

How ChatGPT Would Contribute to Conduct Lean Canvas Model

By

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Spring, 2023

A paper submitted in partial fulfillment of the requirements for the degree of

Master of Science in Management and Systems

at the

Division of Programs in Business

School of Professional Studies

New York University

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Abstract

Contribution

As expected, using ChatGPT to create a Lean Canvas model will significantly improve the efficiency of both business and academic researchers and learners. An unexpected result of this project is that the particular iterated model, GPT 4.0 is capable of creating an objective focus group to help the user to evaluate the efficiency and experience of using ChatGPT to create a Lean Canvas model.

Background

The Lean Canvas model, a popular one-page business plan template, helps startups and entrepreneurs break down their ideas into core assumptions. However, creating a Lean Canvas can be challenging and time-consuming, especially for those without marketing or business planning experience. This project explores the potential of OpenAI's ChatGPT, an AI language model, as a tool for developing Lean Canvases, aiming to create a more accurate, efficient, and streamlined process for business planning and marketing strategy development.

Research Questions

How effectively can ChatGPT fill in the blocks of the Lean Canvas based on the provided information or data for a real-world case? To what extent does ChatGPT improve the efficiency and accuracy of Lean Canvas creation compared to manual methods? How to use ChatGPT to create a Lean Canvas model? What new evaluation metrics can be developed to better assess the quality of ChatGPT-generated Lean Canvas models?

Methodology

The project's goal is to use case-study methodology to show how to use ChatGPT to the Lean Canvas paradigm for a more precise, effective, and straightforward procedure.

Findings

ChatGPT demonstrates strong capabilities in text generation and basic digital processing, resulting in a substantial increase in efficiency when creating Lean Canvas models compared to manual methods. During the evaluation phase, the project uncovered GPT-4.0's capacity to simulate a focus group for assessing the user experience with ChatGPT, introducing an innovative approach for project evaluation.

Acknowledgment

I sincerely thank Dr. Andres Fortino, Prof. Joshua Moritz, and Ms. Amy McIntosh for their contribution as sponsors and data supporters of this project and as mentors during this project. I also want to thank all the instructors in the Management and Systems program whom I have taken courses with and learned a great deal.

Declaration

I, Tianhao Ning, declare that this project report submitted by me to the School of Professional Studies, New York University in partial fulfillment of the requirement for the award of the degree of Master of Science in Management and Systems is a record of project work carried out by me under the guidance of Dr. Andres Fortino, NYU Clinical Assistant Professor of Management and Systems. I grant powers of discretion to the Division of Programs in Business, School of Professional Studies, and New York University to allow this report to be copied in part or in full without further reference to me. The permission covers only copies made for study purposes or inclusion in the Division of Programs in Business, School of Professional Studies, and New York University research publications, subject to normal conditions of acknowledgment. I further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

Introduction

Background

The Lean Canvas model sometimes referred to as the Business Canvas Model is a well-liked one-page business plan template that startups and entrepreneurs use to dissect original concepts into its core assumptions. Key elements including the value proposition, customer segments, channels, revenue streams, cost structure, solutions, problems, unfair advantages, and key metrics are identified and organized by the model with the aid of the user.

Yet, developing a Lean Canvas model may be difficult and time-consuming, particularly for people or companies with no background in marketing or business planning. The traditional method frequently calls for significant investigation, data gathering, and analysis, which may be time-consuming and expensive.

Artificial intelligence (AI) technology has been progressively included in the Lean Canvas design process to solve this difficulty. AI may assist in automating the process of collecting and evaluating data, making it simpler and requiring less time and effort.

One such AI tool that has demonstrated considerable promise in the areas of business planning and marketing is OpenAI's ChatGPT. ChatGPT is an artificial language model that can produce text that sounds like human speech, making it the perfect tool for developing marketing and business strategy.

This project intends to investigate ChatGPT's potential as a tool for developing Lean Canvases. The project aims to create a more precise, effective, and straightforward approach to developing company planning and marketing strategies by merging ChatGPT with the Lean Canvas concept. The ultimate objective is to show the viability and efficacy of ChatGPT as a Lean Canvas creation solution, giving startups and entrepreneurs cutting-edge technology to aid in the accomplishment of their business objectives.

ChatGPT

ChatGPT is a large language model developed by OpenAI. It has been trained on a vast corpus of text data using a deep learning algorithm, which has allowed it to learn about a wide range of topics and generate human-like responses to natural language queries.

The primary goal of ChatGPT is to understand and interpret natural language queries and generate relevant, informative, and useful responses that are similar to what a human might provide. Additionally, ChatGPT has three main objectives: language understanding, knowledge generation, and conversational engagement.

1. **Language Understanding:** The first objective is to understand and interpret the meaning of the text that I receive. This involves identifying the different parts of speech, analyzing the syntax of the sentence, and understanding the context in which the text was written.
2. **Knowledge Generation:** The second objective is to use the information that it has learned from the text to generate new knowledge. This involves synthesizing information from

different sources, connecting related ideas, and presenting the information coherently and understandably.

3. **Conversational Engagement:** The third objective is to engage in meaningful conversations with users, by responding to their questions, providing helpful information, and even generating new ideas that can help them solve problems or achieve their goals.

Lean Canvas Model

The Lean Canvas is a one-page business plan that helps entrepreneurs and startups quickly identify key elements of their business and validate their business model hypothesis.

The Lean Canvas is divided into nine key sections, including customer segments, problem, solution, unique value proposition, revenue streams, cost structure, key metrics, channels, and customer relationships. Each section of the canvas is designed to help entrepreneurs focus on the most important aspects of their business, while also providing a framework for testing and validating their assumptions.

By using the Lean Canvas model, entrepreneurs can quickly iterate and refine their business model until they find a viable and sustainable model that can be scaled for growth. The Lean Canvas has become a popular tool for startups and entrepreneurs around the world and is widely used in the startup community as a key tool for planning, strategy, and validation.

<p>Problem</p> <p>Top 3 problems</p>	<p>Solution</p> <p>Top 3 features</p>	<p>Unique Value Proposition</p> <p>Single, clear, compelling message that states why you are different and worth buying</p>	<p>Unfair Advantage</p> <p>Can't be easily copied or bought</p>	<p>Customer Segments</p> <p>Target customers</p>
	<p>Key Metrics</p> <p>Key activities you measure</p>		<p>Channels</p> <p>Path to customers</p>	
<p>Cost Structure</p> <p>Customer Acquisition Costs Distribution Costs Hosting People, etc.</p>		<p>Revenue Streams</p> <p>Revenue Model Life Time Value Revenue Gross Margin</p>		

Figure 1

Purpose of The Project

There is a current innovative marketing method, Lean Canvas, also known as the Business Canvas Model. It is a one-page business plan template that aids in breaking down creative ideas into their fundamental premises. For this project, the product from OpenAI, ChatGPT, is being introduced to help users have an automated artificial intelligence process to help them fill in the blocks of the lean canvas. The project's ultimate goal is to demonstrate the potential of ChatGPT as a tool for Lean Canvas creation. And the final white paper illustrates that ChatGPT is feasible as a solution, how ChatGPT contributes as the solution, and measures whether it is good or not.

The project will conduct a white paper as the final deliverable. The objective of the project is to demonstrate how to implement ChatGPT to lean canvas model for a more accurate, efficient, and a more straightforward process. And as the project manager, I will proceed with the project by taking a real-world case as the exemplar and using ChatGPT to conduct a lean canvas model for that case. Then evaluate the result based on the SMART objective to see whether ChatGPT is feasible and effective as a solution. As a result, the project will prove a better process to conduct the lean canvas with the help of ChatGPT.

The final deliverable tends to demonstrate the academic use of ChatGPT in terms of helping to conduct the lean canvas model for marketing. So that the following students would be introduced to cutting-edge technology to help them to be more efficient in conducting lean canvas models, even marketing plans. The faculties and students would gain a better understanding of the Lean Canvas creation process because of the interactive session. Becoming more productive and effective, the reputation of the school will rise, and more students would come to learn the method.

Objectives of the Project

- Objective 1 - Research the function of the ChatGPT and lean canvas.
 - o Measurement: Accomplish the introduction section of the white paper and approved it by the client by Feb 24th.
- Objective 2 - Research and apply the real-world case used as an example.
 - o Measurement: Write a report for the research approved by the client by Mar 13th.
- Objective 3 - Research the way ChatGPT generates specific answers for lean canvas elements Document how ChatGPT contributes to conducting the Lean Canvas. (Use a current case as an example).
 - o Measurement: Deliver the white paper including instruction/tutorial which is exclusively for lean canvas learners and. accepted by the client by Apr 10th.
- Objective 4 - Evaluate the Feasibility and effectiveness report of ChatGPT implementation & Final review for the final deliverable, white paper.
 - o Measurement: Deliver the white paper including analyze report and be

accepted by the client by Apr 19th.

Literature Review

Introduction

The development of the world, especially the business and marketing field, has walked into a fast-paced stage, and efficiency has never been emphasized this much. People are eager to find the approach to help with analyzing business models, this is when the Business Canvas model was created since the model tool for it is scarce, and there is a research gap in this academic field. (Jin et al., 2021) Later on, the Lean Canvas model as a branch of the Business Canvas model which is a whiteboard with multiple title-named blocks that is mostly used for evaluating business ideas (Nidagundi & Novickis, 2017) to specify the customer and market factors, but when it comes to conducting the Lean Canvas model whether for a business or class material, it is a time-consuming process for the user. But with the publishment of ChatGPT, an innovative solution came out. ChatGPT can produce fluid and in-depth answers to a range of human inquiries and even rectify impolite ones. (Zhong et al., 2023)

This literature review will be focusing on the work that illustrates ChatGPT and the Lean Canvas model mainly to support the project that demonstrates the contribution of ChatGPT to conducting the Lean Canvas model. Because no such work has been done before, use ChatGPT to conduct the Lean Canvas model.

Industry

An academic institution such as NYU is keen to explore a more effective approach to create the Lean Canvas model and teach it to the following students. ChatGPT is the solution to it. In addition, the educational industry has always been the pioneer to adapt cutting-edge technology to operations. Even though ChatGPT has been labeled as an efficient production tool that significantly impacts education, the academic field has shown concerns about its power that might lead to student conduct issues. (Khalil & Er, 2023)

Such concerns indicate that for academic institutions, the purpose is not only to seek efficient solutions to complete the work but to maintain the students' conduct. More importantly, to demonstrate the correct and decent way to use ChatGPT when introducing it to the students so that to avoid the misuse of this technology and make the faculties understand that the meaning of ChatGPT is not meant to cheat on works but to improve the efficiency.

The Problem

Business Model Canvas and Lean Canvas model were both used for startup businesses based on previous academic studies, as a branch of Business Model Canvas, the Lean Canvas model is taking place as the primary tool and is applied to a marketing campaign as well. That is because the analysis that Business Canvas Model conducted was thought to be less precise on the issues. (Razabillah et al., 2023)

But the Lean Canvas model is not perfect, the problem for educators is it takes a complicated and long-term procedure to teach students to master the way to conduct the Lean Canvas model. There are nine sections in Lean Canvas and intends to use the Lean Canvas model, the user will need to fill out all the sections to do the analysis, and it is a time-consuming process. Based on the research, academic schools, such as NVC, which is a semester-long cross-university elective course at the master's level, require a boot camp to start up the courses regarding the Lean Canvas and it takes about three weeks, then it takes a week for students to learn about each section about the Lean Canvas. (Stenkjær et al., 2021) This is not what an academic institution, such as NYU, wants. NYU is a pioneer who is willing to adopt a new approach to improve the efficiency and effectiveness of teaching students.

