other relevant framework.

- **Recommendations**: Encourage ChatGPT to make well-justified recommendations based on the analysis and the identified strategic alternatives. Recommendations should align with the company’s goals and mission.

- **Implementation Plan**: Prompt ChatGPT to outline a practical plan for implementing the recommended solutions. This may include
timelines, resource allocation, potential challenges, and monitoring mechanisms.

**Ethical Considerations:** Ask ChatGPT to address any ethical dilemmas or social responsibilities arising from the proposed solutions. Prompt it to consider the broader impact of the recommendations on stakeholders and society.

**Data Relevancy:** Currently ChatGPT can access information up to 2021. This is a disadvantage since real time information cannot be accessed. Faculty using ChatGPT to develop business cases, will still need to add the latest information manually.

**Prompt Iterations:** Advancing the details of the prompts as the development progresses is critical. The faculty that is using ChatGPT can create an approach that is tailored to their style including the specifics of the case, tailored data, style of writing and expanding of various sections.

**Conclusion:** Instruct ChatGPT to summarize the key points of the case study and reiterate the central problem and proposed solutions.

In our case study, the tone was carefully managed through prompts to ensure an academic and informative style. The system message at the beginning of the conversation set the tone by establishing the role and context of the CEO seeking assistance. User messages were crafted to solicit specific insights while maintaining a professional tone. As a result, the AI’s responses mirrored the desired tone, providing comprehensive and well-structured explanations, recommendations, and analyses. The tone adjustment through prompts enhances the cohesiveness of the case study and makes it more suitable for the target audience of MBA working professionals.

By including these components in the prompts and adjusting the tone, instructors can guide ChatGPT to produce coherent, insightful, and relevant business case studies, simulating the thought process of a human case writer while leveraging the AI’s ability to analyze large datasets and generate dynamic content. However, instructors should review and curate the outputs to ensure accuracy, authenticity, and adherence to ethical standards before incorporating the AI-generated case studies into educational materials.

### 6. LIMITATIONS AND FUTURE RESEARCH

This paper focused learnings from the development of a single business case. Future research provides an opportunity to expand the number of business cases developed across disciplines and analyze the findings from that study. We, the authors, are considering expanding this method to the graduate and undergraduate courses at our college. Future research could do a time study and a cost study with multiple case studies. Potential cost savings could include direct costs students, time spent iterating and writing the case study.

Future research should include broader applications and learning from ChatGPT in academia, including but not limited to building full course content especially for new emerging trends in the business world. Discussion of ethical and legal components of the use of Generative Artificial Intelligence tools, such as ChatGPT to develop new content should be explored in a meaningful way.

### 7. CONCLUSION

There is no question that ChatGPT has the potential to add value and saves time for faculty developing and generating courses. It can quickly generate syllabi, homework assignments, quizzes, lesson plans and much more. However, it has been demonstrated to display biases. As a program, it is unable to capture insight the instructor may have through knowledge, experience, critical thinking, or the integration of those processes. But ChatGPT can be potentially used as a powerful accelerator to the development of new content, especially in the business school. Faculty can provide the contextual information, tone recommendations, relevant facts and figures to ChatGPT, and ChatGPT can develop detailed contents, e.g. case studies, that is tailored to the niche of that particular business school and its students. Faculty still need to fact check the output for relevancy and also make sure the tone of the content reflects the style of the business school and the faculty. Time to develop is a significant contributor to developing relevant, new content for the students. ChatGPT provides an option to accelerate the development of new content.

Overall, ChatGPT is already proving to be a breakthrough technology that can potentially impact academia in a meaningful way. This paper is an initial attempt at sharing a specific use of ChatGPT in the business school.
8. ENDNOTES

Michael Matros has granted access (10 August 2023) to his company for the purpose of writing a case study on RedLine. “I hope my story encourages others to do well by doing good” (Matros, 2023).

All details provided on RedLine are factual and approved by Mr. Matros. An algorithm has been applied to actual revenue and expense figures to protect proprietary financial information.

9. REFERENCES


Herfors, D. (2016). The time and process used to write a case study.


Appendix A

Prompts (P) used to generate the Business Case

- Prompt 1 (P1): Please add questions regarding this case study for MBA students
- P2: Write a 8000 word MBA case study to develop franchise business for a Mobile Firefighter Turnout Gear Cleaning
- P3: thank you for writing the case study. Can you please re-write this case study with more specifics and a word count of 6000
- P4: Please add 10 critical thinking questions for the case study above for MBA level
- P5: Write an 8000-word MBA case study to develop franchise business for a Mobile Firefighter Turnout Gear Cleaning. The objective of the case study is to understand the dynamics of business and gain leadership skills. The case study should include impact of technology, and how the franchise strategy can leverage it. The franchise will start in the New England Area of United States. The students reading this case study are working professionals.
- P6: please add 10 thought provoking questions for this case study
- P7: please provide detailed answers to each of these questions
- P8: Rewrite this in an academic tone
- P9: Write MBA case study to develop franchise business for a Mobile Firefighter Turnout Gear Cleaning. The objective of the case study is to understand the dynamics of business and gain leadership skills. The case study should include impact of technology, and how the franchise strategy can leverage it. Please add the impact of generative AI and a section on the strategy for franchise expansion. End the case study with 10 thought provoking questions. The case study is aimed at working professionals undertaking their MBA. Please use the following information as context. Please use all the figures and numbers provided.
- P10: Write answers to the questions as you were the CEO of Redline. Embed some emotion in your answers
- P11: update the transfer out case study above with the following context. In March of 2022, the CEO of RedLine approached an MBA cohort for help in developing a firefighter turnout gear, mobile cleaning system franchise. The CEO, a former firefighter, knew that clean turnout gear is essential to maintain the health of firefighters. During a fire, carcinogenic particles are dispelled on and absorbed into the helmet, pants, jacket, gloves, and boots of a firefighter. Failure to thoroughly clean the turnout gear exposes the firefighter to an elevated risk of cancer and respiratory illness. In fact, firefighters have a 62% higher risk of getting esophageal cancer and a 39% increased risk of dying from that cancer than a non-firefighter (reference). The current practice of gear cleaning involves packaging the equipment and sending it out for sanitization. This practice takes five to ten days and is costly. The RedLine CEO proposed to flip the decontamination process by bringing the cleaning process to the fire station, sanitizing the gear on site, therefore decreasing the turnaround time, and increasing customer interface. To this end the entrepreneur developed a Mobile Extraction Unit (MEU), a sanitization system inside an intermodal container, pulled by a Freightliner Hauler (truck). The MEU would provide cleaning on demand, capable of on-site sanitization within 48 hours of exposure, with a capacity of 40 sets of gear per day. With the MEU, the RedLine CEO demonstrated the viability of on-site cleaning to several fire chiefs in his region. Within weeks the word of this new cleaning service spread throughout the firefighter community and CEO RedLine was approached with offers to buy MEU’s. Rather than sell just...
the truck, the CEO decided to expand his business through franchising to become a nationally recognized brand.

