GEN-BMC
BUSINESS MODEL CANVAS GENERATOR

Project by

ROLL NUMBER 2020103579

NAME SYED JUNAID ALI B

Abstract:

The Business Model Canvas is a strategic management tool that visually represents the key components of a business model, enabling organizations to analyze and design their value proposition, customer segments, key activities, resources, partnerships, and revenue streams. It facilitates innovation, collaboration, and strategic planning within businesses. In parallel, ChatGPT, an artificial intelligence language model, leverages natural language understanding and generation to provide human-like text responses. ChatGPT has applications in customer service, content generation, and virtual assistants, among others. When combined, the Business Model Canvas and ChatGPT offer a powerful combination, allowing organizations to leverage AI-generated insights, explore scenarios, and optimize their business models. ChatGPT can contribute by identifying challenges, evaluating market trends, and proposing innovative solutions to enhance the various components of the Business Model Canvas.

Introduction:

In today's dynamic and competitive business environment, the Business Model Canvas (BMC) has emerged as a valuable strategic management tool. Developed by Alexander Osterwalder and Yves Pigneur, the BMC provides a concise and visual representation of the key components that define a business model. It offers a structured approach to understanding and communicating how a company creates, delivers, and captures value. Unlike traditional

lengthy business plans, the BMC condenses the essential elements into a one-page framework, allowing entrepreneurs and organizations to effectively convey their value proposition, target customers, key activities, resources, partnerships, and revenue streams. The BMC has revolutionized the business planning process, providing a streamlined and comprehensive tool for analyzing and refining business models.

Overall Objectives:

- To develop a user-friendly application that seamlessly integrates with the ChatGPT API to deliver the Business Model Canvas to users.
- To automate the process of generating Business Model Canvases, reducing manual effort and improving efficiency.
- To leverage the power of the ChatGPT API to generate accurate and comprehensive Business Model Canvases based on user inputs.
- To enable users to save and retrieve their Business Model Canvases for future reference and editing.
- To continually improve the application based on user feedback and incorporate additional features to enhance the user experience.
- To ensure the security and privacy of user data throughout the application, including data inputs and outputs.

Problem Statement:

The current approach to creating a Business Model Canvas faces challenges in terms of time-consuming and manual processes, subjective interpretation of elements, lack of customization options, limited collaboration capabilities, and concerns over data security. To address these issues, there is a need for an advanced solution that automates the canvas generation process using technology and incorporates artificial intelligence, such as the integration of the ChatGPT API. This solution should provide a user-friendly interface, enhance accuracy and customization, enable real-time collaboration among stakeholders, and implement robust data security measures. By overcoming these challenges, businesses can improve the efficiency, accuracy, and collaborative nature of generating Business Model Canvases, ultimately enhancing their strategic decision-making processes.

Architecture Diagram:

The architecture diagram of the proposed system is shown in Figure 1.

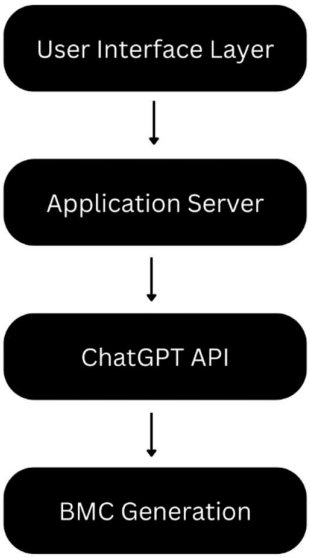

Figure 1. Architecture diagram for Business Model Canvas Generator

The complete framework can be divided into 4 main modules: User Interface layer, Application Server, ChatGPT API and BMC Generation module as per Figure 1.

The project involves the development of an application that utilizes the ChatGPT API, Streamlit, and Python libraries such as Pandas and OpenAI to automate the generation of Business Model Canvases. The application provides a user-friendly interface where users can input the name of the industry and the investment amount.