ChatGPT is that approach, but it also has problems. Academic institutions might be concerned about its powerful capability. (Khalil & Er, 2023) In addition, as an NLP, natural language processing chatbot, ChatGPT finds it hard on processing emotion recognition. (Kocoń et al., 2023) The problem led to the necessity of human intervention, because ChatGPT cannot provide execute answers to certain questions, and it depends on the inquiries that the user types in. So only can human correction makes it more accurate and reasonable. (Megahed et al., 2023) However, ChatGPT will indeed improve the efficiency of conducting Lean Canvas but requires the demonstration of correct ways to use it to save time trying out different inquiries.

Proposed Solution

In the present day, everything is rapidly changing, which is why efficiency has become the most important thing when dealing with tasks. No exception, conducting and teaching the students to create the Lean Canvas model should be more efficient with an innovative approach, that is also what teaching faculties are looking for. ChatGPT, as a natural language processing chatbot, could give users the answers that need immediately based on the different queries the users asked. With the introduction of ChatGPT-like models, users are now able to ask much deeper inquiries and reveal much more information about their information needs. (Zuccon & Koopman, 2023) ChatGPT enables users to collect information faster than ever and helps the user to understand new content. ChatGPT will be helpful when users try to fill out each section of the Lean Canvas model, such as competitor analysis.

The Technology

The developer of the cutting-edge AI technology, ChatGPT, is OpenAI. And OpenAI is striving to impact the world in terms of implementing the natural language processing chatbot in all industries. The core technology of ChatGPT is natural language processing and pre-trained foundation model, and Self-supervised Learning. For example, there are surveys have been done regarding text generation, visual transformer, objection detection, etc. The basics of the operation are that self-supervised learning helps the model to utilize the information in the data and learn the key idea about it, then self-supervised learning involves processing the information for the pre-training for natural language processing to communicate with the user. Most of the technology that ChatGPT requires at the early stage is designed to make it capable of processing text and communicating in natural languages. In addition to it, different methods and techniques were implemented. For example, supervised fine-tuning (SFT) was designed to understand the knowledge and apply it to the real world which is an essential technique. If the work is all

fictional and not real-world related, how are the users able to use the information that was generated by ChatGPT? (Zhou et al., 2023)

In the study, Zhou emphasized the importance of supervision which indicated that ChatGPT still requires intervention from humans to help the technology do the tasks. ChatGPT is a trained model that with more inquiry inputs, better it will become. This is dedicated to the learning mechanism of the learning model of ChatGPT. But is ChatGPT good enough to work solely without a human? The answer is no, it still requires human training to bring superiority. The study indicates that ChatGPT could accurately identify the contents from the real world after it was trained properly with different information and data. (Huang et al., 2023)

Use Cases

Regarding the use case of Lean Canvas and Business Model Canvas, most of the studies were done to show the use to help entrepreneurs to start businesses and develop early-stage products. The primary purpose of the Lean Canvas model is to help the business to break down and analyze the factors that impact the business. (Buchalceková & Mysliveček, 2016)

Presently, most of the studies of the use case of ChatGPT have shown the capability of ChatGPT regarding text processing tasks which is a basic need. Current studies have been done regarding the capability of text summarization of ChatGPT, to simplify the information for the user to reduce the reading time for analysis. (Yang et al., 2023) This is evolutionary, because when students are working on a business plan or marketing campaign, it will require a large amount of reading to do the research to help the users to understand the contents to do the analysis, and this is not the purpose of making a project. With the introduction of ChatGPT, the situation will be improved. In addition, the study also demonstrates the use of ChatGPT to help in the search for the literature review. But it depends on the queries that users input to narrow down the scope of searching. (Wang et al., 2023)

However, the use case in financial information processing ability has also been explored. In the study, the natural language processing capabilities of ChatGPT enable it to interpret and analyze complex financial documents. Still, the study emphasizes human pretraining for ChatGPT before the analysis since the study mentioned that ChatGPT cannot process empirical data yet. (Dowling & Lucey, 2023)

Conclusion

This literature review has shown the previous work that scholars have done regarding the Lean Canvas model and ChatGPT. Based on these study results, gives out a clear direction for the next study and project regarding how to combine ChatGPT with the Lean Canvas model to be more efficient. More importantly, by doing this literature review, the successive scholars will acknowledge the background, and capability of the Lean Canvas model and cutting-edged technology which few people have study on, and the limitation and the potential misunderstanding of the model and the technology tool so that we will avoid it in the next study. And the use case allows the reader to acknowledge the work and tasks has been done so that will be capable to explore the potential implementation, for example, implementing ChatGPT on the Lean Canvas model to simplify the procedure of creating one.

Definition of Terms

GPT: Generative Pre-trained Transformer

NLP: Natural Language Processing

PFM: Pretrained Foundation Model

SSL: Self-supervised Learning

Methodology

Introduction

The methodology that is used is a case study approach. The project aims to demonstrate how to implement ChatGPT to the Lean Canvas model for a more accurate, efficient, and simpler process. To achieve this, the project manager plans to take a real-world case as an example and use ChatGPT to conduct a Lean Canvas model for that case.

The case study approach would involve selecting a real-world business or marketing scenario and using ChatGPT to create a Lean Canvas model for that scenario. The project manager would then evaluate the results based on SMART objectives to determine whether ChatGPT is feasible and effective as a solution.

The case study approach allows for an in-depth analysis of a specific scenario and provides a practical example of how ChatGPT can be integrated with the Lean Canvas model. It also allows for the evaluation of ChatGPT's performance in a real-world scenario, providing empirical evidence of its effectiveness.

Additionally, the project could utilize a mixed-methods approach, combining both quantitative and qualitative research methods to evaluate the effectiveness of ChatGPT. Quantitative methods, such as surveys or statistical analysis, could be used to measure the efficiency and accuracy of ChatGPT. Qualitative methods, such as interviews or focus groups, could be used to gather feedback and opinions from users on the usability and effectiveness of ChatGPT.

Description of the Real-World Case

The primary sponsor of the project, Professor Joshua Moritz, has provided an insightful real-world case to showcase the contribution of ChatGPT to the lean canvas model. This case focuses on the Fintech program offered by the School of Professional Studies at NYU. The objective of the case is to leverage the capabilities of ChatGPT to create a comprehensive Lean Canvas for the Fintech program. This involves researching or creating the information and objective by ChatGPT for the program to fill out the different sections of the Lean Canvas model and analyzing each of them in detail. For instance, ChatGPT can be used to develop targeted personas that will help to identify the needs and pain points of the program's users. Additionally, the tool can be utilized to conduct a thorough competitor analysis to identify the strengths and weaknesses of the program in comparison to its competitors. By using ChatGPT to create a Lean

Canvas for the Fintech program, the case study aims to provide valuable insights and recommendations that can be used to improve the program's overall effectiveness and competitiveness. More importantly, use it as a demonstration to show the professor how to teach the following students to use this certain technology, ChatGPT.

Results

Overview of the Lean Canvas Created By ChatGPT

It requires several steps to input the inquiries to pre-train the ChatGPT to process the answers. In the following contents, the results will be demonstrated in terms of the comparison between the GPT 3.5 and GPT 4.0 model, and how each model contributed differently to the Lena Canvas model.

The model has iterated to GPT 4.0 in early 2023 and has shown great improvement in text processing, especially in the text integration aspect. GPT 4.0 distinguishes itself from GPT-3.5 by being more dependable, inventive, and capable of handling far more complicated instructions when the task is difficult enough.

In the following sections, the project will demonstrate the contribution of ChatGPT 3.5 and ChatGPT 4.0 to create the Lean Canvas model for the NYU fintech program respectively, and show the comparative analysis between those two models.

ChatGPT is a natural language processing technology that relies on pre-training and inquiry inputs. If the user directly inputs the inquiry, "How does ChatGPT conduct lean canvas?" Then ChatGPT replied as the figure below that it is incapable of doing so.

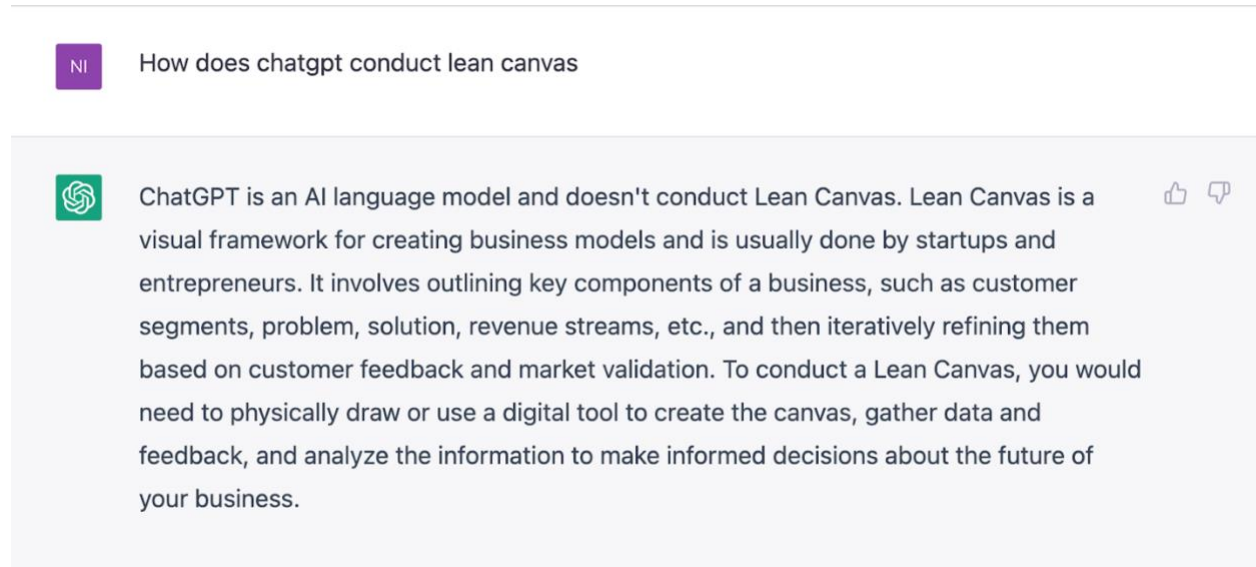


Figure 2

Indeed, it requires training, and guide it step by step, leading to the answers that the users are looking for. Based on this idea, change the inquiries into an open-ended question with a specific objective, for example, input "The project is how would ChatGPT contribute to conducting a

lean canvas model for educational purposes, and this is a master's degree capstone project, what should be the potential solution?” Then the answer becomes certain that ChatGPT is capable to help with creating the Lean Canvas model.

