

# The Impact of Artificial Intelligence for Advancement in Entrepreneurial Education

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**Abstract:** The changing technology has advanced into new advents like Artificial Intelligence. This technology has diffused into the classrooms through chatbots like ChatGPT, Claude, Google Bard, YouChat, KoalaChat, ChatOn, Microsoft Bing and many others. The conventional softwares are only updated by humans while Artificial Intelligence can correct and remodel itself. Artificial Intelligence is assisting the entrepreneurial organizations and students in data analysis, automation and Natural Language Processing (NLP). It also helps the entrepreneurial organizations in strategic decision making and managing operations and accounts. This research focuses on the opportunities and challenges posed by Artificial Intelligence in the entrepreneurial education across various business schools. It examines the benefits of chatbots for educational purposes. It also studies the limitations of chatbots. It enquires about the business advice sought from chatbots. For this purpose, a survey was applied amongst students of entrepreneurial courses to analyze the impact of Artificial Intelligence in our classrooms. It is a study performed on 103 students enrolled in entrepreneurship courses at two management institutes of India between August, 2023, and December, 2023. The study focuses on the benefits of AI in areas such as assisting in classroom activities like such as market research, competitor analysis and legal aspects. It also aids the students in getting feedback for their assignments, preparing for examinations and rapid access to information. The research suggests that Artificial Intelligence is significantly contributing right from idea generation, planning, forecasting and progress evaluation of business plans to entrepreneurial students. It is extensively helping the entrepreneurial students in developing the business model canvas which assists them in designing the blueprint of the project, strategic management, and development of innovative business models. It also assists in improving the productivity and efficiency of students. This research would facilitate students, teachers and business schools imparting entrepreneurial curriculum inculcate Artificial Intelligence into the classroom studies.

**Keywords:** Artificial Intelligence, Chatbots, Entrepreneurial education

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## 1. Introduction

Implementing Artificial Intelligence in educational curricula has been highlighted as one of the significant evolutions of the decade. Along with education, these technologies are adopted across multiple industries. They comprise of blockchain, artificial intelligence, the internet of things (IoT), and genomics (Chalmers et al., 2021). AI assists human beings in completing complex tasks with the help of digital technologies (Haenlein & Kaplan, 2019). In the Industry 4.0, artificial intelligence is playing a major role. It can be described as the assessment of the performance of tasks by algorithms and digital computers (Giuggioli et al., 2022). AI assists human beings in completing complex tasks with the help of digital technologies (Haenlein & Kaplan, 2019).

AI not only assists the conventional organizations, but also supports the creation of new enterprise. It helps decipher opportunities and generate new business ideas (Chalmers et al., 2021). With the help of AI, entrepreneurs can take strategic decisions, manage operations and accounts, and aid in sales function (Figueras, A. et al., 2019). Entrepreneurship implies an individual or a group of people joining together for a new venture. An entrepreneur bears most of the risk of the new business and also gets the major profits from the project. Entrepreneurship pertains to combining several skills including an understanding of financial and operational outlook with an approach towards innovation (Bańka, M. et al, 2023). Entrepreneurial education is a pedagogical process assisting institutional teachings that educate scholars to inspire them towards the formation of a new venture. It can bring about innovation, creativity and knowledge of industry. It facilitates decision-making, problem-solving, leadership, social responsibility, and ethics (Ala, M. et al, 2022).

The role of AI is rising with the growth of digital technology. Considering this, the Business schools are introducing AI into their curriculum (Govindarajan & Sikka, 2020). The introduction of AI including chatbots in entrepreneurial education would support instructors in drafting new curricula, devising teaching materials, assignment grading, handling student queries, and performing research activities. Scholars can formulate project outlines, get feedback on their assignments, prepare for examinations, and accumulate relevant information easily (Cribben & Zeinali, 2023).

The rising significance of AI in the business environment has made it imperative to investigate and apprehend the application of AI technologies in entrepreneurial education. We attempted to assess the impact of AI for advancement in entrepreneurial education on a target sample of 103 students enrolled in postgraduate entrepreneurship courses at a management institute in India between August, 2023, and December, 2023. This study appraises the role of AI in supporting entrepreneurial scholars in devising business model canvases and other curriculum-related activities. It presents the opportunities that entrepreneurial students achieve from using AI chatbots. It also brings out the limitations of AI chatbots. It suggests the business advice a student can extract from these chatbots for drafting business plans. This paper is extremely significant as it showcases the effectiveness of implementing AI into education.

## **2. Literature Review**

Artificial Intelligence is a term coined by Mc Carthy in 1956. A contemporary annotation of artificial intelligence is "registering frameworks that can take part in human-like procedures, including, learning, adjusting, blending, self-rectification and the utilization of information for complex procedures. (Crompton et al., 2023). The education system is the support point for the development of any country. Artificial Intelligence has plentiful potential for the education system. As innovation has dug, its manner into our everyday life, the education system has transformed. Besides, implementing innovations in the education system is challenging (Tilak, 2020). Advances in the field of Artificial Intelligence have significant ramifications for the economy as well as overall society. These advancements have the potential, to influence both the creation and the quality of products and services (Iain M. Cockburn et al., 2019). Among the different Artificial Intelligence frameworks, the capability of chatbots has been featured by scientists, attributable to the easy-to-understand interface created, utilizing natural language processing (NLP) (Chang et al., 2020). Eventually, Artificial Intelligence and ChatGPT will mechanize the whole innovative client revelation and approval process. Certain business sectors, like online business, will adopt and evolve way sooner than we naturally expect (Chakraborty, U. et al., 2023).

