

AI-Powered Chatbots for Women E-Commerce Ventures

Ms. N. Abinaya¹, Mr. R. Anjit Raja²

¹M.Sc. Data Science and Business Analysis,

²Assistant Professor, ^{1,2}Rathinam College of Arts and Science, Coimbatore

Abstract- This research aims to address the chances for women to express themselves and have an effect on society are expanding in a world that is changing quickly. This essay presents a momentary e-commerce site created to support women's entrepreneurs. This platform's core feature is an AI-based chatbot that acts as a mentor and helper for women starting and operating profitable web-based businesses. The chatbot ensures that women's entrepreneurs feel secure in their decision-making by providing individualized advice and helpful recommendations on product listings, pricing tactics, order fulfillment, and customer care. This platform is more than just a marketplace; it also supports a community of women's entrepreneurs through encouraging cooperation, mentoring, and support between them. This program seeks to empower women to take charge of their financial destiny, overcome difficulties, and achieve their entrepreneurial dreams by utilizing chatbots and e-commerce. It will grant women the opportunity to control their financial destiny, shatter down boundaries, and follow their ambitions of becoming entrepreneurs by utilizing chatbots and e-commerce.

Keywords: Empowerment Technology, Entrepreneurship Support, Market Access, Networking for Women, Women in Business, and Access to Finance.

Priya.S.,M.E¹, Sundhar A², Thirumoorthi K³, Jawahar M B⁴The purpose of the Women's Empowerment Chatbot is to support women's financial independence in the context of the evolving women's empowerment movement. This revolutionary technique handles all of the challenges that women entrepreneurs have when it comes to marketing their products, finding company ideas, and applying for loans. Utilizing modern technology, this effort seeks to create a digital marketplace where women entrepreneurs may market their goods within a virtual community. The main component of this program is the use of an intelligent chatbot to act as a virtual mentor, guiding women through all aspects of entrepreneurship, offering suggestions for the finest company plans, and helping them complete loan applications. By just reducing challenges to economic empowerment, this will enable women to learn from one another, share experiences, and support one another's businesses. With the correct tools skills, support, and knowledge. we can empower women to not just lead global businesses as salespeople but also as leaders in their fields. Financial inclusion is encouraged by using resources for financial education and connecting women with financial possibilities. Because analytics and user comments are integrated, the project is adaptable and may change to meet changing needs. This hybrid chatbot is a blend of rule-based and AI-based chatbots, which will act as a support system for the Self- Help Groups members [1].

II. Literature Review

The chatbots are bringing new dynamics to customer service by providing instant services to the users of the chatbots[1]. To digitize their financial transaction, and to support their work, a software tool design has been proposed [3] with consensus agreement [4] to avoid any errors or mismanagement of these ledgers. There are many areas that use chatbots for various customer service applications. Banks and other financial institutions widely use chatbots to address consumer complaints and questions[5]. Many applications which use chatbots to interact with customers to provide helpful services are discussed in [6]. This work highlighted the benefits of employing chatbots along with how they might be used in a variety of contexts and how societal preconceptions influence chatbot design [8]. Chatbots become more efficient if they are aware of the context to respond. A chatbot based on a context-aware system was presented in [10]. The use of chatbots powered by artificial intelligence, primarily in the banking sector, has altered the nature of the customer-bank communication interface. The effectiveness of using chatbots in Singapore's banking industry was examined in [15]. Women's economic contribution in India accounts for 17% of the GDP, which is less than half the global average. COVID-19 exacerbated the situation when women lost livelihoods and employment, income from the business decreased, and the burden of unpaid care increased. UN Women reported that during the first lockdown in 2020, 47% of women lost their jobs compared to 7% of men who were left without jobs. Of the countries in the Central and East Asia region, the pandemic hurt female entrepreneurs in India the most, with two-thirds of women attributing recent business closures to the pandemic.[2]

Methodology

The AI chatbots have been trained to conduct conversations that resemble those of humans using natural language processing (NLP). Artificial intelligence chatbots have been developed to learn from user interactions and

adapt their responses to the surroundings of the conversation. Understanding and transforming incoming data to provide relevant outputs is an AI chatbot's primary function. Because of this, the AI chatbot can determine the user's purpose and then respond with the best possible response. Additionally, these users require regular assistance to become familiar with the condition and move between the various functionalities.