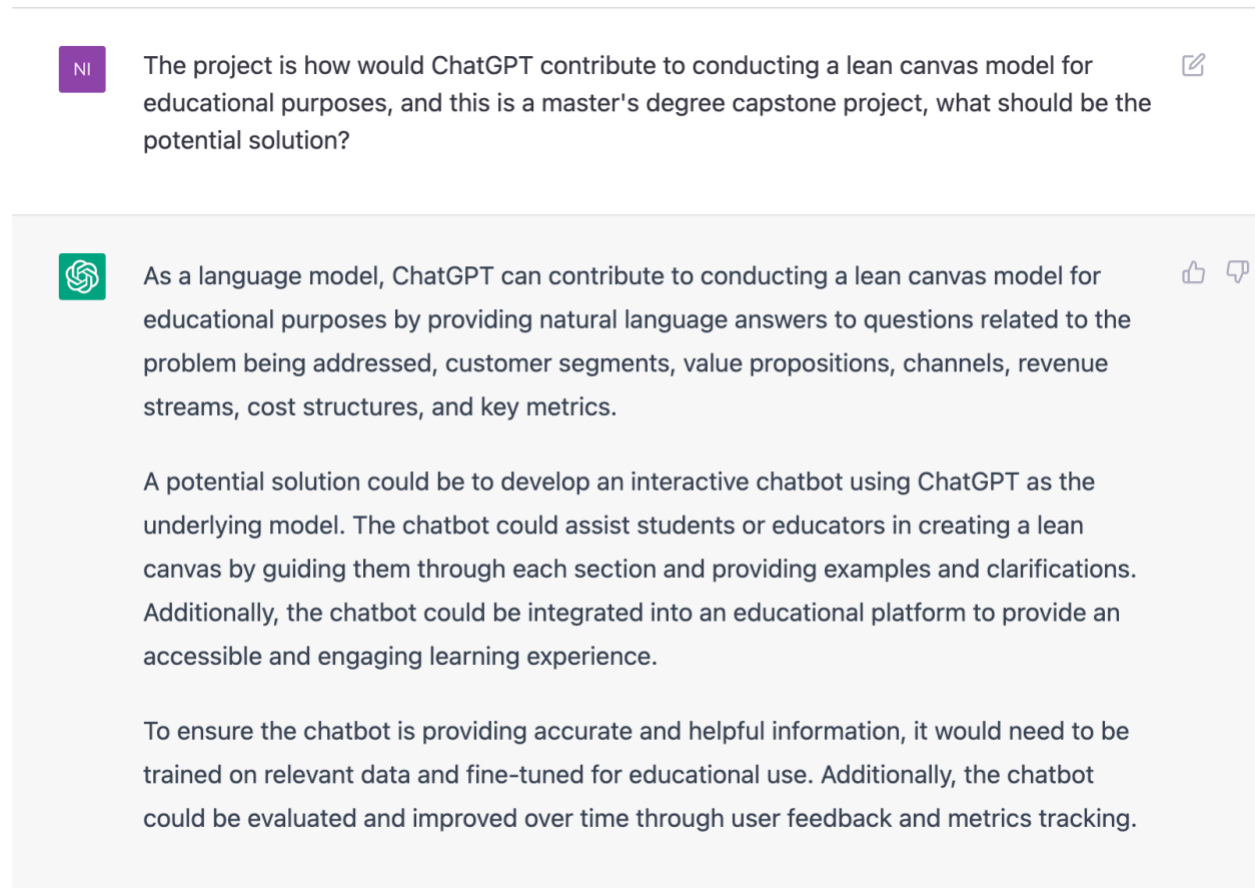


Figure 3

ChatGPT 3.5 Model

Customer Segment & Personas

Personas' profiles are crucial for making the Lean Canvas analysis, and it is noticeable that ChatGPT 3.5 is capable of doing it for the user. GPT 3.5 is able to fiction the persona profile based on the users' requirements for targeted customer groups. In this case. The NYU fintech program has been used to demonstrate the use of ChatGPT 3.5 to create the personas. As for the result. GPT 3.5 successfully outputs six fictional personas for the user with detailed story background.

By directly inputting the inquiry “Give me the personas for NYU SPS Fintech certificate program” GPT 3.5 will access the information only about the NYU SPS Fintech certificate program and extract the information to create the general personas first. Because GPT 3.5 is capable of accessing the internet by itself and analyzing the information on the webpage. So the

user can simply paste the link for a specific webpage and ask ChatGPT to analyze or collect information.



Give me the personas for NYU SPS Fintech certificate program



Here are three personas for the NYU SPS Fintech certificate program:



1. Career Changer: This persona is looking to transition into a new career in the fintech industry. They may have a background in a related field such as finance or technology, but they are looking to gain a more in-depth understanding of the specific skills and knowledge needed to work in fintech. They are motivated to learn about emerging technologies such as blockchain and AI, and to develop the skills necessary to work with financial data.
2. Entrepreneur: This persona is interested in starting their own fintech company or developing a new product or service in the fintech space. They may have a background in business or technology, but they are looking to gain a deeper understanding of the financial industry and to develop the skills needed to create and launch a successful fintech venture. They are motivated to learn about fintech trends and innovations, as well as the regulatory landscape for fintech startups.
3. Experienced Professional: This persona is already working in the financial industry, but is looking to stay up-to-date with the latest fintech trends and innovations. They may be a mid-level or senior professional in a financial institution, such as a bank or asset management firm, and are looking to develop the skills needed to succeed in an increasingly tech-driven industry. They are motivated to learn about fintech use cases and applications, as well as the regulatory challenges and opportunities in the industry.



Figure 4

Based on the personas that GPT 3.5 provided, the user will have a general idea about the further research which is specialized on targeted three types of groups. Then the next step is to ask ChatGPT to provide the specific aspiring people based on the previous groups. This is a step that leads ChatGPT onto the right track and also a training process for the final answer, see Figure 5.



Give me the fictional personas based on real aspiring people



Here are three fictional personas based on real aspiring people who might be interested in the NYU SPS Fintech certificate program:  

1. Emily - Career Changer: Emily is a recent college graduate who majored in finance. After working for a year in the finance industry, she has realized that she is more interested in the technology side of the industry, especially as it relates to fintech. Emily is looking to develop her technical skills, as well as her knowledge of fintech trends and applications, so that she can transition into a career in fintech.
2. Sam - Entrepreneur: Sam has been working in the tech industry for several years and has recently become interested in the fintech space. He has an idea for a new fintech product that he believes has potential, but he needs to develop his knowledge of the financial industry and the regulatory landscape in order to bring his idea to fruition. Sam is looking to gain the skills and knowledge he needs to launch his own fintech startup.
3. Maria - Experienced Professional: Maria has been working in the financial industry for over a decade and has seen the industry change dramatically during that time. She is interested in staying up-to-date with the latest fintech innovations and trends, especially as they relate to her work in compliance. Maria is looking to deepen her knowledge of fintech and to develop the skills she needs to succeed in an industry that is becoming increasingly tech-driven.

Figure 5

With the process before, it has proven that GTP 3.5 has the ability to fiction the personas for the user with proper training ahead. The following step is to ask ChatGPT to fiction more personas but emphasizes on fiction the personas based on specific requirements, such as age and geographic characteristics. And the data for this is provided by the representative from NYU SPS

fintech certificate program, Miss. Amy McIntosh.



Give me the personas based on the following targets:

age: 22-55+

Groups Targeting

Includes Associates, Bachelors and Masters Degree,

Exclude Seniority - Unpaid, Training & Entry

Geo target: NY, NJ, CT, Chicago, Boston, Washington

DC, Charlotte, Dallas FT. Worth, Phoenix, Seattle,

Austin, Minneapolis, California



Here are three personas based on the given targets:



1. Nick - Recent Graduate: Nick is a recent graduate in his early 20s who holds a Bachelor's degree in Computer Science. He is interested in developing his technical skills and learning about fintech so that he can secure a job in the industry. Nick is based in New York and is looking for a program that will help him gain the knowledge and skills he needs to succeed in the fintech industry.
2. Rachel - Mid-career Professional: Rachel is a mid-career professional in her early 40s who holds a Master's degree in Business Administration. She has been working in the financial industry for over a decade and is interested in learning about fintech in order to stay up-to-date with the latest industry trends and developments. Rachel is based in Chicago and is looking for a program that will provide her with the skills and knowledge she needs to succeed in a tech-driven financial industry.
3. Alex - Experienced Executive: Alex is an experienced executive in his mid-50s who has worked in the financial industry for over 30 years. He holds a Bachelor's degree in Finance and a Master's degree in Business Administration. Alex is interested in learning about fintech in order to stay ahead of the curve and to better understand the opportunities and challenges of the tech-driven financial industry. He is based in California and is looking for a program that will provide him with a comprehensive overview of fintech, as well as the technical skills he needs to succeed in the industry.

Figure 6

Then ChatGPT will give what the user wants. By asking for more personas that cover the target, ChatGPT gives out six personas in total which is enough for the Lean Canvas model

analysis.



Give me more personas covers all the targets



Here are three more personas based on the given targets:



4. Sarah - Career Transitioner: Sarah is a woman in her late 20s who holds an Associate degree in Accounting. She has been working in the accounting industry for a few years but is interested in transitioning to fintech. Sarah is based in Dallas FT. Worth and is looking for a program that will help her gain the skills and knowledge she needs to make the transition into the fintech industry.
5. Javier - Entrepreneurial Aspirant: Javier is a man in his early 30s who holds a Bachelor's degree in Economics. He has a strong interest in fintech and is interested in launching his own fintech startup. Javier is based in Washington DC and is looking for a program that will provide him with a comprehensive understanding of the fintech industry, as well as the technical skills he needs to bring his startup idea to life.
6. Andrea - Senior Professional: Andrea is a woman in her late 50s who holds a Master's degree in Finance. She has been working in the financial industry for over 30 years and has held several high-level positions in various financial institutions. Andrea is interested in learning about fintech in order to stay relevant and up-to-date with the latest industry trends and developments. She is based in Boston and is looking for a program that will provide her with a comprehensive understanding of fintech, as well as the technical skills she needs to succeed in a tech-driven financial industry.

Figure 7

With a comprehensive personas analysis, the user of the Lean Canvas model will be able to generate the customer segment section of the Lean Canvas model. Because ChatGPT cannot make decisions for humans yet, because of the lack of emotional cognition, it requires the user to determine the following actions. However, with the personas, the persona profiles help eliminate the misunderstanding within the team, to make sure that everyone understands the profile of the targeted customers since the fictional personas help the user visualize the image of a “real” person and detailed background so the team could make more specific decisions or to verify whether the previous customer segments profile are still valid for the business. For example, to distinguish what specific group of people could be the early adopters or investors.

Problem

Regarding the problem, it tends to analyze the top three problems that the selected customer segment needs to solve. And it can be easily solved by inputting “Give me the top three problems

that these personas need to solve”.



give me top three problems that these personas need to solve



Here are the top three problems that the personas may need to solve and for which the NYU SPS Fintech certificate program can help:



1. **Need to Gain a Deeper Understanding of Fintech Industry:** One of the most common problems that the personas may need to solve is the need to gain a deeper understanding of the fintech industry. Whether they are career changers, entrepreneurs, or experienced professionals, the personas may need to develop a comprehensive understanding of the fintech industry, including emerging technologies, industry trends, and regulatory requirements. The NYU SPS Fintech certificate program can provide them with the knowledge and skills they need to better understand the fintech industry and be able to stay up-to-date with the latest developments.
2. **Need to Develop Technical Skills:** Another common problem that the personas may need to solve is the need to develop technical skills. Whether they are recent graduates or mid-career professionals, the personas may need to develop technical skills in areas such as programming, data analysis, and cybersecurity in order to succeed in the fintech industry. The NYU SPS Fintech certificate program can provide them with hands-on experience and practical training in these areas, helping them develop the technical skills they need to succeed.
3. **Need to Launch a Successful Fintech Venture:** For the entrepreneurial persona, one of the main problems they may need to solve is how to launch a successful fintech venture. This can include developing a new fintech product, raising funding, navigating regulatory requirements, and building a customer base. The NYU SPS Fintech certificate program can provide them with the knowledge and skills they need to succeed in the competitive fintech startup ecosystem, including understanding the regulatory landscape, developing a business plan, and networking with industry experts.

Figure 8

It is noticeable that the input did not even mention the NYU SPS fintech certificate program, the GPT 3.5 model finds the relation between them and related them together and generates a corresponding solution for these personas which is how the NYU SPS fintech certificate program helps them to solve these problems they are facing currently. And the answer that GPT 3.5 give corresponds to the targeted customers that the program is looking for. Because GPT 3.5 kept the inquiries history, so GPT 3.5 could use the previous ones to generate new information.