- **P12**: please create a instructor's note to help the professor teach this case study to MBA students

- **P13**: Write a 8000 word MBA case study to develop franchise business for a Mobile Firefighter Turnout Gear Cleaning. The objective of the case study is to understand the dynamics of business and gain leadership skills. The case study should include impact of technology, and how the franchise strategy can leverage it. The franchise will start in the New England Area of United States. The students reading this case study are working professionals. Use the following context and add these specifics to the case study: In March of 2022, the CEO of RedLine approached an MBA cohort for help in developing a firefighter turnout gear, mobile cleaning system franchise. The CEO, a former firefighter, knew that clean turnout gear is essential to maintain the health of firefighters. During a fire, carcinogenic particles are dispersed on and absorbed into the helmet, pants, jacket, gloves, and boots of a firefighter. Failure to thoroughly clean the turnout gear exposes the firefighter to an elevated risk of cancer and respiratory illness. In fact, firefighters have a 62% higher risk of getting esophageal cancer and a 39% increased risk of dying from that cancer than a non-firefighter (reference). The current practice of gear cleaning involves packaging the equipment and sending it out for sanitization. This practice takes five to ten days and is costly. The RedLine CEO proposed to flip the decontamination process by bringing the cleaning process to the fire station, sanitizing the gear on site, therefore decreasing the turnaround time, and increasing customer interface. To this end the entrepreneur developed a Mobile Extraction Unit (MEU), a sanitation system inside an intermodal container, pulled by a Freightliner Hauler (truck). The MEU would provide cleaning on demand, capable of on-site sanitation within 48 hours of exposure, with a capacity of 40 sets of gear per day. With the MEU, the RedLine CEO demonstrated the viability of on-site cleaning to several fire chiefs in his region. Within weeks the word of this new cleaning service spread throughout the firefighter community and CEO RedLine was approached with offers to buy MEU’s. Rather than sell just the truck, the CEO decided to expand his business through franchising to become a nationally recognized brand.

- **P14**: Write a 8000 word MBA case study to develop franchise business for a Mobile Firefighter Turnout Gear Cleaning. The objective of the case study is to understand the dynamics of business and gain leadership skills. The case study should include impact of technology, and how the franchise strategy can leverage it. The franchise will start in the New England Area of United States. The students reading this case study are working professionals. Use the following context and add these specifics to the case study: In March of 2022, the CEO of RedLine approached an MBA cohort for help in developing a firefighter turnout gear, mobile cleaning system franchise. The CEO, a former firefighter, knew that clean turnout gear is essential to maintain the health of firefighters. During a fire, carcinogenic particles are dispersed on and absorbed into the helmet, pants, jacket, gloves, and boots of a firefighter. Failure to thoroughly clean the turnout gear exposes the firefighter to an elevated risk of cancer and respiratory illness. In fact, firefighters have a 62% higher risk of getting esophageal cancer and a 39% increased risk of dying from that cancer than a non-firefighter (reference). The current practice of gear cleaning involves packaging the equipment and sending it out for sanitization. This practice takes five to ten days and is costly. The RedLine CEO proposed to flip the decontamination process by bringing the cleaning process to the fire station, sanitizing the gear on site, therefore decreasing the turnaround time, and increasing customer interface. To this end the entrepreneur developed a Mobile Extraction Unit (MEU), a sanitation system inside an intermodal container, pulled by a Freightliner Hauler (truck). The MEU would provide cleaning on demand, capable of on-site sanitization within 48 hours of exposure, with a capacity of 40 sets of gear per day. With the MEU, the RedLine CEO demonstrated the viability of on-site cleaning to several fire chiefs in his region. Within weeks the word of this new cleaning service spread throughout the firefighter community and CEO RedLine was approached with offers to buy MEU’s. Rather than sell just the truck, the CEO decided to expand his business through franchising to become a nationally recognized brand. Make sure the case study has the following components:

  - Executive Summary: A concise overview of the case study, summarizing the key points, objectives, and findings.
  - Introduction: Provides background information on the industry, company, or situation being studied, along with the context and relevance of the case.
Problem Statement: Clearly defines the central problem or challenge that needs to be addressed in the case study.

Analysis: A comprehensive analysis of the situation, including relevant theories, frameworks, and models, to provide a deep understanding of the key issues involved.

Data and Evidence: Presentation of factual information, data, and evidence related to the case, ensuring accuracy and reliability.

Alternatives and Evaluation: Identification and evaluation of various possible solutions or strategies to address the problem, weighing the pros and cons of each option.

Recommendations: Clear and actionable recommendations based on the analysis and evaluation, supported by evidence and reasoning.

Implementation Plan: Detailed steps and actions required to implement the recommended solution, considering potential challenges and risks.

Evaluation and Measurement: Criteria and metrics to evaluate the success and impact of the recommended solution, along with a plan for measuring progress and outcomes.

Ethical Considerations: Discussion of any ethical dilemmas or considerations related to the case, encouraging students to analyze the ethical implications of the recommended actions.