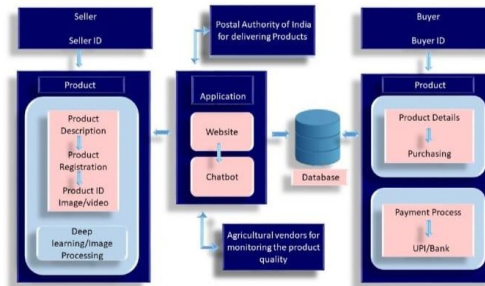


Figure 1: Architecture for Women's empowerment chatbot

In Figure 1, The Architecture consists of three major components of a seller, buyer and database. It is the buyer's responsibility to make product purchases, and the seller's responsibility to list products on the e-commerce platform. The prices, pictures, and descriptions of each product are all kept up to date in the database. A buyer must first register on the e-commerce platform in order to make a purchase. Following their registration, customers can peruse the product assortment and add things to their shopping cart. After completed their shopping, they can head to the register. The buyer must provide their shipping and payment details during the checkout process. They are then able to submit their order after entering this data.

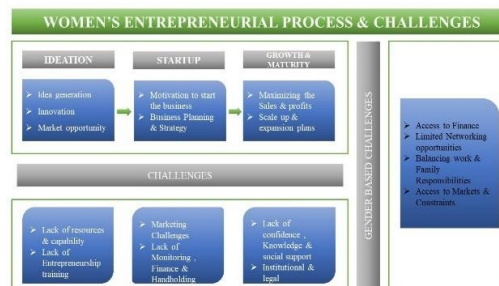


Figure 2: Women's Entrepreneurs Process & Challenges

In Figure 2, Women entrepreneurs have difficulty with social conventions and self-doubt, which undermines their confidence in their ideas. It is difficult to confirm ideas and find support when one is not exposed to many role models. It's difficult to balance professional and familial responsibilities while collecting funding for business planning. Funding is hard to get because of gender bias. Launching requires tackling logistical difficulties and fear. Funding and market entry are challenges to scaling up. Managing finances, affecting a balance between personal and professional life, and address gender-specific issues are all necessary for long-term success. During it all, advocacy for gender equality, networks of support, and resilience are essential.

Dataset

The way society views women is changing now. Women are beginning to participate in economic growth as a result of pressure from the government and other countries. The Ministry of Statistics and Program Implementation released the sixth Economic Census, which paints a concerning image of the situation of women entrepreneurs in the nation. Dena Bank's Dena Shakti Program gives women business owners in retail, service, manufacturing, or self-employment a 25% interest rate break and loan terms of one to three years.

Stree Shakti Package for Women Entrepreneurs: This program by State Bank of India offers flexible loans (Rs.50,000-25 Lakhs) with relaxed margins and low interest rates for women in retail, professional, or small-scale industries. **Cent Kalyani Scheme:** This scheme by Central Bank of India provides financial assistance to women entrepreneurs in new, expanding, or existing micro/small businesses (handicrafts, services, professions, etc.) through Stree Shakti loans.

State	Literacy Rate (%)	Labor Force Participation (%)	Seats Held by Women in Legislative Assembly (%)
Andhra Pradesh	67.4	53.5	19
Arunachal Pradesh	79.3	45.4	11.1
Assam	72.9	30.1	18.8
Bihar	61.8	16.4	14.1
Chhattisgarh	70.2	27.4	31.4
Goa	82.3	33.5	12.5
Gujarat	79.3	31.3	18.2
Haryana	81.9	22.5	9.1
Himachal Pradesh	82.8	42.3	24.3
Jammu and Kashmir	68.2	13.7	12.5
Jharkhand	60.3	27	17.6
Karnataka	77.7	34.5	14.6
Kerala	96.2	46.8	35.5
Madhya Pradesh	69.3	24.4	13.6
Maharashtra	82.9	26.3	13.7
Manipur	79.9	54.3	12.9
Meghalaya	82.6	47.4	20
Mizoram	89.1	48.6	33.3
Nagaland	80.1	53.6	10
Odisha	73.4	27.5	24.3
Punjab	75.9	13.5	13.8
Rajasthan	69.7	27.5	22.4
Sikkim	84.7	46.4	33.3
Tamil Nadu	80.3	55.1	21
Telangana	66.5	36	18.2
Tripura	87.7	38.5	15.4
Uttar Pradesh	67.9	27.7	19.7
Uttarakhand	79.6	30.6	33.3
West Bengal	79.2	25.7	31