Unique Value Proposition

A unique value proposition is deemed to be the box that is hardest to get right. It is a single and clear sentence that delivers the specialness of a certain product or service of the business. This requires information processing to generate and emphasize what is most important about the product or service. This is what ChatGPT does.

Profit from the ability of text processing, ChatGPT is able to analyze the information from the webpage, so the user can directly paste the weblink to ChatGPT and ask it to gather the information from it and ask it to purpose the value proposition. However, GPT 3.4 model requires several steps ahead for training before it generates the value proposition that the user is looking for. Without proper training and guidance, it can only generate a paragraph that is too long and not effective.

It cannot be done by directly inputting the inquiry such as “Create a unique value proposition”. What GPT 3.5 did first is to analyze the webpage of the NYU SPS fintech certificate program that the user sent it and generate an introduction to this webpage.



NYU's Fintech Certificate Program is designed for professionals seeking to stay ahead of the curve in the rapidly evolving field of finance technology. The program's unique value proposition lies in its comprehensive curriculum that covers the latest developments in fintech, from blockchain and cryptocurrencies to artificial intelligence and machine learning.



NYU's Fintech Certificate Program offers the perfect blend of theoretical knowledge and practical skills necessary to succeed in today's competitive fintech landscape. Participants will have access to top-notch faculty with expertise in fintech, and will benefit from the program's strong industry connections, providing valuable networking opportunities.

In addition, the program's flexible format allows participants to complete the program online, making it accessible to busy professionals from all over the world. Upon completion of the program, participants will receive a certificate from NYU, a prestigious institution that is globally recognized for academic excellence and innovation.

Overall, the unique value proposition of NYU's Fintech Certificate Program lies in its comprehensive curriculum, top-notch faculty, strong industry connections, and flexible online format, all of which prepare participants to excel in the fast-paced world of fintech.

Figure 9

By emphasizing the need for a value proposition in the following inquiry, GPT 3.5 understood, and generate a long paragraph that covers all the aspects of the specialness of this

program.



Give me the value proposition



The value proposition of NYU's Fintech Certificate Program is to provide professionals with the knowledge and skills necessary to stay ahead in the rapidly evolving field of finance technology. The program offers a comprehensive curriculum that covers the latest developments in fintech, including blockchain, cryptocurrencies, artificial intelligence, and machine learning. Participants will learn from top-notch faculty with expertise in fintech, and benefit from the program's strong industry connections, providing valuable networking opportunities. The flexible online format allows participants to complete the program at their own pace, making it accessible to busy professionals from all over the world. Upon completion, participants will receive a certificate from NYU, a prestigious institution that is globally recognized for academic excellence and innovation. Overall, the program's unique value proposition lies in its comprehensive curriculum, practical skills, top-notch faculty, strong industry connections, flexible online format, and recognition from a globally renowned institution, all of which prepare participants to excel in the fast-paced world of fintech.



make it a single, clear, compelling message about why the program is different and worth buying



NYU's Fintech Certificate Program provides professionals with the latest knowledge and skills required to excel in the rapidly evolving field of finance technology. With a comprehensive curriculum, practical skills, top-notch faculty, strong industry connections, and a flexible online format, this program is the perfect choice for busy professionals who want to stay ahead of the curve. Upon completion, participants will receive a certificate from a globally renowned institution, making it a valuable investment in their career. Invest in NYU's Fintech Certificate Program and stay ahead in the dynamic world of fintech.






Figure 10

With proper guidance, GPT 3.5 has been set on the right track to generate the information for the user. In the following steps, the user needs to repeat emphasizing the value proposition with specific requirements, for example, “make it a single, clear, compelling message about why the program is different and worth buying”. Then, ask GPT 3.5 to regenerate it into a one-

sentence value proposition.

NI make it a single, clear, compelling message about why the program is different and worth buying

 NYU's Fintech Certificate Program provides professionals with the latest knowledge and skills required to excel in the rapidly evolving field of finance technology. With a comprehensive curriculum, practical skills, top-notch faculty, strong industry connections, and a flexible online format, this program is the perfect choice for busy professionals who want to stay ahead of the curve. Upon completion, participants will receive a certificate from a globally renowned institution, making it a valuable investment in their career. Invest in NYU's Fintech Certificate Program and stay ahead in the dynamic world of fintech.  

NI value proposition is supposed to be one sentence, regenerate




 Stay ahead in the rapidly evolving field of fintech with NYU's Fintech Certificate Program - a comprehensive, flexible, and globally recognized program designed for busy professionals.  

Figure 11

Solution

In the previous “problem” section, the project has shown how to get the problem analysis by ChatGPT 3.5, and in this section, the procedure of receiving the solution feedback from ChatGPT 3.5 for the top three problems will be demonstrated. This can be easily done by asking the GPT 3.5 “Give me the solution to each of these three problems”. Because GPT 3.5 save the inquiry history and will come back with the answer based on the history as pre-training. The solution provided by GPT 3.5 is decent. GPT 3.5 accurately refers to the NYU SPS fintech certificate program's specialness and accommodates the problems.



give me the solution to each of these three problems



Here are some solutions that the NYU SPS Fintech certificate program can provide to each of the three problems:



1. Need to Gain a Deeper Understanding of Fintech Industry:

- The program can provide a comprehensive overview of the fintech industry, including its history, current state, and future outlook.
- The program can offer a detailed examination of emerging technologies and industry trends, including blockchain, AI, and big data.
- The program can provide insight into the regulatory landscape of the fintech industry, including the role of government agencies and laws related to data privacy and cybersecurity.

2. Need to Develop Technical Skills:

- The program can offer practical training in programming languages and frameworks commonly used in fintech applications, such as Python, JavaScript, and React.
- The program can provide hands-on experience with tools and technologies used in fintech, including data analysis tools, machine learning algorithms, and cybersecurity protocols.
- The program can offer access to industry experts who can provide mentorship and guidance on developing technical skills and staying up-to-date with emerging technologies.

3. Need to Launch a Successful Fintech Venture:

- The program can provide training on the fundamentals of entrepreneurship, including developing a business plan, raising funding, and building a customer base.
- The program can offer insight into the regulatory landscape of the fintech industry and provide guidance on navigating regulatory requirements and compliance issues.
- The program can provide networking opportunities with industry experts and successful fintech entrepreneurs, allowing the personas to build valuable relationships and learn from those who have successfully launched their own fintech ventures.

Figure 12

It is worth noting that the response that came back has all the potential solutions to the problems, it depends on the user to decide which one to use and fill in the Lean Canvas section.

Because GPT 3.5 will only give out all the potential solutions but is incapable to decide which are the most appropriate for the business.

Channels

When it comes to channel selection, the procedure becomes tricky, because GPT 3.5 requires more detailed and specific information to prescribe a limit to generate the answer. The answer cannot be simply acquired by inputting simple inquiries. However, the user needs to start the inquiry as “What could be the channel of the program to communicate with and reaches your Customer Segments to deliver your Value Proposition” to specify the requirements and purpose for GPT 3.5, it will be better to explain as detail as possible. Then GPT 3.5 will provide a general response as a frame, once the user checks the response is on the right track, the user will proceed to the next step.

1. Digital Marketing: Utilize digital marketing channels such as social media, search engine optimization, and email marketing to reach the customer segments where they spend time online. Develop targeted messaging and content that speaks directly to the pain points and goals of each customer segment.
2. Industry Events: Attend and participate in fintech industry events, such as conferences and seminars, to showcase the program and network with the target audience. Consider hosting or sponsoring events that are targeted to specific customer segments, such as career changers or entrepreneurs.
3. Referral Programs: Develop a referral program that incentivizes current and past students, alumni, and industry insiders to refer new students to the program. This can be an effective way to reach new audiences and generate word-of-mouth referrals.
4. Traditional Advertising: Utilize traditional advertising channels, such as print, radio, and billboards, to reach local audiences in specific geographic locations. This can be particularly effective for reaching the senior professional persona who may not be as active on social media or email.
5. Partnership and Collaboration: Collaborate with relevant organizations, such as industry associations and other educational institutions, to reach a wider audience and expand the program's reach. Consider partnering with these organizations to co-host events or develop joint marketing campaigns.
6. Personalized Landing Pages: Develop personalized landing pages for each customer segment that speak directly to their specific pain points and goals. This can be a highly effective way to convert website visitors into leads and ultimately into enrolled students.
7. Public Relations: Utilize public relations tactics, such as press releases and media outreach, to generate buzz and interest in the program. Consider showcasing the success stories of past graduates and highlighting the program's unique features and benefits.

Figure 13

In the next step, the user needs to ask GPT 3.5 to give a more specific method that it mentioned in the previous response, not general terms, such as social media, but focusing on which social media specifically. Once the user has done that, GPT 3.5 will provide a more comprehensive response to each of the channels that it responded to previously. Unfortunately, GPT 3.5 is unable to provide what specific social events or websites are eligible to use and the relevant usage instruction.

1. Digital Marketing:

- Utilize social media platforms such as Facebook, Twitter, and LinkedIn to create targeted ads and content that reach the specific customer segments. Use analytics tools like Facebook Business Manager to monitor performance and optimize targeting based on demographic data, interests and behavior.
- Use email marketing platforms such as Mailchimp to send targeted emails to the different customer segments. Segment the email list based on personas and interests, and include personalized content and call-to-actions.

2. Industry Events:

- Attend and participate in relevant fintech industry events such as Consensus, Money2020, Finovate, and other fintech conferences to showcase the program, interact with potential students, and generate leads.
- Organize and host relevant events such as hackathons, webinars, and workshops to attract potential students and provide them with value. Use Eventbrite to manage the registration and follow up process.

3. Referral Programs:

- Use referral marketing platforms such as Refersion, ReferralCandy or Ambassador to create a program that rewards current students, alumni and industry insiders who refer new students. Provide incentives such as discounts, free courses, and exclusive access to events.

4. Traditional Advertising:


- Utilize print advertising in industry-specific publications and newspapers to reach the senior professional persona. Use Google Adwords and Google Display Network to serve ads on websites and blogs relevant to fintech.
- Use radio advertising to target local markets in specific geographic locations. Use tools such as iHeartRadio to manage and track ad campaigns.




5. Partnership and Collaboration:

 Regenerate response

Figure 14

GPT 3.5 is not almighty, so the response might not cover all the social media products that people would use based on common sense. So the user can also start an inquiry to ask whether a specific type of social media will work and how such as Instagram. Once the user has a specific requirement or purpose for limiting the response from GPT 3.5, it will give comprehensive instructions and guidance to show the user how to make things happen.

 will social media such as instagram work?

 Yes, social media platforms such as Instagram can be a valuable marketing channel for the NYU SPS Fintech certificate program. Instagram is particularly effective for targeting younger audiences and those interested in visual content.  

Here are some ways that the program can use Instagram to promote the program:

1. **Share Stories:** Use Instagram stories to share student success stories and testimonials. This can be an effective way to show the impact of the program and provide social proof to potential students.
2. **Highlight Program Features:** Use Instagram posts to highlight the unique features and benefits of the program. Use eye-catching graphics and visuals to showcase the program's curriculum, faculty, and other features.
3. **Share Program Events:** Use Instagram to share photos and updates from program events, such as guest speaker events, workshops, and networking events. This can help build community and create a sense of excitement around the program.
4. **Leverage Influencers:** Partner with influencers in the fintech industry to promote the program on their Instagram accounts. Identify influencers with large followings and credibility in the industry, and provide them with incentives such as free access to the program or compensation for their promotion.
5. **Utilize Paid Ads:** Use Instagram's advertising platform to create targeted ads that reach the specific customer segments. Use targeting options such as demographics, interests, and behavior to ensure that the ads reach the right people.