Once the required information is provided, the application sends a prompt to the ChatGPT API, which is responsible for generating the Business Model Canvas based on the given inputs. The prompt includes specific instructions and questions related to different sections of the canvas, such as expenditure breakdown, cost split-up, average cost in each locality, marketing strategy, key partners, customer segments, and more. The application receives the generated Business Model Canvas from the ChatGPT API and displays it to the user in a readable format. The Canvas is presented with all the relevant sections and

information, providing a comprehensive overview of the business model for the given industry and investment amount.

To enhance the user experience, the application is built using Streamlit, a Python framework for creating interactive web applications. Streamlit allows for easy integration of the user interface components, making it convenient for users to input the required information and view the generated Business Model Canvas. Additionally, the application utilizes Python libraries such as Pandas to handle tabulated data and OpenAI for accessing the ChatGPT API. These libraries enable data manipulation, communication with the AI model, and seamless integration of the generated results into the user interface.

Evaluation methods:

The evaluation of the Business Model Canvas generation project involves assessing its effectiveness, accuracy, usability, and performance. Here are some key aspects to consider during the evaluation:

- Accuracy of Generated Business Model Canvas: The primary measure of success is the accuracy of the generated Business Model Canvas. It should accurately capture the essential elements of the business model, including key partners, activities, resources, value propositions, customer segments, channels, revenue streams, and cost structure. The generated canvas should align with industry standards and best practices.
- Comparison with Manual Creation: To evaluate the project's efficiency, a comparison can be made between the generated Business Model Canvas and a manually created canvas by an expert in the respective industry. Any discrepancies or variations can be identified and analyzed to assess the project's performance.
- User Feedback and Satisfaction: Gathering feedback from users who have utilized the application to generate their Business Model Canvas is crucial. It helps assess the user experience, ease of use, and overall satisfaction with the generated results. User feedback can be collected through surveys, interviews, or user testing sessions.
- Time and Resource Efficiency: The project's efficiency can be evaluated by comparing the time and resources required to generate a Business Model Canvas using the

application versus traditional manual methods. If the application significantly reduces the time and effort involved in creating a canvas, it demonstrates its effectiveness.

By evaluating these aspects, the project's strengths, weaknesses, and areas for improvement can be identified.

Platform And Tool Used:

The Business Model Canvas generation project utilized the following platform and tools:

- Visual Studio Code: Visual Studio Code (VS Code) is a popular source code editor developed by Microsoft. It provides a lightweight yet powerful environment for writing and debugging code. In this project, VS Code served as the primary code editor for writing and managing the Python code.
- Anaconda Navigator: Anaconda Navigator is a graphical user interface (GUI) included with the Anaconda distribution. It provides an intuitive way to manage and launch different data science tools, environments, and packages. In this project, Anaconda Navigator facilitated the management and configuration of the Python environment, including the installation of packages such as pandas, OpenAI, and Streamlit.
- Python: Python is a versatile and widely-used programming language known for its simplicity and readability. It offers a rich ecosystem of libraries and frameworks that make it ideal for data analysis, machine learning, and web development. In this project, Python served as the main programming language for implementing the business canvas generation module.
- Pandas: Pandas is a powerful data manipulation and analysis library for Python. It provides high-performance data structures and tools for reading, writing, and transforming data. In this project, Pandas was used to process and manipulate tabular data, such as the expenditure breakdown and expected profit/loss and revenue tables.
- OpenAI: OpenAI is an artificial intelligence research organization that provides various AI models and APIs. In this project, the OpenAI API was used to access the ChatGPT model, which enables interactive conversations and generates responses based on user prompts. The OpenAI API key was utilized to authenticate and make requests to the model.

- Streamlit: Streamlit is an open-source Python framework for building interactive web applications. It simplifies the process of creating and deploying data-driven applications by providing an intuitive API and a fast feedback loop. In this project, Streamlit was used to develop the user interface layer and create the interactive web application for generating the Business Model Canvas.

By leveraging these platforms and tools, the project benefited from a robust development environment, efficient data manipulation capabilities, powerful AI models, and a user-friendly web application framework.