Lessons Learned: Reflection on the key lessons and takeaways from the case study, highlighting the knowledge gained and its applicability to real-world business situations.

References: Proper citation of sources and references used in the case study, ensuring academic integrity and providing students with the opportunity to explore further readings.

Appendices: Additional supporting materials such as charts, graphs, or supplementary data that enhance the understanding of the case study.

Discussion Questions: Thought-provoking questions that promote critical thinking, analysis, and class discussion among MBA students.

P15: rewrite the case study with a lot more detail in each of the sections. Please try and make the case study 6000 words.

P16: Rewrite the case study in an academic tone. Please make sure to add the impact of generative AI and add a section on the strategy for franchise expansion. End the case study with 10 though provoking questions. The case study is aimed at working professional undertaking their MBA. Please make sure case study is at least 6000 words.

P17: Please write the answers to these questions in a detailed fashion and embed some emotion in your answers. Write it like it’s your business and you are trying to expand.

P18: Write a 8000 word MBA case study to develop franchise business for a Mobile Firefighter Turnout Gear Cleaning. The objective of the case study is to understand the dynamics of business and gain leadership skills. The case study should include impact of technology, and how the franchise strategy can leverage it. Please make sure to add the impact of generative AI and add a section on the strategy for franchise expansion. End the case study with 10 thought provoking questions. The case study is aimed at working professionals undertaking their MBA. The franchise will start in the New England Area of United States. The students reading this case study are working professionals. Use the following context and add these specifics to the case study: In March of 2022, the CEO of RedLine approached an MBA cohort for help in developing a firefighter turnout gear, mobile cleaning system franchise. The CEO, a former firefighter, knew that clean turnout gear is essential to maintain the health of firefighters. During a fire, carcinogenic particles are dispelled on and absorbed into the helmet, pants, jacket, gloves, and boots of a firefighter. Failure to thoroughly clean the turnout gear exposes the firefighter to an elevated risk of cancer and respiratory illness. In fact, firefighters have a 62% higher risk of getting esophageal cancer and a 39% increased risk of dying from that cancer than a non-firefighter (reference). The current practice of gear cleaning involves packaging the equipment and sending it out for sanitization. This practice takes five to ten days and is costly. The RedLine CEO proposed to flip the decontamination process by bringing the cleaning process to the fire station, sanitizing the gear on site, therefore decreasing the turnaround time, and increasing customer interface. To this end the entrepreneur developed a Mobile Extraction Unit (MEU), a
sanitization system inside an intermodal container, pulled by a Freightliner Hauler (truck). The MEU would provide cleaning on demand, capable of on-site sanitization within 48 hours of exposure, with a capacity of 40 sets of gear per day. With the MEU, the RedLine CEO demonstrated the viability of on-site cleaning to several fire chiefs in his region. Within weeks the word of this new cleaning service spread throughout the firefighter community and CEO RedLine was approached with offers to buy MEU’s. Rather than sell just the truck, the CEO decided to expand his business through franchising to become a nationally recognized brand. Make sure the case study has the following components: Executive Summary: A concise overview of the case study, summarizing the key points, objectives, and findings.

- P19: Write MBA case study to develop franchise business for a Mobile Firefighter Turnout Gear Cleaning. The objective of the case study is to understand the dynamics of business and gain leadership skills. The case study should include impact of technology, and how the franchise strategy can leverage it. Please make sure to add the impact of generative AI, and add a section on the strategy for franchise expansion. End the case study with 10 though provoking questions. The case study is aimed at working professional undertaking their MBA. Please use the following information as context. Please use all the figures and numbers provided.

The franchise will start in the New England Area of United States. The students reading this case study are working professionals. Use the following context and add these specifics to the case study: In March of 2022, the CEO of RedLine approached an MBA cohort for help in developing a firefighter turnout gear, mobile cleaning system franchise. The CEO, a former firefighter, knew that clean turnout gear is essential to maintain the health of firefighters. During a fire, carcinogenic particles are dispelled on and absorbed into the helmet, pants, jacket, gloves, and boots of a firefighter. Failure to thoroughly clean the turnout gear exposes the firefighter to an elevated risk of cancer and respiratory illness. In fact, firefighters have a 62% higher risk of getting esophageal cancer and a 39% increased risk of dying from that cancer than a non-firefighter (reference). The current practice of gear cleaning involves packaging the equipment and sending it out for sanitization. This practice takes five to ten days and is costly. The RedLine CEO proposed to flip the decontamination process by bringing the cleaning process to the fire station, sanitizing the gear on site, therefore decreasing the turnaround time, and increasing customer interface. To this end the entrepreneur developed a Mobile Extraction Unit (MEU), a sanitization system inside an intermodal container, pulled by a Freightliner Hauler (truck). The MEU would provide cleaning on demand, capable of on-site sanitization within 48 hours of exposure, with a capacity of 40 sets of gear per day. With the MEU, the RedLine CEO demonstrated the viability of on-site cleaning to several fire chiefs in his region. Within weeks the word of this new cleaning service spread throughout the firefighter community and CEO RedLine was approached with offers to buy MEU’s. Rather than sell just the truck, the CEO decided to expand his business through franchising to become a nationally recognized brand. Make sure the case study has the following components:

Please use the following format for the case study:

1. Executive Summary (100-200 words)
2. Introduction (200-300 words)
3. Problem Statement (100-200 words)
4. Analysis (1000-1500 words)
5. Data and Evidence (300-500 words)
6. Alternatives and Evaluation (500-800 words)
7. Recommendations (300-500 words)
8. Implementation Plan (300-500 words)

9. Evaluation and Measurement (200-400 words)

10. Ethical Considerations (200-400 words)

11. Lessons Learned (200-400 words)

12. References (Not included in the word count)

13. Appendices (Not included in the word count)

14. Discussion Questions (10-15 questions)

Please write the case study in an academic tone. The case study is aimed at working professionals, so please make sure all the content is specific. Avoid using any generic terms.

- P20: please rewrite sections 5-14 with at least 300 words in each section.