Overall, Instagram can be an effective marketing channel for the NYU SPS Fintech certificate program, particularly for reaching younger audiences and those interested in visual content. By using Instagram in combination with other marketing channels, the program can effectively communicate with and reach its target audience and deliver its value proposition.

Figure 15

Cost Structure

Cost structure becomes the first section for ChatGPT 3.5 to encounter the data simulation and calculation. For this section, the user of the Lean Canvas model will make the pricing strategy based on the cost structure, which makes it a crucial section. Due to the lack of cost data on the NYU SPS fintech certificate program, an unexpected ability of GPT 3.5 has been discovered: it can be asked to analyze the information for the NYU SPS fintech certificate program and fiction the potential cost for the user. With the first inquiry “Can you do the cost structure analysis for me?” To build up the understanding of the cost structure for GPT 3.5 and it came back with a general response with five cost structures:

1. Program Development Costs:
 - Curriculum development: The cost of developing the program's curriculum, which includes creating course content, assignments, and assessments.
 - Faculty and staff salaries: The cost of hiring and compensating faculty and staff who will teach and manage the program.
 - Technology and software: The cost of purchasing and licensing any necessary software and technology tools required for the program, such as learning management systems and simulation software.
 - Facilities: The cost of renting or leasing classroom space and other facilities required for the program.
2. Program Marketing and Advertising Costs:
 - Digital marketing: The cost of running digital marketing campaigns, including social media advertising, email marketing, and search engine optimization.
 - Traditional advertising: The cost of running traditional advertising campaigns, such as print ads and radio spots.
 - Events and promotions: The cost of hosting events and promotions to promote the program, such as workshops, webinars, and referral programs.
3. Student Acquisition Costs:
 - Student Acquisition Costs:
 - Student recruitment: The cost of recruiting and enrolling students in the program, may include costs associated with lead generation, lead nurturing, and lead conversion.
 - Scholarships and financial aid: The cost of providing scholarships and financial aid to students who may not be able to afford the full cost of the program.
 - Student support services: The cost of providing student support services, such as academic advising, career counseling, and networking opportunities.
4. Program Delivery Costs:

- Faculty and staff salaries: The cost of compensating faculty and staff who teach and manage the program.
- Technology and software: The cost of maintaining and upgrading any technology and software tools required for the program.
- Facilities: The cost of maintaining and upgrading classroom space and other facilities required for the program.

5. Administrative Costs:

- Overhead and general expenses: The cost of administrative and general expenses associated with running the program, such as utilities, insurance, and office supplies.
- Compliance and regulatory costs: The cost of complying with regulatory requirements related to running an educational program, such as accreditation and state licensing requirements.

GPT 3.5 has shown a comprehensive understanding of the cost structure of the program, then the next step becomes easy, asking “What are the cost for this program?” GPT 3.5 will fiction the numbers for the potential cost for the program. By fiction the cost data by GPT 3.5, for the business planners, the response will provide an insightful idea about where to start, and how much reserve should be prepared. Planners will gain a basic understanding of the cost at the initial stage. For academic learners who are seeking to learn how to create a cost structure analysis, such responses will also improve efficiency and save time on looking for or even creating a real-world scenario to use to do the analysis.

Comparing the number fiction by GPT 3.5 (\$20,000) in Figure 16 with the actual marketing cost of the program (\$8,693), the figures are reasonable and have a larger

amount of cost to remind the user for preparing the reserve for the business. Then copy and paste the cost structure and ask GPT 3.5 to give the pricing strategy based on the cost structure to do the calculations. The response came back with three pricing strategies: Cost-plus pricing, Value-



Figure 16

based pricing, and Competitive pricing. Unfortunately, GPT 3.5 cannot process multiple inquiries at this certain point, and it missed the actual calculation based on the figures. Then input the inquiry again and emphasized using the figures to do the calculations, and it came back with a decent response.



Sure, here are three pricing strategies for the NYU SPS Fintech certificate program based on the cost structure estimates: 👍 🗨

1. Cost-plus pricing strategy: This strategy involves adding a markup to the total cost of the program to arrive at the final price. For example, if the total cost to deliver the program is \$1,500,000, and a markup of 25% is added, the price of the program would be \$1,875,000.

Total Cost to Deliver Program: \$1,500,000

Markup: 25%

Price of Program: \$1,875,000

2. Value-based pricing strategy: This strategy involves pricing the program based on the value it provides to the target audience. For example, if the program is designed to help individuals advance their careers in the fintech industry and increase their earning potential, the price could be set based on the expected increase in income or career advancement opportunities. Let's say that the expected increase in income is \$50,000 per year, and the program is expected to provide this increase for 5 years, then the price of the program could be set at \$250,000.

Expected Increase in Income: \$50,000 per year

Expected Duration of Increase: 5 years

Price of Program: \$250,000

3. Competitive pricing strategy: This strategy involves pricing the program based on the prices of similar programs offered by competitors. For example, if other institutions are offering similar fintech certificate programs at an average price of \$100,000, NYU SPS could price their program similarly to remain competitive.

Average Price of Similar Programs Offered by Competitors: \$100,000



Price of Program: \$100,000


Figure 17

However, the calculation still requires verification by professionals, and it cannot be directly used, because GPT 3.5 is incapable to make decisions based on the real-world situation though it is helpful to the users to build up the initial idea.

Revenue Stream

Because the revenue stream happens afterward, the most efficient method currently for calculating the revenue stream is still done by professionals. However, GPT 3.5 can provide potential revenue for the user with proper information. And GPT 3.5 gives out the information it needs to do the work when the user asks it to generate a revenue stream analysis.

 the revenue stream for the program is tuition fees with a total \$222610. there are 184 students enrolled, the pricing strategy are Cost-plus pricing, Value-based pricing, and Competitive pricing, what could be the potential revenue 

 If the NYU SPS Fintech certificate program has 184 students enrolled and the revenue stream is solely based on tuition fees with a total of \$222,610, the average tuition fees per student would be \$1,210.61.  

Using the pricing strategies mentioned, here are the potential revenues for the program:

1. Cost-plus pricing: Let's assume a markup of 20% is added to the total program cost of \$1,500,000, resulting in a price of \$1,800,000 for the program. If the program enrolls 184 students at an average tuition fee of \$1,210.61, the potential revenue generated from tuition fees would be \$222,610.
2. Value-based pricing: Let's assume that the program provides a value proposition that can justify a higher price point of \$25,000 per student. If the program enrolls 184 students at this price, the potential revenue generated from tuition fees would be \$4,600,000.
3. Competitive pricing: Let's assume that the average price of similar fintech certificate programs offered by competitors is \$15,000 per student. If the program enrolls 184 students at this price, the potential revenue generated from tuition fees would be \$2,760,000.

It's important to note that these revenue estimates are based on certain assumptions and factors such as the program's pricing strategy, target audience, and competition. Actual revenue may vary depending on the actual number of students who enroll and the actual tuition fees charged.

Figure 18

Key Metric

With the previous information feeding and pre-training, the user may directly ask GPT 3.5 for the key metric.



what are the key metrics for the program



Key metrics for the NYU SPS Fintech certificate program could include:



1. Enrollment rate: This metric measures the number of students who enroll in the program compared to the number of students who expressed interest. A high enrollment rate indicates that the program is effectively attracting and converting prospective students into enrolled students.
2. Retention rate: This metric measures the number of students who remain enrolled in the program and complete the program compared to the number of students who dropped out or did not complete the program. A high retention rate indicates that the program is effectively meeting students' needs and keeping them engaged and motivated to complete the program.
3. Student satisfaction: This metric measures students' satisfaction with the program, including the curriculum, faculty, facilities, and overall experience. High student satisfaction can lead to positive word-of-mouth marketing and increased enrollment in future program offerings.
4. Job placement rate: This metric measures the number of program graduates who secure jobs in the fintech industry after completing the program. A high job placement rate indicates that the program is effectively preparing students for careers in the industry and providing them with the necessary skills and knowledge to be successful.
5. Return on investment: This metric measures the financial return on investment for students who complete the program compared to the cost of tuition and other program-related expenses. A high return on investment indicates that the program is providing value to students and helping them achieve their career goals in the fintech industry.

By tracking these key metrics, the NYU SPS Fintech certificate program can evaluate its success and make data-driven decisions to improve the program and better meet the needs of its students and the fintech industry.

Figure 19

Unfair Advantage

The unfair advantage section is the most important and tricky part to do, it requires more information collection than previous sections and crosses compares it with different programs to




determine the unfair advantage. The user needs to ask GPT 3.5 to organize the information from each program's webpage.



Help me organize the information on this website:

https://bootcamp.cvn.columbia.edu/fintech/landing-b5a/?s=Google-Unbranded&pkw=fintech%20certificG%7CEXACT%7CCore%7CCertificate&utm_term=fintech%20certification&s=google&k=fintech%20certifi bIK-5SArU5FcSbJfKXn0zDlu5dEPwaArHbEALw_wcB&gclsrc=aw.ds



The website in question is for a fintech certification program offered by Columbia University.   
Here is a breakdown of the main sections of the website:

1. Header: The top of the page features the Columbia University logo and navigation menu.
2. Hero section: The main section of the page features a large image of a person using a laptop, along with a headline, subheadline, and CTA button to learn more about the program.
3. About the Program: This section provides an overview of the program, including its benefits, curriculum, and target audience.
4. Program Features: This section provides a more detailed breakdown of the program's features, including its flexible online format, hands-on projects, and industry expert instructors.
5. Curriculum: This section outlines the program's curriculum, which covers topics such as blockchain, data analytics, and machine learning.
6. Instructors: This section provides bios and photos of the program's instructors, who are all experts in the fintech industry.
7. Who Should Apply: This section outlines the ideal candidates for the program, including professionals in finance, technology, and related fields.
8. Testimonials: This section includes testimonials from past participants in the program, highlighting their positive experiences and the value they gained from the program.
9. FAQ: This section answers common questions about the program, such as its cost, time commitment, and prerequisites.
10. CTA: The page ends with a CTA to apply for the program, along with a brief form to fill out with contact information.

Overall, the website is well-organized and provides clear information about the program and its benefits, curriculum, and instructors. The inclusion of testimonials and a FAQ section adds credibility to the program and helps address potential concerns or questions that prospective applicants may have.

Figure 20

GPT 3.5 briefly organized the information from the webpage as a summary, at this stage, there is not too much effective information that is useful to the user, which leads to the next step

that asks GPT 3.5 to apply the information into the Lean Canvas model and see what it can do about this particular inquiry.



apply the information into the lean canvas model



The Lean Canvas is a strategic tool used to map out a business model. Here is how the information from the website could be applied to the Lean Canvas model:



1. Customer Segments: The target audience for the fintech certification program is professionals in finance, technology, and related fields.
2. Problem: The problem that the program solves is the need for professionals to gain specialized knowledge and skills in fintech in order to stay competitive and advance their careers.
3. Unique Value Proposition: The program's flexible online format, hands-on projects, industry expert instructors, and curriculum covering topics such as blockchain, data analytics, and machine learning, differentiate it from other fintech certification programs.
4. Solution: The program provides a comprehensive, flexible, and practical way for professionals to gain specialized knowledge and skills in fintech.
5. Channels: The program is marketed through online channels, such as search engines and social media, as well as through partnerships with relevant industry organizations.
6. Revenue Streams: The program generates revenue through tuition fees paid by participants.
7. Cost Structure: The program's costs include instructor salaries, platform and infrastructure costs, marketing expenses, and administrative expenses.
8. Key Metrics: Key metrics for the program could include the number of applicants, acceptance rate, completion rate, job placement rate, and participant satisfaction.
9. Unfair Advantage: The program's unfair advantage is its association with Columbia University, which lends credibility and prestige to the program.