Table: Data of Women Literacy

In Table, Literacy: Most states have literacy rates above 70%, with Kerala leading at 96.2% and Bihar lagging at 61.8%. Working women: Participation varies widely, with Mizoram leading at 48.6% and Haryana trailing at 22.5%. Women in government: Representation is generally low, with Kerala leading at 35.5% and Jammu & Kashmir at 12.5%.

User Authentication

The platform incorporates community-building features to foster community connectivity, with the aim of empowering individuals. A network empowering women entrepreneurs is established, allowing users to connect, exchange stories, and provide mutual support. One easy way to obtain empowerment tools like webinars, curated content, and mentorship opportunities is through the support resources hub that is part of the user profile. Language barriers are removed by multilingual support, which gives users of various linguistic backgrounds access. The platform incorporates community-building features to foster community connectivity, with the aim of empowering individuals. A network empowering women entrepreneurs is established, allowing users to connect, exchange stories, and provide mutual support. One easy way to obtain empowerment tools like webinars, curated content, and mentorship opportunities is through the support resources hub that is part of the user profile. Language barriers are removed by multilingual support, which gives users of various linguistic backgrounds access.

Transform Shopping Journey The help of our e-commerce platform and Women's Empowerment Chatbot, we change the purchasing experience from a transaction to a dynamic and empowering one. A system that is well-integrated and consists of a shopping cart module, Checkout and payment module, and order management module is necessary to create a smooth and effective online shopping experience. Customers can simply add and manage the items they have chosen by using the Shopping Cart Module, which functions as a virtual basket for them. The integration of Checkout and Payment Module guarantees a safe and versatile payment gateway that supports multiple payment options to improve user convenience and confidence. The process is completed by the Order Management Module, which effectively processes and arranges orders while giving administrators and customers access to real-time updates. With its user-friendly interface, numerous payment options, and efficient order tracking, this integrated approach expedites the entire purchasing process, improving customer satisfaction and loyalty in the process. The main challenges that women face in business are educational and work background, balancing their time share between work and family, problems of raising start-up capital, difficulty in borrowing fund, thought-cut completions endangered existence of small companies, problems of availing raw materials access to export market without intermediaries [1].

Implementation

Artificial intelligence (AI) and natural language processing (NLP) have the potential to make a major contribution to women's empowerment, especially when it comes to chatbots and e-commerce websites. Technology can be extremely helpful in promoting inclusivity, accessibility, and customized experiences in the context of women's empowerment. NLP and AI make it possible for chatbots created to promote women's empowerment to engage in more natural and conversational dialogue. These chatbots can be designed to comprehend and react to a wide range of questions about women's empowerment, education, careers, and general health. The chatbots' ability to measure user emotions through sentiment analysis via NLP enables them to respond in a way that is sympathetic and encouraging. This could establish an online network of support that provides direction, materials, and motivation, thereby promoting women's empowerment.

III. Conclusion

In this paper, We concluded that it is developed to sell products, generate business ideas, and apply for loans, the women's empowerment chatbot has become a game-changer, opening doors for greater inclusivity and empowerment in the entrepreneurship space. The chatbot's many features have allowed it to serve as a virtual mentor for female entrepreneurs looking for creative business ideas and assistance with loan application processes, in addition to facilitating smooth product sales. Positive effects include women's increased economic autonomy, which dismantles barriers and creates a vibrant community of strong, independent business leaders. It is a representation of advancement, equality, and the limitless potential that technology has to change the face of entrepreneurship for women worldwide.

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