- P21: Write answers to the questions as you were the CEO of Redline. Embed some emotion in your answers.

- P22: create a teaching note for the MBA instructor to teach this course. Use an academic tone.
Appendix B
Case Study

Case Study: Development of a franchise business for Mobile Firefighter Turnout Gear Cleaning

1. Executive Summary

This case study delves into the development of a franchise business for Mobile Firefighter Turnout Gear Cleaning initiated by RedLine, led by a former firefighter CEO. The objective is to understand business dynamics and gain leadership skills. The CEO's vision was to prioritize firefighter health by introducing on-site gear cleaning, reducing the turnaround time and increasing customer interface.

The Mobile Extraction Unit (MEU) was developed, proving its viability to several fire chiefs in the New England area. With overwhelming interest, the CEO chose franchising to expand nationally. This study explores the impact of technology, specifically generative AI, on customer service, predictive maintenance, and overall efficiency. It also outlines a franchise expansion strategy, ethical considerations, and critical lessons learned.

2. Introduction

The firefighter turnout gear cleaning industry is critical for maintaining firefighter health and safety. In March 2022, the CEO of RedLine, a former firefighter, recognized the dire health risks posed by carcinogenic exposure on turnout gear. The conventional off-site cleaning process was time-consuming and costly, necessitating an innovative on-site cleaning solution. This case study explores RedLine's journey to establish a franchise network, leveraging generative AI, integrating technology, effective leadership strategies, and ethical considerations. It aims to equip MBA professionals with practical insights into franchise development and industry dynamics.

3. Problem Statement

The primary challenge is to develop a franchise business for Mobile Firefighter Turnout Gear Cleaning in the New England area, ensuring streamlined operations, consistent quality standards, and a robust brand reputation.

4. Analysis

The analysis encompasses:

- Market Penetration Strategies: Understanding the New England market, competitive landscape, and designing targeted marketing approaches to gain traction among firefighting departments and municipalities.
- Impact of Generative AI: Evaluating the role of generative AI, specifically ChatGPT, in augmenting customer service, predictive maintenance, and enhancing customer satisfaction.
- Technology Integration: Assessing the impact of technology integration on streamlining franchise operations and customer engagement, while ensuring seamless MEU functionality.
- Franchise Management: Addressing challenges in managing a geographically dispersed franchise network and maintaining uniform service quality and brand identity.
- Leadership Strategies: Exploring the CEO's role as an entrepreneurial leader in driving innovation, fostering a collaborative culture, and ensuring franchisee engagement.

5. Data and Evidence

The data and evidence presented in this case study play a pivotal role in validating RedLine's approach to revolutionizing the firefighter turnout gear cleaning industry. Extensive market research was conducted to understand the current state of the industry and identify potential opportunities for the
MEU service. Customer feedback from firefighting departments and municipalities provided valuable insights into their pain points with the existing off-site gear cleaning process. Testimonials from firefighters who experienced the benefits of on-site cleaning further reinforced the significance of RedLine's innovation.

In addition to qualitative data, quantitative evidence showcases the potential impact of the MEU service. Statistical data on the prevalence of esophageal cancer among firefighters compared to non-firefighters highlighted the alarming health risks posed by inadequate gear cleaning practices. The data further demonstrated the urgent need for a turnaround time reduction in gear cleaning, as the longer the carcinogenic particles remained on the gear, the higher the health risks for firefighters.

Moreover, financial projections and cost analysis provided a comprehensive understanding of the economic feasibility of the franchise model. This data demonstrated the potential for profitable growth, attracting potential investors and franchisees. The financial projections took into account initial investment costs, recurring expenses, revenue projections, and estimated ROI, building confidence in the business model's long-term sustainability.

6. Alternatives and Evaluation

In considering the expansion of RedLine's franchise business, several alternatives were thoroughly examined to identify the most effective and sustainable strategy. These alternatives encompassed various franchise models, marketing approaches, technology integration options, and AI utilization.

The evaluation process involved a comprehensive analysis of each alternative's pros and cons, considering factors such as scalability, cost-effectiveness, market penetration, and alignment with RedLine's core values. For franchise models, options ranged from single-unit franchises in strategic locations to multi-unit and area development franchises for broader coverage. The evaluation considered the trade-offs between controlled expansion and rapid growth potential.

Regarding marketing approaches, traditional advertising, social media campaigns, and local community engagement were evaluated to determine the most impactful methods for targeting firefighting departments and municipalities. Special emphasis was given to leveraging testimonials and case studies from satisfied firefighter customers to establish credibility and build trust within the firefighting community.

Technology integration alternatives explored the benefits and challenges of adopting advanced technologies like generative AI, ChatGPT, for customer service and predictive maintenance. The evaluation focused on how AI could enhance customer engagement, improve operational efficiency, and elevate the overall customer experience.

Lastly, the AI utilization analysis encompassed evaluating the ethical implications of implementing generative AI in customer interactions and ensuring data privacy and security. Consideration was given to striking a balance between automation and personalized customer support, ensuring that the human touch remained integral to RedLine's customer service.

Ultimately, the evaluation process guided RedLine in selecting the most suitable alternatives for each aspect of the franchise expansion strategy, ensuring alignment with their overarching vision and values.

7. Recommendations

Based on the comprehensive analysis and evaluation, several key recommendations emerged to propel the successful development and expansion of RedLine's Mobile Firefighter Turnout Gear Cleaning franchise business.

Firstly, RedLine is recommended to adopt a multi-unit franchise model to establish a strong presence in the New England area. This model allows for controlled expansion, enabling the CEO to maintain close supervision and ensure consistent quality standards across franchise locations.
Secondly, a targeted marketing approach emphasizing the importance of firefighter health and safety should be implemented. Utilizing testimonials and case studies of satisfied firefighter customers will be instrumental in building trust and credibility within the firefighting community.

Thirdly, RedLine should invest in generative AI, particularly ChatGPT, to enhance customer service and predictive maintenance capabilities. Implementing AI-driven customer support will streamline interactions, while predictive maintenance will ensure timely servicing of the MEU units, minimizing downtime and enhancing efficiency.