Overall, the fintech certification program offered by Columbia University could be mapped out on a Lean Canvas to help identify key aspects of the business model and inform strategic decisions.

Figure 21

Figure 21 above shows that GPT 3.5 can fill out the Lean Canvas model for the user based on the webpage. Then the user needs to repeat the same process for the other programs. The next one is the fintech program at Harvard.

NI

Now organize the information for Harvard fintech program:<https://pll.harvard.edu/course/fintech?delta=13>



Here is a breakdown of the information on the Harvard fintech program website:



1. Header: The top of the page features the Harvard Law School logo and navigation menu.
2. Hero section: The main section of the page features a headline, subheadline, and CTA button to learn more about the program.
3. Overview: This section provides an overview of the program, including its focus on the intersection of law, business, and technology.
4. Curriculum: This section outlines the program's curriculum, which covers topics such as blockchain, digital assets, and financial regulation.
5. Faculty: This section provides bios and photos of the program's faculty, who are all experts in the fintech industry.
6. Who Should Apply: This section outlines the ideal candidates for the program, including professionals in finance, law, and related fields.
7. Tuition and Fees: This section outlines the program's tuition and fees, which are subject to change each year.
8. Admissions: This section provides information about the application process and requirements, as well as important dates and deadlines.
9. Contact: This section provides contact information for the program, including an email address and phone number.

Overall, the website is well-organized and provides clear information about the program and its curriculum, faculty, and admissions process. The program's focus on the intersection of law, business, and technology sets it apart from other fintech programs, and the inclusion of faculty bios adds credibility to the program. The tuition and fees section helps prospective applicants understand the costs associated with the program, and the contact information provides a way for them to get in touch with program administrators if they have any questions.

Figure 22

In the next step, repeat the previous one to apply to the Lean Canvas model.



Here's how the information from the Harvard fintech program website could be applied to the Lean Canvas model:



1. **Customer Segments:** The target audience for the fintech program is professionals in finance, law, and related fields who are interested in gaining expertise in the intersection of law, business, and technology.
2. **Problem:** The problem that the program solves is the need for professionals to gain specialized knowledge and skills in fintech and the regulatory landscape in order to stay competitive and advance their careers.
3. **Unique Value Proposition:** The program's focus on the intersection of law, business, and technology, its expert faculty, and its curriculum covering topics such as blockchain, digital assets, and financial regulation, differentiate it from other fintech programs.
4. **Solution:** The program provides a comprehensive and practical way for professionals to gain specialized knowledge and skills in fintech and the regulatory landscape.
5. **Channels:** The program is marketed through online channels, such as search engines and social media, as well as through partnerships with relevant industry organizations and events.
6. **Revenue Streams:** The program generates revenue through tuition fees paid by participants.
7. **Cost Structure:** The program's costs include faculty salaries, platform and infrastructure costs, marketing expenses, and administrative expenses.
8. **Key Metrics:** Key metrics for the program could include the number of applicants, acceptance rate, completion rate, job placement rate, and participant satisfaction.
9. **Unfair Advantage:** The program's unfair advantage is its association with Harvard Law School, which lends credibility and prestige to the program.

Overall, the Harvard fintech program could be mapped out on a Lean Canvas to help identify key aspects of the business model and inform strategic decisions.

Figure 23

The very last one is to ask GPT 3.5 to do it again with NYU SPS's fintech certificate program.



Organize information for the NYU fintech program:https://www.sps.nyu.edu/professional-pathways/certificates/finance/fintech.html?utm_source=adv-interactive&utm_medium=referral-paid&utm_campaign=adv-nc-fin-sp23-2-certfintech-googlesearch-tx-ny&gclid=CjwKCAiA_6yfBhBNEiwAkmXy52vCtcRGxix8lwY-2O5PKs14fulClcboSXYISreTCVpK9PX8UbPLhRoCEj0QAvD_BwE



Here is a breakdown of the information on the NYU fintech program website:



1. Header: The top of the page features the NYU logo and navigation menu.
2. Hero section: The main section of the page features a headline, subtitle, and CTA button to learn more about the program.
3. About the Program: This section provides an overview of the program, including its focus on the intersection of finance and technology.
4. Curriculum: This section outlines the program's curriculum, which covers topics such as blockchain, digital currencies, and data analytics.
5. Instructors: This section provides bios and photos of the program's instructors, who are all experts in the fintech industry.
6. Who Should Attend: This section outlines the ideal candidates for the program, including professionals in finance, technology, and related fields.
7. Requirements and Policies: This section provides information about the program's requirements, such as prerequisites and attendance policies.
8. Benefits of the Program: This section outlines the benefits of the program, including networking opportunities and hands-on projects.
9. FAQ: This section answers common questions about the program, such as its cost, time commitment, and accreditation.
10. CTA: The page ends with a CTA to apply for the program, along with a brief form to fill out with contact information.

Overall, the website is well-organized and provides clear information about the program and its benefits, curriculum, and instructors. The inclusion of a FAQ section helps address potential concerns or questions that prospective applicants may have. The program's focus on the intersection of finance and technology sets it apart from other fintech programs, and the bios and photos of the instructors add credibility to the program.

Figure 24



Here's how the information from the NYU fintech program website could be applied to the Lean Canvas model:




1. **Customer Segments:** The target audience for the fintech program is professionals in finance, technology, and related fields who are interested in gaining specialized knowledge and skills in the intersection of finance and technology.
2. **Problem:** The problem that the program solves is the need for professionals to gain specialized knowledge and skills in fintech and the regulatory landscape in order to stay competitive and advance their careers.
3. **Unique Value Proposition:** The program's focus on the intersection of finance and technology, its expert faculty, and its curriculum covering topics such as blockchain, digital currencies, and data analytics, differentiate it from other fintech programs.
4. **Solution:** The program provides a comprehensive and practical way for professionals to gain specialized knowledge and skills in fintech and the regulatory landscape.
5. **Channels:** The program is marketed through online channels, such as search engines and social media, as well as through partnerships with relevant industry organizations and events.
6. **Revenue Streams:** The program generates revenue through tuition fees paid by participants.
7. **Cost Structure:** The program's costs include faculty salaries, platform and infrastructure costs, marketing expenses, and administrative expenses.
8. **Key Metrics:** Key metrics for the program could include the number of applicants, acceptance rate, completion rate, job placement rate, and participant satisfaction.
9. **Unfair Advantage:** The program's unfair advantage is its association with NYU, which lends credibility and prestige to the program.

Overall, the NYU fintech program could be mapped out on a Lean Canvas to help identify key aspects of the business model and inform strategic decisions.

Figure 25

The very last step which is also the most important step is to ask GPT 3.5 to analyze the unfair advantage of the NYU SPS fintech certificate program based on the previous information.

1/2 >  Now analyze what is the unfair advantage of NYU's program compare to the other programs as bullet point



Here are some possible bullet points for the unfair advantage of the NYU fintech program compared to other fintech programs:



- Association with NYU, a prestigious and well-known university, lends credibility and prestige to the program.
- NYU has a long history of excellence in finance and technology, which can help attract top faculty and students to the program.
- NYU's location in New York City, a major financial and technology hub, can provide unique networking opportunities and access to industry experts.
- The program's curriculum is designed in collaboration with industry experts and can be updated quickly to reflect changes in the fintech landscape, giving it an edge in staying current and relevant.
- NYU's Professional Pathways program offers flexible scheduling and online options, which can appeal to busy professionals looking to advance their careers while balancing work and family commitments.
- The program's instructors are experts in the fintech industry and can provide real-world insights and connections to students.
- The program offers a range of topics in its curriculum, including blockchain, digital currencies, and data analytics, which can appeal to a broad range of professionals in finance and technology.
- NYU's Professional Pathways program has a strong track record of successful graduates who have gone on to advance their careers in the fintech industry, which can help attract top applicants and establish the program's reputation as a leader in the field.

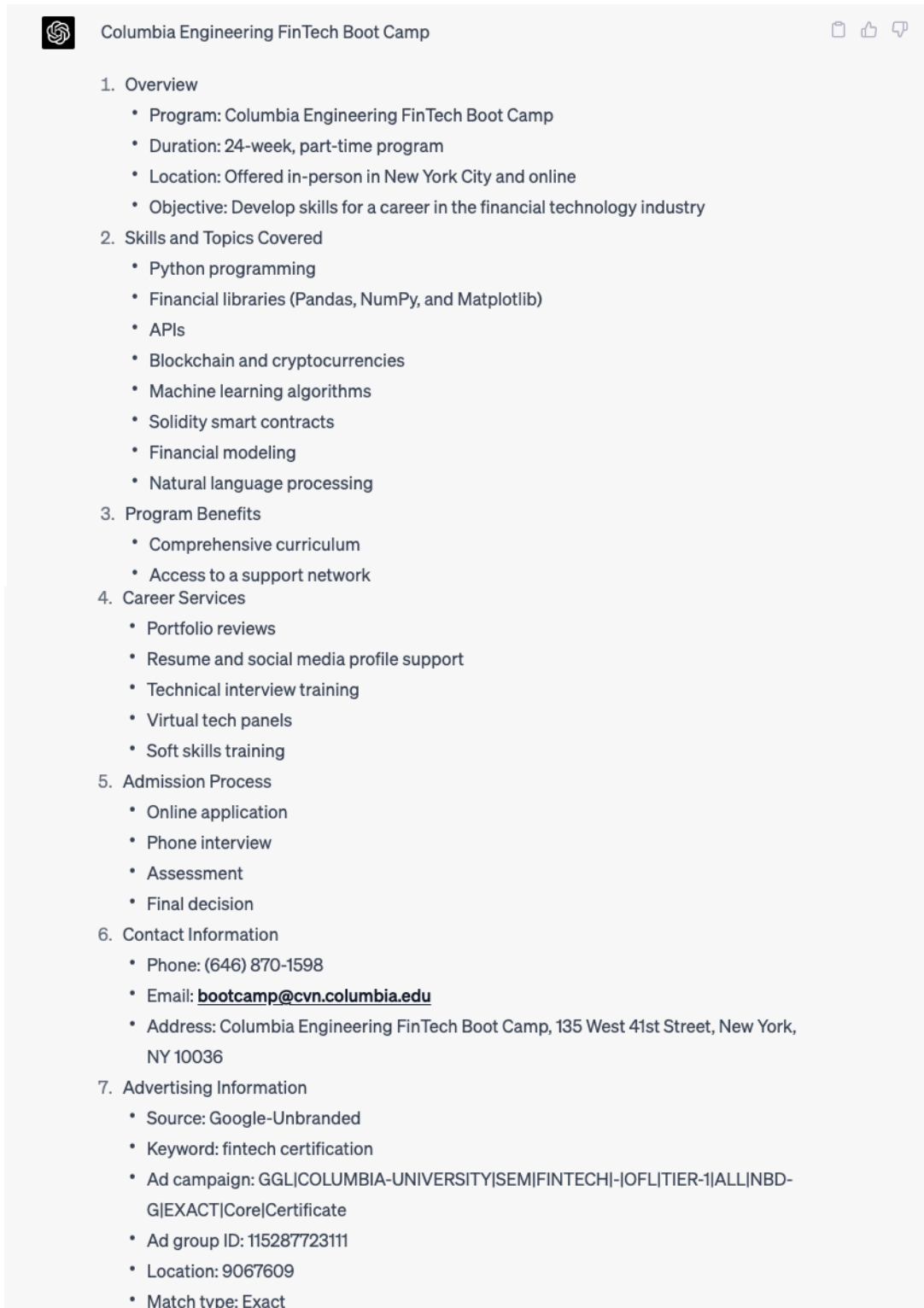
Figure 26

However, at this stage, the information that GPT 3.5 provided is still limited and requires professional intervention to determine the authenticity of the response. Attributed to the introduction of the GPT 4.0 model, this situation has been improved significantly.