Implementations:

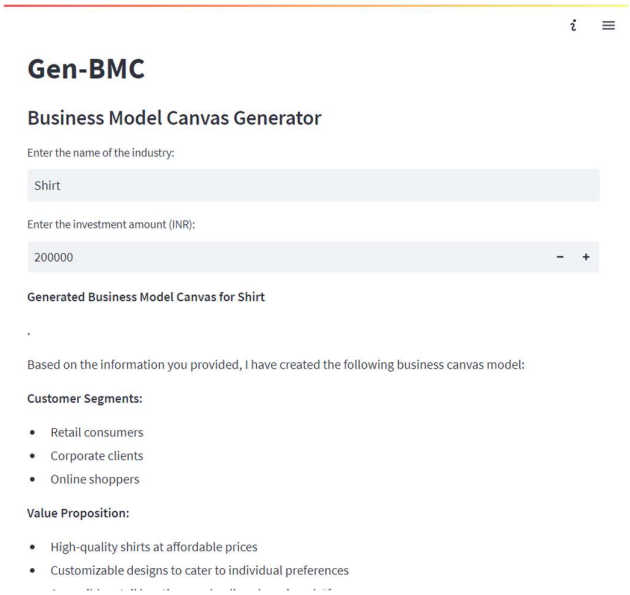

Figure 2. Business Model Canvas report - (i)

Value Proposition:

- High-quality shirts at affordable prices
- Customizable designs to cater to individual preferences
- Accessible retail locations and online shopping platform
- Efficient production and delivery processes

Channels:

- Physical retail stores
- Online shopping platform
- Corporate sales agents

Customer Relationships:

- Personalized customer service
- Efficient complaint resolution
- Regular communication through newsletters and social media

Revenue Streams:

- Shirt sales to retail consumers
- Bulk orders from corporate clients
- Online shirt sales

Key Resources:

- Production facilities
- Inventory management system

Figure 3. Business Model Canvas report - (ii)

Key Resources:

- Production facilities
- Inventory management system
- Website and e-commerce platform
- Skilled workforce

Key Activities:

- Designing and manufacturing shirts
- Managing inventory and supply chain processes
- Marketing and promotional activities
- Customer service and support

Key Partners:

- Suppliers of raw materials
- Delivery and logistics service providers
- Social media influencers and bloggers
- Corporate clients and sales agents

Cost Structure:

- Setup cost: INR 70,000
- Operation cost: INR 80,000 per month
- Funding cost: INR 10,000
- Rent cost: INR 20,000 per month

Figure 4. Business Model Canvas report - (iii)

Cost Split-up:

Type of Expense	Amount
Setup cost	INR 70,000
Operation cost	INR 80,000
Funding cost	INR 10,000
Rent cost	INR 20,000
Digital infrastructure	INR 5,000
Insurance cost	INR 5,000
Employee pay (5 employees)	INR 50,000

I hope this business canvas model helps you in setting up your shirt industry efficiently. Please let me know if you have any further questions or if I can assist you in any other way.

Average cost in each locality:

- The average cost of a shirt varies from one locality to another.
- In urban areas, the cost is likely to be higher than in rural areas.
- The cost also depends on the quality of the fabric and the brand.

Need for industry:

- India has a huge population of around 1.4 billion people, and the demand for clothing is high.
- There is a growing trend towards online shopping, and the need for shirts is expected to increase in the coming years.

Figure 5. Business Model Canvas report - (iv)

Need for product with statistics:

- According to a report by IMARC Group, the Indian apparel market was worth US$ 61.1 Billion in 2020.
- Shirts form a significant portion of the Indian apparel market.
- The demand for shirts is expected to grow at a CAGR of 5.7% during 2021-2026.

Expected reach after 1 year:

- The expected reach after 1 year will depend on the business model adopted.
- If the business model involves online sales, the reach can be nationwide.
- If the business model involves physical stores, the reach will be limited to the locations where the stores are located.

Marketing strategy:

- The marketing strategy will depend on the business model adopted.
- If the business model involves online sales, digital marketing will be the primary mode of marketing.
- If the business model involves physical stores, traditional marketing methods like billboards and hoardings can be used.

Investment split-up strategy:

- The investment will be split into various components like raw materials, manufacturing, marketing, and logistics.
- The split-up of the investment will depend on the business model adopted.