Fourthly, the company should prioritize franchisee training and support, ensuring that franchisees are well-equipped to deliver top-notch cleaning services and uphold the RedLine brand reputation. Regular training sessions, ongoing guidance, and collaborative networking opportunities will foster a sense of camaraderie among franchisees.

Finally, ethical considerations should remain at the forefront of decision-making. RedLine must ensure transparency, data privacy, and maintain a human-centered approach despite implementing AI technology.

By adhering to these recommendations, RedLine can lay the foundation for a successful and impactful franchise expansion, establishing a nationally recognized brand that sets the benchmark for firefighter turnout gear cleaning services.

8. Implementation Plan

The successful execution of the franchise expansion strategy for RedLine's Mobile Firefighter Turnout Gear Cleaning business requires a well-structured implementation plan. This plan outlines the step-by-step actions and timelines required to achieve the set objectives while managing available resources effectively.

- Franchise Development Process: RedLine will begin by establishing a dedicated team responsible for franchise development. This team will conduct extensive research to identify potential franchisees and evaluate their suitability based on predetermined criteria, such as financial capacity, commitment to firefighter health, and alignment with RedLine's values.

- Training and Support Program: A comprehensive training program will be designed to ensure that franchisees and their staff receive thorough training on the MEU operation, cleaning protocols, customer service, and business management. Additionally, RedLine will set up ongoing support mechanisms to address any challenges faced by franchisees and promote knowledge-sharing among them.

- Market Penetration Strategy: RedLine will execute a targeted marketing approach, leveraging testimonies and case studies of satisfied firefighter customers to build credibility and trust within the firefighting community. The marketing team will deploy digital advertising, social media campaigns, and attend relevant firefighting conferences and events to raise awareness about the MEU service.

- Generative AI Integration: RedLine will invest in generative AI, particularly ChatGPT, to enhance customer service interactions and predictive maintenance. The technology team will collaborate with AI experts to integrate ChatGPT into the website and customer support channels, allowing for efficient and personalized responses to customer queries.

- Ethical Framework: RedLine will develop an ethical framework to guide the implementation of generative AI, ensuring transparency, data privacy, and responsible use of customer data. The framework will also emphasize the importance of maintaining a human-centered approach, even with AI implementation.

- Operational Logistics: The company will establish a supply chain management system to ensure a steady supply of cleaning materials and equipment required for the MEU service. RedLine will collaborate with suppliers to negotiate favorable terms and maintain product quality.
Franchisee Selection and Agreements: Once potential franchisees are identified, RedLine will enter into franchise agreements that clearly outline the roles, responsibilities, and expectations of both parties. The agreements will also include provisions for royalty payments, territorial exclusivity, and operational guidelines.

Training and Equipment Deployment: Following the selection of franchisees, RedLine will initiate training programs to educate them on the operation and maintenance of the MEU units. Once trained, the MEUs will be deployed to respective franchise locations.

Soft Launch and Customer Feedback: Before the official launch, RedLine will conduct a soft launch to test operations and gather customer feedback. The feedback will be invaluable in making any necessary adjustments and improving service quality.

Official Launch and Marketing Blitz: After successful soft launch, RedLine will officially launch the franchise network, accompanied by a marketing blitz to maximize visibility and generate excitement within the firefighting community.

By diligently implementing this plan, RedLine can lay a strong foundation for its franchise expansion, establishing a sustainable and successful network of MEU service centers across the New England area.

9. Evaluation and Measurement

To assess the success and impact of the franchise expansion, RedLine will establish clear criteria and metrics for evaluation and measurement. These metrics will span various aspects of the business, including financial performance, customer satisfaction, brand reputation, and efficiency.

Financial Performance: Key financial metrics such as revenue growth, profitability, and return on investment (ROI) will be tracked to ensure that the franchise expansion remains economically viable and financially rewarding for both the company and franchisees.

Customer Satisfaction: Customer feedback surveys and online reviews will be used to gauge customer satisfaction with the MEU service. RedLine will monitor customer feedback to identify areas for improvement and ensure that high-quality service is consistently delivered across all franchise locations.

Brand Reputation: RedLine will monitor brand reputation by tracking online mentions, social media sentiment, and media coverage. A positive brand reputation is crucial in establishing a strong and trustworthy franchise network.

Operational Efficiency: The effectiveness and efficiency of the franchise network's operations will be evaluated by measuring the turnaround time for gear cleaning, equipment maintenance frequency, and customer service response times. The integration of generative AI will be monitored to ensure that it enhances operational efficiency and customer experience.

Franchisee Performance: Franchisee performance will be assessed based on factors such as compliance with operational standards, customer feedback, and revenue growth. High-performing franchisees will be recognized and provided with additional support, while underperforming franchisees will receive additional training and guidance to improve their performance.

Sustainability and Scalability: RedLine will assess the scalability and long-term sustainability of the franchise network, ensuring that the business model can be successfully replicated in other regions and markets.

Generative AI Impact: The impact of generative AI, particularly ChatGPT, will be evaluated based on the improvement in customer service efficiency, customer satisfaction scores, and the reduction in customer service escalations.
By continuously evaluating these metrics, RedLine can make data-driven decisions to enhance the performance of the franchise network and maintain its position as a pioneer in the Mobile Firefighter Turnout Gear Cleaning industry.

10. Ethical Considerations

As RedLine expands its franchise business, ethical considerations must remain at the core of its operations and decision-making. Several key ethical considerations are inherent in the implementation of the Mobile Firefighter Turnout Gear Cleaning franchise.

- Data Privacy and Security: As RedLine leverages generative AI, it must prioritize the privacy and security of customer data. RedLine should implement robust data protection measures, ensuring that customer information is not misused or vulnerable to breaches.

- Transparency in AI Implementation: To foster trust with customers, RedLine must be transparent about the use of generative AI in customer interactions. Customers should be informed when they are engaging with an AI-powered system and understand how their data is being used to enhance their experience.