Improvement made by ChatGPT 4.0 Model

ChatGPT launched its latest model, GPT 4.0 in early 2023, and the text processing ability has been significantly improved. It is worth noting that the improvement that the GPT 4.0 model made to the unfair advantage section of the Lean Canvas model is remarkable. Attributed to the text processing improvement, GPT 4.0 made significant improvements in the analysis of the unfair advantage of the program compared to the work made by GPT 3.5 model. The difference reveals in the first step when the user asks GPT 4.0 to organize the information from the

webpage. Unlike GPT 3.5 simply organized the headers or curriculums, GPT 4.0 automatically breaks information into different sections that deliver a clearer response that would help the user to do the analysis.



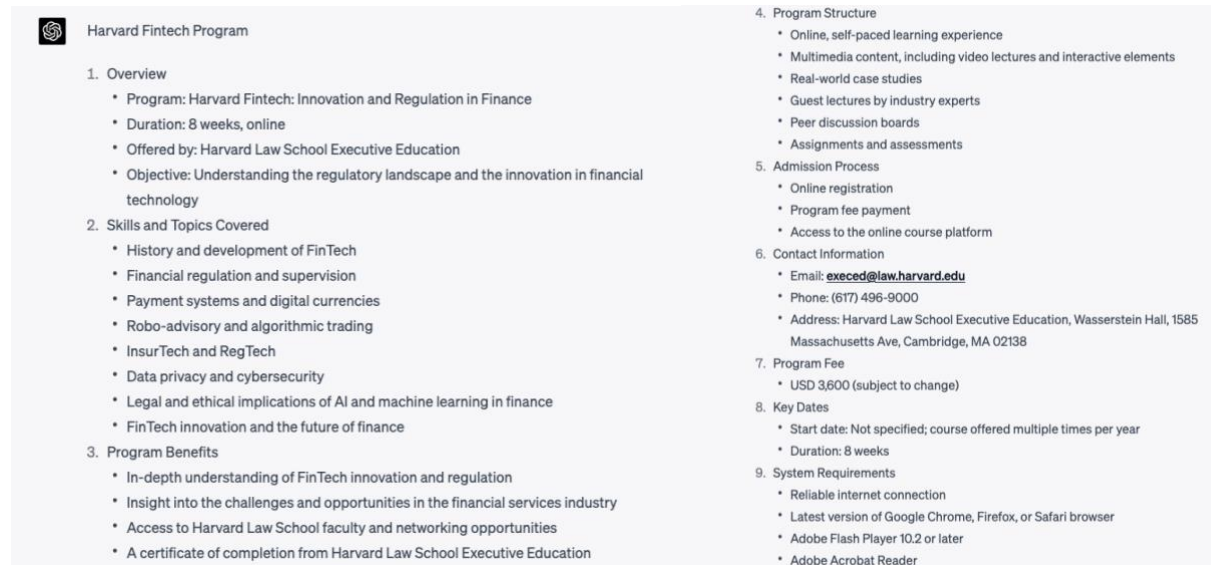
The image shows a screenshot of a webpage for the Columbia Engineering FinTech Boot Camp. The page is organized into seven numbered sections, each with a list of details. The sections are: 1. Overview, 2. Skills and Topics Covered, 3. Program Benefits, 4. Career Services, 5. Admission Process, 6. Contact Information, and 7. Advertising Information. The text is presented in a clean, bulleted format, making it easy to read and understand.

Columbia Engineering FinTech Boot Camp

1. Overview
 - Program: Columbia Engineering FinTech Boot Camp
 - Duration: 24-week, part-time program
 - Location: Offered in-person in New York City and online
 - Objective: Develop skills for a career in the financial technology industry
2. Skills and Topics Covered
 - Python programming
 - Financial libraries (Pandas, NumPy, and Matplotlib)
 - APIs
 - Blockchain and cryptocurrencies
 - Machine learning algorithms
 - Solidity smart contracts
 - Financial modeling
 - Natural language processing
3. Program Benefits
 - Comprehensive curriculum
 - Access to a support network
4. Career Services
 - Portfolio reviews
 - Resume and social media profile support
 - Technical interview training
 - Virtual tech panels
 - Soft skills training
5. Admission Process
 - Online application
 - Phone interview
 - Assessment
 - Final decision
6. Contact Information
 - Phone: (646) 870-1598
 - Email: bootcamp@cvn.columbia.edu
 - Address: Columbia Engineering FinTech Boot Camp, 135 West 41st Street, New York, NY 10036
7. Advertising Information
 - Source: Google-Unbranded
 - Keyword: fintech certification
 - Ad campaign: GGL|COLUMBIA-UNIVERSITY|SEM|FINTECH|-|OFL|TIER-1|ALL|NBD-G|EXACT|Core|Certificate
 - Ad group ID: 115287723111
 - Location: 9067609
 - Match type: Exact

Figure 27

In the following steps, shown in Figure 28, the user will just need to follow the previous instruction to do the procedure again with another school's fintech program. The next one is Harvard's.

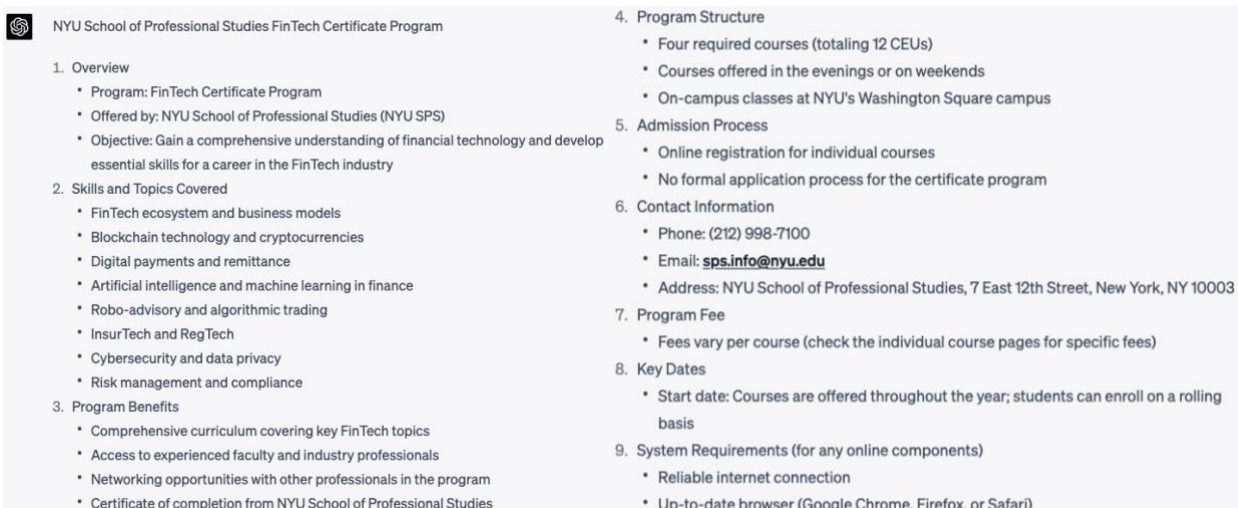


Harvard Fintech Program

- Overview**
 - Program: Harvard Fintech: Innovation and Regulation in Finance
 - Duration: 8 weeks, online
 - Offered by: Harvard Law School Executive Education
 - Objective: Understanding the regulatory landscape and the innovation in financial technology
- Skills and Topics Covered**
 - History and development of FinTech
 - Financial regulation and supervision
 - Payment systems and digital currencies
 - Robo-advisory and algorithmic trading
 - InsurTech and RegTech
 - Data privacy and cybersecurity
 - Legal and ethical implications of AI and machine learning in finance
 - FinTech innovation and the future of finance
- Program Benefits**
 - In-depth understanding of FinTech innovation and regulation
 - Insight into the challenges and opportunities in the financial services industry
 - Access to Harvard Law School faculty and networking opportunities
 - A certificate of completion from Harvard Law School Executive Education
- Program Structure**
 - Online, self-paced learning experience
 - Multimedia content, including video lectures and interactive elements
 - Real-world case studies
 - Guest lectures by industry experts
 - Peer discussion boards
 - Assignments and assessments
- Admission Process**
 - Online registration
 - Program fee payment
 - Access to the online course platform
- Contact Information**
 - Email: execed@law.harvard.edu
 - Phone: (617) 496-9000
 - Address: Harvard Law School Executive Education, Wasserstein Hall, 1585 Massachusetts Ave, Cambridge, MA 02138
- Program Fee**
 - USD 3,600 (subject to change)
- Key Dates**
 - Start date: Not specified; course offered multiple times per year
 - Duration: 8 weeks
- System Requirements**
 - Reliable internet connection
 - Latest version of Google Chrome, Firefox, or Safari browser
 - Adobe Flash Player 10.2 or later
 - Adobe Acrobat Reader

Figure 28

Under this situation, GPT 4.0 even organized the required system by Harvard's fintech program, which would provide additional information when the user is analyzing the unfair advantages. For example, NYU SPS's fintech certificate programs require fewer systems than Harvard which brings more convenience to the students and the teaching faculty. Finally, input the inquiry to organize the NYU SPS fintech certificate program webpage for the user.



NYU School of Professional Studies FinTech Certificate Program

- Overview**
 - Program: FinTech Certificate Program
 - Offered by: NYU School of Professional Studies (NYU SPS)
 - Objective: Gain a comprehensive understanding of financial technology and develop essential skills for a career in the FinTech industry
- Skills and Topics Covered**
 - FinTech ecosystem and business models
 - Blockchain technology and cryptocurrencies
 - Digital payments and remittance
 - Artificial intelligence and machine learning in finance
 - Robo-advisory and algorithmic trading
 - InsurTech and RegTech
 - Cybersecurity and data privacy
 - Risk management and compliance
- Program Benefits**
 - Comprehensive curriculum covering key FinTech topics
 - Access to experienced faculty and industry professionals
 - Networking opportunities with other professionals in the program
 - Certificate of completion from NYU School of Professional Studies
- Program Structure**
 - Four required courses (totaling 12 CEUs)
 - Courses offered in the evenings or on weekends
 - On-campus classes at NYU's Washington Square campus
- Admission Process**
 - Online registration for individual courses
 - No formal application process for the certificate program
- Contact Information**
 - Phone: (212) 998-7100
 - Email: sps.info@nyu.edu
 - Address: NYU School of Professional Studies, 7 East 12th Street, New York, NY 10003
- Program Fee**
 - Fees vary per course (check the individual course pages for specific fees)
- Key Dates**
 - Start date: Courses are offered throughout the year; students can enroll on a rolling basis
- System Requirements (for any online components)**
 - Reliable internet connection
 - Up-to-date browser (Google Chrome, Firefox, or Safari)

Figure 29

When all the information has been collected, GPT 4.0 will be capable to generate an unfair advantage analysis for the user, the response is comprehensive, and GPT 4.0 summarized the

advantages in terms of five subjects.