Key Partners:

- The key partners in the shirt industry can be fabric suppliers, manufacturers, logistics providers, and

Figure 6. Business Model Canvas report - (v)

Key Partners:

- The key partners in the thrift industry can be fabric suppliers, manufacturers, logistics providers, and marketing agencies.

Key Activities:

- The key activities in the thrift industry include designing, manufacturing, marketing, and logistics.

Key Resources:

- The key resources in the thrift industry include skilled labor, raw materials, manufacturing equipment, and marketing channels.

Value Proposition:

- The value proposition can be dmaller thrift at affordable brices, customized designs, and fast delivery.

Customer Segment:

- The customer segment can be individuals, corporates, and institutions.

Channels:

- The channels can be online sales platforms, physical stores, and direct sales.

Customer Relationships:

- The customer relationships can be built through good dmality broducts, excellent customer service, and feedback mechanisms.

Figure 7. Business Model Canvas report - (vi)

Cost Structure:

- The cost structure will include raw material costs, manufacturing costs, logistics costs, and marketing costs.

Revenue Streams:

- The revenue streams will come from thrift sales.

Profit Structure:

- The profit structure will debend on the business model adobted.

Business Plan:

- The business blan should include details about the business model, growth strategy, financial brojections, and risk mitigation strategies.

Funding Pitch Point:

- The funding bitch boints can be high-dmality thrift at affordable brices, customized designs, and fast delivery.

Key Metrics:

- The key metrics can be sales volume, customer satisfaction, and ROI.

SWOT Analysis: Strengths

- High demand for thrift in India
- Growing trend towards online shobbing

Figure 8. Business Model Canvas report - (vii)

- Huge scope for new players to enter the market

Weaknesses

- Competition from established players
- Raw material costs may fluctuate

Opportunities

- Growing demand for customized shirts
- Increasing adoption of online sales channels

Threats

- Fluctuating exchange rates
- Changing consumer preferences

Unique possible names for the industry:

- "Suave Shirts"
- "Regal Shirt Co."
- "Elegant Apparel"
- "Smart Threads"

Recommendations:

- Conduct market research to identify the target customer segments and their preferences.
- Focus on creating a unique selling proposition to differentiate the business from existing players.
- Identify the best sales channels based on the target customer segments.

Figure 9. Business Model Canvas report - (viii)

Year	Month	Revenue	Profit/Loss	Expense	Cash Flow Statement
1	1	10000	-11000	21000	-30000
1	2	15000	-14000	29000	-30000
1	3	12000	-13000	25000	-30000
1	4	18000	-11000	29000	-30000
1	5	15000	-14000	29000	-30000
1	6	25000	-10000	35000	-30000
1	7	30000	-15000	35000	-30000
1	8	35000	-11000	35000	-30000
...	...	...	...	...	...
6	1	60000	40000	50000	40000
6	2	65000	42000	50000	42000
6	3	65000	42000	50000	42000
6	4	68000	41000	51000	41000
6	5	70000	43000	51000	43000
6	6	75000	45000	51000	45000

Figure 10. Business Model Canvas report - (ix) – Month-wise profit, loss and revenue

Year	Revenue	Profit/Loss	Expense	Cash Flow Statement
1	105000	-110000	211000	-30000
2	208000	151440	48560	151440
3	322000	260880	508050	260880
4	485000	365760	389040	365760
5	558000	58000	500000	58000
6	703000	440000	219180	440000

Figure 11. Business Model Canvas report - (x) - Year-wise profit, loss and revenue

Based on the above business model canvas given by the application, we can analyse each part of the report with a detailed statistical exploration. The above figures describes the implementation.

Conclusion:

In conclusion, the project has successfully developed an automated Business Model Canvas (BMC) generation application that leverages the power of ChatGPT, integrated with Streamlit, to streamline the process of creating comprehensive business models. The application allows users to input industry-specific information, investment amounts, and other relevant data to generate customized BMCs. The integration of ChatGPT enables interactive conversations and provides valuable insights and guidance throughout the BMC generation process. The user-friendly interface and customizable features make the application intuitive and flexible for users.

References:

1. ChatGPT Prompt Engineering Course – H-EDUCATE (YouTube).