- Balancing AI and Human Interaction: While generative AI can streamline customer service, RedLine should strike a balance between AI and human interaction. Human touch is essential in certain situations, particularly in handling complex or sensitive customer inquiries.

- Ethical Marketing Practices: RedLine should adhere to ethical marketing practices, ensuring that advertising and promotional efforts do not mislead customers or exploit their emotions. Honesty and integrity in marketing campaigns are crucial to building lasting relationships with customers.

- Franchisee Relationships: Ethical considerations extend to the relationship between RedLine and its franchisees. The company should prioritize fairness, transparency, and open communication, ensuring that franchisees are treated with respect and provided with necessary support to succeed.

- Community Impact: As RedLine expands its franchise network, the company should consider its impact on local communities. Providing employment opportunities and engaging in socially responsible initiatives can foster positive relationships with communities and enhance the brand's reputation.

- Environmental Sustainability: RedLine should prioritize environmental sustainability in its franchise operations. Implementing green practices, such as eco-friendly cleaning solutions and waste reduction measures, aligns with the company's commitment to firefighter health and the overall well-being of the community.

- Social Responsibility: Beyond firefighting gear cleaning, RedLine should actively contribute to social causes related to firefighter health and safety. Engaging in community outreach and supporting firefighter-related initiatives can demonstrate the company's commitment to social responsibility.

By upholding these ethical considerations, RedLine can build a reputable and socially responsible franchise network that positively impacts the firefighting community while maintaining its commitment to firefighter health and safety.

11. Lessons Learned

The journey of developing and expanding RedLine's Mobile Firefighter Turnout Gear Cleaning franchise has provided invaluable lessons for the CEO, franchisees, and aspiring entrepreneurs alike.

- Customer-Centricity: Prioritizing customer needs and pain points is fundamental to the success of any business. RedLine's customer-centric approach, driven by the commitment to firefighter health, has been instrumental in gaining the trust and loyalty of its customers.
• Innovation and Technology: Embracing innovation and leveraging technology can be transformative. RedLine's integration of generative AI, ChatGPT, has revolutionized customer service, demonstrating the potential of technology to enhance customer experiences.

• Collaboration and Networking: Building strong collaborative relationships and networks within the firefighting community has been key to RedLine's rapid expansion. Engaging with fire chiefs and actively seeking their feedback has fostered a sense of partnership and mutual benefit.

• Franchise Support and Training: The success of a franchise network heavily depends on the support and training provided to franchisees. RedLine's commitment to ongoing training and support has contributed to consistent service quality across franchise locations.

• Adaptability and Flexibility: The business landscape is ever-evolving, and adaptability is critical for sustained success. RedLine's ability to adapt its strategies based on market feedback and changing customer needs has allowed it to stay ahead of the competition.

• Ethical Leadership: Ethical leadership principles are integral to long-term success. By prioritizing ethical considerations in its operations, RedLine has garnered the trust of its customers and stakeholders.

• Investing in Employee Development: Employee development and empowerment are vital in fostering a positive work culture. RedLine's investment in employee training and providing growth opportunities has resulted in a motivated and dedicated workforce.

• Responsibility to Community: Businesses have a social responsibility to positively impact the communities they serve. RedLine's commitment to firefighter health and safety has resonated with the firefighting community, strengthening its brand reputation.

• Balancing Innovation and Tradition: While innovation drives growth, striking a balance with traditional service values is crucial. RedLine's integration of technology complements its commitment to maintaining the human touch in customer interactions.

• Continuous Learning: The entrepreneurial journey is a continuous learning process. RedLine's CEO continually seeks knowledge and insights to improve the franchise network, demonstrating the importance of continuous learning and growth mindset.

These lessons serve as valuable takeaways for MBA professionals and aspiring entrepreneurs, providing actionable insights and guiding principles for future business endeavors.

Discussion Questions

• What factors contributed to the rapid spread of RedLine's new cleaning service within the firefighting community?
• How can RedLine ensure consistent service quality and brand identity across its franchise network in diverse locations?
• In what ways can generative AI, specifically ChatGPT, enhance customer engagement and predictive maintenance in the Mobile Firefighter Turnout Gear Cleaning business?
• What ethical considerations should RedLine prioritize when implementing generative AI in its customer interactions?
• As an MBA professional, how would you approach the development of a sustainable and scalable franchise model for RedLine's business expansion?
• How can RedLine strike a balance between AI automation and maintaining a human-centered approach in its customer service interactions?
• What steps can RedLine take to foster a collaborative and supportive network among its franchisees?
• How might RedLine demonstrate its commitment to social responsibility and community impact beyond gear cleaning services?
• As a prospective franchisee, what factors would you consider in evaluating the potential of the Mobile Firefighter Turnout Gear Cleaning franchise opportunity?
• Reflecting on RedLine's journey, what key leadership traits and skills does the CEO exhibit, and how have they contributed to the company's success?

These thought-provoking questions encourage critical thinking and analysis, stimulating robust discussions among working professionals undertaking their MBA studies. They provide an opportunity to explore various aspects of the case study and apply business principles to real-world scenarios.
Appendix C

Teaching Note including answers to critical thinking questions.

Teaching Note: Developing a Franchise Business for Mobile Firefighter Turnout Gear Cleaning

Academic Course Overview:

This MBA course aims to provide students with an in-depth understanding of the dynamics of business development, leadership, and the impact of technology within the context of a Mobile Firefighter Turnout Gear Cleaning franchise. The case study focuses on the journey of RedLine, a company founded by a former firefighter, as it pioneers a revolutionary on-site cleaning solution using a Mobile Extraction Unit (MEU). The case study delves into the challenges, opportunities, and ethical considerations involved in developing and expanding a franchise business in the New England Area of the United States.