Now analyze what is the unfair advantage of NYU's program compare to the other programs



When comparing the NYU SPS FinTech Certificate Program with the Columbia Engineering FinTech Boot Camp and the Harvard Fintech Program, the unfair advantage of NYU's program can be highlighted as follows:



1. **Flexible Scheduling:** The NYU SPS FinTech Certificate Program offers evening and weekend classes, making it more convenient and accessible for working professionals who need to balance their education with their existing work and personal commitments.
2. **Rolling Enrollment:** Unlike the other two programs, NYU offers courses throughout the year, allowing students to enroll on a rolling basis. This provides more flexibility in terms of when students can begin their studies and at what pace they choose to complete the program.
3. **Campus Location:** The NYU program offers on-campus classes at the university's Washington Square campus in New York City, providing students with a more traditional learning experience and allowing them to leverage the networking opportunities and resources available within the university.
4. **Modular Course Structure:** The NYU SPS FinTech Certificate Program is structured around four required courses. This modular approach allows students to focus on specific areas of interest within FinTech and tailor their learning experience according to their needs.
5. **No Formal Application Process:** Unlike the Columbia Engineering FinTech Boot Camp, there is no formal application process for the NYU FinTech Certificate Program. Students can directly register for individual courses, which may make it more accessible to a wider range of students.

Figure 30

Such improvements allow the user to focus more on the specific aspects of designing the marketing plan for the program and to compete with the competitors.

The most significant improvement that GPT 4.0 made is that this particular model can create a fictional focus group that helps the user to evaluate the efficiency and experience of using ChatGPT to create the Lean Canvas model without the need to collect the data from actual personas. All the responses are based on the reasonings that allow this fictional focus group to be proposed objective and even rejective opinions that there is still improvement need to be made for ChatGPT to create the Lean Canvas to be more efficient. By doing this, the user needs to copy and paste the response history of all the inquiries and responses generated by the ChatGPT and ask it to “fiction a focus group based on the personas and tell me your experience about

using ChatGPT to create the Lean Canvas model”.



The focus group met in a cozy conference room to discuss their experiences using ChatGPT to create Lean Canvas. Each participant was given the opportunity to share their thoughts and ask questions to gain insights from others.



Anna, the entrepreneur, started by asking, "Did any of you find the suggestions for target market and problem statements relevant to your specific industries?"

Bob, the investor, replied, "I did find some relevant suggestions, but it's important to cross-check the results and not rely solely on the AI-generated suggestions. It's a great starting point, though."

Charles, the marketing expert, agreed, "Yes, the suggestions were helpful, but I would have appreciated a more in-depth analysis tailored to my industry."

Denise, the software developer, asked, "What are your thoughts on the AI-generated suggestions for features and functionalities?"

Emily, the project manager, responded, "I found them useful as a starting point, but it's crucial to validate those suggestions within our project context and the specific needs of our customers."

Frank, the small business owner, added, "Some of the suggestions were spot on, but others seemed too generic. It's important to customize the AI-generated suggestions to fit our unique business requirements."

Bob then raised a concern, "Did anyone else feel uneasy about potential biases in the AI model?"

Charles answered, "Yes, I share your concern. As AI models are trained on large datasets, there's always a chance of biases being introduced. It's crucial to be aware of them and cross-check the AI-generated suggestions."

Emily chimed in with a question, "How do you all feel about the AI's understanding of different industries and the challenges they face?"

Denise replied, "I think there's room for improvement. The AI could benefit from better understanding the nuances of different industries and providing more tailored insights."

Figure 31

Comparison of the Results with the Traditional Approach

Using the traditional approach to creating a Lean Canvas Model involves a thorough and strategic process, broken down into nine critical steps. To begin with, the user needs to identify the top 3 problems the target customers face by researching the market, conducting interviews, or carrying out surveys. Prioritize these problems based on their significance and urgency to address.

Next, define the target customer segments by considering demographics, psychographics, and behavioral patterns. Craft customer personas representing the ideal customers and segment the market into niches if necessary. Once the customer segments have been identified, develop a unique value proposition that differentiates the offering from competitors. The unique value proposition should be a clear and concise message emphasizing the benefits and uniqueness of the product or service. Test the unique value proposition with potential customers to ensure it resonates with the customers.

Following that, outline the key features or functionalities of the product or service, focusing on the minimum viable product (MVP) that delivers value to customers. Test the solution with early adopters to gather feedback and make improvements. To reach the target customers, determine the most effective communication channels, such as online platforms, direct sales, or physical stores. Prioritize these channels based on their cost-effectiveness, alignment with your target audience, and potential for engagement.

Identifying the revenue streams and cost structure is crucial to the business model. Determine how the business will make money by exploring various revenue models like product sales, subscriptions, or advertising. Moreover, outline the major costs associated with starting and operating your business, categorizing them into fixed and variable costs. Estimate the break-even point to ensure financial viability and establish a suitable pricing strategy.

Key metrics are essential in tracking the success of the business. Select quantifiable metrics closely tied to the business goals, such as revenue growth or customer acquisition cost, and monitor them regularly to inform decision-making. In the case study, selected metrics, or Key performance indicators (KPIs) are enrollment rate, student satisfaction, etc. Lastly, pinpoint any factors that give the business a competitive edge, such as proprietary technology or exclusive partnerships. Make sure these advantages differentiate the offering and build a defensible market position, while continually seeking ways to enhance the competitive advantage as the business grows.

The Lean Canvas Model is an iterative process. As gathering more information and validating the assumptions, update and refine the canvas to better reflect the realities of the market and customers.

In conclusion, the traditional approach to creating a Lean Canvas Model demands substantial research, data collection, and validation efforts to thoroughly understand the market and customers. This process can be time-consuming and labor-intensive. However, the introduction of innovative tools like ChatGPT can significantly streamline the process, making it easier, simpler, and more efficient. By leveraging the advanced text processing capabilities of models like GPT 3.5 and GPT 4.0, ChatGPT can assist in generating customer personas and specific digital figures, reducing the time spent on research and providing users with valuable insights for

their marketing plans. Consequently, entrepreneurs and startups can focus on refining their product and service offerings, students can focus on the case study analysis, while ChatGPT aids in the development of a more effective and efficient Lean Canvas Model. In the academic context, ChatGPT can revolutionize the teaching and learning process by making complex concepts more comprehensible and accessible for students. By integrating ChatGPT into the educational experience, instructors can provide personalized explanations and examples tailored to each student's needs, fostering a better understanding of the subject matter. Furthermore, ChatGPT's advanced text processing capabilities can significantly reduce the time and effort required for students to collect and analyze data for case studies. By offering a wealth of information and resources at their fingertips, students can focus on critical thinking, problem-solving, and applying theoretical concepts to real-world situations. This shift allows students to engage more deeply with the material and develop a solid foundation in their field of study.

Overall, the integration of ChatGPT in the academic environment has the potential to streamline learning, enhance student comprehension, and promote more efficient use of time and resources. As a result, students will be better equipped to tackle complex problems and contribute meaningfully to their chosen fields.

Conclusion

Evaluation Criteria

To evaluate the success of this project, the following evaluation criteria have been selected to assess the performance of ChatGPT in creating Lean Canvas models. The evaluation criteria will focus on the SMART objective, which stands for Specific, Measurable, Achievable, Relevant, and Time-bound.

1. **Specific:** ChatGPT must accurately fill in the blocks of the Lean Canvas based on the provided information or data for a real-world case.
2. **Measurable:** Assess the improvement in efficiency and accuracy when using ChatGPT compared to manual Lean Canvas creation.
3. **Achievable:** Evaluate whether ChatGPT is user-friendly and can be easily adopted by students and faculties with minimal training.
4. **Relevant:** Ensure that the ChatGPT-generated Lean Canvas is relevant and useful in the context of marketing and business planning.
5. **Time-bound:** Set a timeline for the project's completion, including milestones for the white paper and any necessary improvements to ChatGPT.

Opportunities and Challenges for further research

ChatGPT has shown the ability for text processing and potential for data processing that allows the models to do more comprehensive work than ever before. Researchers should keep fine-tuning the model to iterate for specific domains and industries, such as healthcare, finance, and law, to provide tailored solutions and insights for these sectors. Moreover, researchers

should integrate GPT models with other types of data, such as images, audio, or video, which can create a richer understanding of context and enable more advanced applications, like video summarization, audio transcription, or image captioning. And the most important opportunity is for the researchers and developers to investigate the ethical implications of GPT models and develop techniques to address issues like biases, fairness, and transparency to ensure that the models are used responsibly and make decisions as human assistants to be more efficient.

However, challenges still exist currently, the first one is how to eliminate bias created by artificial intelligence, and the Turing test is inevitable at this step. But even if ChatGPT is tested qualified, how do the users evaluate the morale of the decisions that ChatGPT made? It brings up another challenge which is the evaluation criteria. The traditional criteria will not adequately capture the quality of model outputs and evaluate the ethics and morals. Last but importantly, the security of information of the users. Since ChatGPT requires a large amount of information to help the user to generate the response, then as the intelligence grows and information input increases. Once a data breach happens or artificial intelligence leaks users' information, the consequences are disastrous.

Findings

The project explored the potential and applicability of ChatGPT in contributing to the creation of the Lean Canvas model. Utilizing the case study methodology, the research examined how ChatGPT could be employed to fill out the various sections of the Lean Canvas, highlighting its adaptability and usefulness for this purpose.

The results demonstrated ChatGPT's proficiency and efficiency in generating relevant content for the Lean Canvas model, providing valuable insights for users. The project was completed within the predetermined 3-month timeline, with all milestones achieved according to schedule. This punctual delivery showcases the potential of ChatGPT to expedite the Lean Canvas creation process, which in turn can save valuable time and resources for businesses and researchers.

The project involved a thorough process that included pre-training for both GPT 3.5 and GPT 4.0 models, information collection, and a comprehensive evaluation of the AI-generated content. By comparing the performance of different versions of the model, the study provided insights into how advancements in AI technology can lead to improvements in the quality and relevance of the generated Lean Canvas. Furthermore, the project illuminated areas where ChatGPT could be further optimized for Lean Canvas creation, such as enhancing its understanding of industry-specific nuances and refining its ability to provide personalized recommendations. These findings can guide future developments of ChatGPT, ensuring that it remains a relevant and powerful tool for Lean Canvas generation.

It is crucial to acknowledge that the GPT 4.0 model can convincingly simulate a focus group to assess the experience of using ChatGPT for creating a Lean Canvas model. The AI-generated responses aim to be both objective and authentic, showcasing not only the benefits of utilizing ChatGPT but also identifying areas where the tool could be enhanced to provide a better user experience. By simulating diverse personas, the model offers a broader perspective on how different users might engage with ChatGPT and the unique challenges they may face within their

industries. This enables the AI to provide insights into the varying degrees of customization and industry-specific knowledge that users might require from the tool.

As ChatGPT continues to evolve and address its limitations, it will become an even more valuable resource for business professionals and academic researchers. This includes refining its context awareness, reducing potential biases, and offering more personalized and accurate suggestions. Such improvements can lead to more efficient and effective Lean Canvas creation, ultimately supporting better decision-making and resource allocation in the early stages of business development.

Moreover, the focus group simulation can serve as an important feedback loop for the developers of ChatGPT, as it highlights areas where users might experience difficulties or require additional support. By incorporating this feedback into future iterations of the tool, ChatGPT can continue to grow and adapt to better meet the needs of its diverse user base, ensuring its ongoing relevance and utility in a rapidly changing business landscape.

In conclusion, this project has demonstrated that ChatGPT can be effectively integrated into Lean Canvas creation workflows promptly, offering valuable insights and streamlining the process for users. With ongoing advancements and improvements in AI technology, the role of ChatGPT in the Lean Canvas creation process will likely continue to grow and evolve, contributing to more efficient and well-informed business planning.

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