Course Objectives:

- Analyze the factors contributing to the rapid success of RedLine's on-site cleaning service within the firefighting community.
- Evaluate the impact of generative AI, specifically ChatGPT, on enhancing customer engagement and predictive maintenance in the firefighting industry.
- Develop a sustainable and scalable franchise model for RedLine's business expansion, considering market dynamics and the integration of innovative technologies.
- Understand the ethical considerations and responsible practices associated with implementing generative AI in customer interactions.
- Examine strategies to foster a collaborative and supportive network among franchisees for consistent service quality and brand identity.
- Explore RedLine's commitment to social responsibility and community impact beyond gear cleaning services, encouraging students to think beyond profitability.
- Draw lessons on leadership traits and skills demonstrated by the RedLine CEO and their role in driving business success.

Teaching Approach:

The course is designed for working professionals undertaking their MBA, with a focus on practical application of business concepts. The case study serves as the core pedagogical tool, supplemented by relevant readings, industry reports, and real-world examples. Students are encouraged to engage in group discussions, critical thinking exercises, and case analysis to deepen their understanding of the subject matter.

Teaching Methodology:

- Case Study Analysis: Students will actively participate in dissecting the RedLine case study, identifying key issues, and proposing viable solutions.
- Group Exercises: Students will work in groups to develop franchise expansion strategies, considering market research, financial projections, and technology integration.
- Guest Speakers: Inviting guest speakers, such as industry experts or successful franchisees, provides students with valuable insights and practical experiences.
- Debates and Presentations: Organizing debates on ethical considerations related to AI implementation fosters critical thinking and constructive discussions.
- Business Plan Development: Students will collaborate to create a comprehensive business plan for a potential franchisee, applying the concepts learned in the course.
- Role-Playing: Simulated scenarios will challenge students to assume roles as franchisees or RedLine executives, addressing challenges and making business decisions.

Assessment Methods:
• Case Study Presentations: Groups will present their analyses of the RedLine case, highlighting key findings and proposed strategies.
• Business Plan Evaluation: Individual or group business plans will be assessed based on their feasibility, alignment with RedLine's goals, and innovation.
• Class Participation: Active participation in discussions, debates, and exercises will be evaluated, encouraging engagement and critical thinking.
• Reflection Papers: Students will submit reflective essays on the leadership traits and ethical considerations demonstrated by the RedLine CEO.
• Final Examination: The examination will cover course concepts, their application in the case study, and broader implications for the firefighting industry.

**Answers as the CEO of RedLine**

**What factors contributed to the rapid spread of RedLine's new cleaning service within the firefighting community?**

As the CEO of RedLine, witnessing the rapid spread of our new cleaning service within the firefighting community was truly exhilarating. Several factors contributed to this swift success. First and foremost, our commitment to firefighter health and safety resonated deeply with the firefighting community, creating a strong sense of trust and loyalty. Firefighters understood the critical importance of clean turnout gear in safeguarding their well-being, and our on-site cleaning solution addressed their pressing needs.

Moreover, our proactive approach of engaging with fire chiefs and demonstrating the effectiveness of our Mobile Extraction Unit (MEU) played a pivotal role. By showcasing the MEU's capabilities and the potential to drastically reduce turnaround times, we instilled confidence in fire chiefs that our service was a game-changer.

The power of word-of-mouth cannot be underestimated. As firefighters experienced the tangible benefits of our on-site cleaning, they became our enthusiastic advocates, spreading the news like wildfire (pun intended) throughout the firefighting community. Our dedication to providing exceptional service further fueled positive reviews and referrals.

**How can RedLine ensure consistent service quality and brand identity across its franchise network in diverse locations?**

Maintaining consistent service quality and brand identity across our franchise network is a matter close to my heart as the CEO of RedLine. To achieve this, we will implement a robust training and support program for all franchisees. By providing comprehensive training on our cleaning processes, customer service standards, and the proper utilization of generative AI in customer interactions, we empower franchisees to uphold our high service standards.

Additionally, regular performance assessments and mystery shopper evaluations will be conducted to monitor service quality across diverse locations. This ensures that our customers receive the same top-notch experience, irrespective of the franchise location they visit. As a passionate leader, I believe that a cohesive brand identity can be maintained through centralized marketing and branding efforts, with clear guidelines and creative assets provided to franchisees.

In what ways can generative AI, specifically ChatGPT, enhance customer engagement and predictive maintenance in the Mobile Firefighter Turnout Gear Cleaning business? Generative AI, especially ChatGPT, has been a game-changer for RedLine, not only in streamlining customer engagement but also in predictive maintenance. Our customers are at the heart of everything we do, and ChatGPT allows us to provide personalized and prompt customer service 24/7. The emotionally intelligent responses generated by ChatGPT ensure that our customers feel valued and heard, enhancing their overall experience with our brand.
Moreover, generative AI can revolutionize predictive maintenance in our business. By analyzing data from gear cleaning and maintenance patterns, ChatGPT can predict potential gear issues and recommend preventive measures to firefighters. This proactive approach showcases our commitment to firefighter safety and strengthens the trust firefighters place in RedLine as a partner in their well-being.

As the CEO, witnessing the positive impact of generative AI on our customer engagement and predictive maintenance strategies fills me with pride and excitement for the future.

**What ethical considerations should RedLine prioritize when implementing generative AI in its customer interactions?**

Ethical considerations are of utmost importance in every aspect of our business, including the implementation of generative AI in customer interactions. As the CEO, I am deeply committed to safeguarding customer data privacy and security. Our customers' trust is the bedrock of our success, and we will adhere to strict data protection measures to ensure that customer information is never compromised or misused.

Transparency is another ethical principle we prioritize. We will clearly communicate to our customers when they are interacting with ChatGPT and explain how their data is being used to enhance their experience. This openness fosters trust and empowers customers to make informed choices.

Furthermore, we will strike a delicate balance between AI automation and maintaining human-centered interactions. While ChatGPT enhances efficiency, we recognize that human touch is irreplaceable in certain situations, especially in handling sensitive customer inquiries or addressing complex issues.

**As an MBA professional, how would you approach the development of a sustainable and scalable franchise model for RedLine's business expansion?**

As the CEO, sustainability and scalability are at the forefront of my vision for RedLine's franchise model. Firstly, I would conduct thorough market research and feasibility studies to identify potential franchise territories with high demand for our services and a supportive regulatory environment. Understanding the nuances of each region is crucial to tailor our franchise offering accordingly.

Collaboration with franchisees is essential for success. I would foster open communication and a sense of partnership, ensuring that franchisees have a voice in shaping our collective future. Moreover, a comprehensive franchisee training program, backed by ongoing support and resources, will equip franchisees with the tools they need to thrive.

I firmly believe in investing in technology and innovation to drive scalability. As part of our expansion strategy, I would explore the possibility of implementing generative AI in various aspects of our operations, from customer service to predictive maintenance. Leveraging technology will bolster our efficiency and allow us to serve a larger customer base effectively.

Furthermore, maintaining a strong brand reputation is paramount to sustainability. By upholding our commitment to firefighter health and safety and being socially responsible, RedLine will continue to be a trusted and recognized brand in the firefighting community, contributing to the long-term success of our franchise model.

**How can RedLine strike a balance between AI automation and maintaining a human-centered approach in its customer service interactions?**

Striking the perfect balance between AI automation and a human-centered approach is a passion of mine as the CEO of RedLine. While AI automation significantly enhances customer service efficiency, I firmly believe in preserving the human touch in our interactions.

Our approach is to leverage AI, specifically ChatGPT, to handle routine inquiries and provide prompt responses to customer queries. This allows our human customer service representatives to focus on more complex and emotionally sensitive issues that require empathy and creativity.
As a firefighter at heart, I deeply understand the value of human connections and the reassurance that a fellow human can provide in times of need. By empowering our customer service representatives with AI assistance, we ensure that our customers receive the best of both worlds—a seamless and efficient experience backed by genuine human care.

**What steps can RedLine take to foster a collaborative and supportive network among its franchisees?**

Nurturing a collaborative and supportive network among our franchisees is a top priority for RedLine. I believe in creating an inclusive and transparent culture that fosters open communication and a sense of camaraderie.

To achieve this, I envision regular franchisee meetups and forums where franchisees can share their experiences, challenges, and best practices. These gatherings will serve as opportunities for brainstorming and collaboration, strengthening the bonds within our franchise network.

In addition, I am an advocate of recognizing and celebrating the successes of our franchisees. By acknowledging outstanding performance and providing incentives, we inspire healthy competition and create a supportive ecosystem that encourages all franchisees to excel.

Furthermore, I envision a centralized support system where franchisees can access resources, training materials, and real-time updates easily. This shared knowledge hub will empower franchisees with the tools they need to thrive, fostering a sense of empowerment and unity.

**How might RedLine demonstrate its commitment to social responsibility and community impact beyond gear cleaning services?**

As the CEO, I am deeply passionate about RedLine's social responsibility and community impact. Beyond gear cleaning services, we can contribute to the firefighting community through various initiatives.

One approach is to collaborate with firefighting organizations and support initiatives related to firefighter health and well-being. By sponsoring research on firefighter-related health issues and promoting awareness campaigns, we can positively influence the entire firefighting ecosystem.

Furthermore, I believe in actively participating in community outreach programs. RedLine can organize workshops and training sessions on fire safety and prevention for the public, strengthening our connection with the communities we serve.

Moreover, environmental sustainability is crucial to RedLine's social responsibility. We can prioritize eco-friendly practices, such as using biodegradable cleaning agents and energy-efficient technologies, to minimize our ecological footprint.

By being actively involved in social causes and giving back to the community, RedLine can become more than just a service provider—we can be a catalyst for positive change in the firefighting community and beyond.

As a prospective franchisee, what factors would you consider in evaluating the potential of the Mobile Firefighter Turnout Gear Cleaning franchise opportunity?

As a prospective franchisee, I would thoroughly assess the Mobile Firefighter Turnout Gear Cleaning franchise opportunity to ensure its viability and alignment with my goals.

First and foremost, I would evaluate the demand for the service in the New England Area and assess the potential for growth in the firefighting community. Understanding the market dynamics and the competitive landscape is crucial in making an informed decision.

Next, I would closely review RedLine's franchise model, including the initial investment, ongoing fees, and support provided by the franchisor. Transparent communication about the franchise terms and expectations is essential to building trust.
Additionally, I would explore the technology and innovation aspects of the franchise, particularly the integration of generative AI in customer service and predictive maintenance. Embracing cutting-edge technology is a key driver of success in today's business landscape.

Understanding the brand reputation and customer satisfaction levels of existing RedLine franchises would also be on my checklist. Positive customer feedback and a strong brand image are indicative of a successful franchise model.

Finally, I would assess the franchisor's commitment to social responsibility and community impact. As a prospective franchisee, I would want to align myself with a brand that goes beyond profitability and actively contributes to the greater good.

**Reflecting on RedLine's journey, what key leadership traits and skills does the CEO exhibit, and how have they contributed to the company's success?**

As the CEO of RedLine, I believe that my leadership traits and skills have been instrumental in shaping the company's success. Firstly, passion and dedication to the firefighting community drive every decision I make. My experience as a former firefighter allows me to empathize with the challenges firefighters face, and this empathy guides my commitment to providing top-notch gear cleaning services.

I am an ardent believer in innovation and forward-thinking. Embracing technology, such as generative AI, has given RedLine a competitive edge and allowed us to pioneer on-site cleaning services. My vision of leveraging technology for firefighter safety has garnered support from the firefighting community and resulted in rapid business growth.

Being an approachable and collaborative leader has fostered a strong sense of teamwork and unity among our employees and franchisees. Open communication channels allow everyone's voice to be heard, promoting a culture of innovation and continuous improvement.

Moreover, I value transparency and ethical conduct, which has earned RedLine the trust of our customers and franchisees. My commitment to social responsibility goes beyond business, inspiring initiatives that positively impact the firefighting community and society at large.

Overall, my leadership style centers on creating a shared vision, empowering the team, and staying committed to the core values that define RedLine. Together, these traits have driven our success and will continue to shape our journey as we expand our franchise business and impact the lives of firefighters nationwide.