Entrepreneurship education foundations effectively drive change in the education system by teaming up, with enterprises and setting up incubators and mentorship plans. It assists in the reconciliation, of the scholarly community and industry (Qing Mu et al., 2024). Educators should utilize Artificial Intelligence and Big data to improve their instructive practices in the curriculum. Artificial intelligence frameworks could be employed, in entrepreneurial education to give customized feedback to scholars on their business strategies and presentations. Scholars could acquire quicker admittance to pertinent data, for example, intellectual property, entrepreneurial finance, licenses, permits, or market data. Artificial intelligence chatbots, like ChatGPT, Microsoft Bing, and others could help scholars distinguish and decipher designs, in huge datasets, for a more viable evaluation of business plans (Mavlutova et al., 2020). The Entrepreneurial students benefit by gaining the knowledge of Artificial Intelligence which assists them in establishing startups and generating funding from Venture Capitalists (Gofman et al., 2024).

Lopez, T. and Qamber, M. (2022), performed a study on the benefits and drawbacks of implementing chatbots in higher education. Results revealed that students can rapidly explore through numerous data pertinent to them using chatbots. The disadvantages of chatbots presented by this study include the absence of human support when the chatbot can't answer complex queries or conditions requiring human contact. Lidén, A. and Nilros, K. (2020), studied that it is desirable to start with simple usage of chatbots and then progressively get to the next level. It is more useful for students to adopt the basic functionality of chatbots rather than complex procedures.

The utilization of ChatGPT in educational curricula and logical creation has raised worries about its exactness and ethical concerns (Stokel-Walker, 2022). Chatbots likewise, have restricted logical comprehension, which can prompt insignificant reactions when the inquiry posed is uncertain or fragmented. Moreover, it needs the presence of mind, prompting the conceivable error of specific words, when the authors use ChatGPT (Choi et al., 2023).

There is also a concern that employing Chatbots in educational curricula are a hazard to scholastic honesty and the discussion on "AI plagiarism" is continuous. Some have additionally seen that the scholars depending too intensely on chatbots to finish their assignments could become dormant (Stokel-Walker, 2022). Chatbots likewise, add to the spread of fabrication and create erroneous or one-sided responses. Many countries have banned the usage of Chatbots due to the nature of the information they access (Dwivedi et al., 2023).

Despite the ongoing constraints, if carried out in a controlled manner and under the direction of teachers, a fraction of these difficulties can be addressed (Kasneci et al., 2023). Chatbots might help scholars pursuing

entrepreneurial education, and teachers across disciplines in large number of ways, as it is examined in the following sections. Ample debate around the impact of chatbots in educational curricula is continuous (Kuhail, M. A. et al.). It means that there is a lot to check out how this innovation could be utilized, which will assist entrepreneurial scholars with meeting their learning goals, and protecting scholar uprightness.

### 3. Research Methodology

This research is based on a study of students enrolled in entrepreneurial courses at 2 institutes in India. The study examines the benefits of chatbots for educational purposes. It also studies the limitations of chatbots. It investigates the benefits of chatbots to develop a business model canvas. It enquires about the business advice sought from chatbots. A survey has been applied to investigate the impact of Artificial Intelligence on advancements in entrepreneurial education on a target sample of 103 students (out of which 50.5% of the students were females and the rest were male) of 2 institutions offering entrepreneurial courses. A structured questionnaire was sent to the entrepreneurial students through e-mails, WhatsApp, and physically between August, 2023, and December, 2023. The entrepreneurial student's responses were documented, evaluated, and analyzed. We collected the data to examine the efficacy of AI Chatbots in the educational curriculum on a 5-point Likert scale. The data were measured using Microsoft Excel and IBM SPSS Statistics.

### 4. Results and Discussion

The majority of the respondents have a positive response toward the use of AI chatbots in the educational curriculum. Out of 103 entrepreneurial students, 95.1% of these have used AI chatbots like ChatGPT, Microsoft Binge, Google Bard, YouChat, etc to assist them in their studies 37.9% got knowledge about AI chatbots through social media, 29.1% from known people, 26.2% from college, and the remaining through news. The most frequently used AI chatbot for educational purposes is ChatGPT which is 86.4% followed by Google Bard. Further, 74.8% of students agreed that the instructors in their college discussed AI chatbots in the classroom. Enquiring about the favourability of AI chatbots, 95.1 % of entrepreneurial students found chatbots beneficial for their educational curriculum.

#### 4.1 4.1 The Benefits of Using Chatbots for Educational Purposes

The entrepreneurial students were examined about the benefits of using Chatbots for educational purposes. The questionnaire required participants to rate their responses on a scale of 1 (very poor) to 5 (excellent). The findings revealed that 62 students are positive about getting feedback for their assignments through chatbots. 63 students responded that chatbots are effective in preparing for examinations. 63 students agreed that chatbots provide rapid access to information. Thus, entrepreneurial students have a positive approach toward chatbots and consider them beneficial for their education purposes. Students can utilize chatbots to get prompt input on their work and get insight before they submit the assignments to the educator. Chatbots can offer valuable support to students to prepare for exams. It can assist in making flashcards, creating personalized study plans, role-playing, mnemonic, and better concept understanding. It assists students with getting information rapidly. Data can be assembled swiftly from different sources. It could also help in acquiring data about other organizations.

**Table1: The benefits of using Chatbots for educational purposes**

The benefits of using Chatbots for educational purposes	No. of students rated themselves 1 on Likert scale	No. of students rated themselves 2 on Likert scale	No. of students rated themselves 3 on Likert scale	No. of students rated themselves 4 on Likert scale	No. of students rated themselves 5 on Likert scale
Getting feedback for the assignments	11	7	23	39	23
Preparing for examinations	9	8	23	35	28
Rapid access to information	12	8	20	33	30

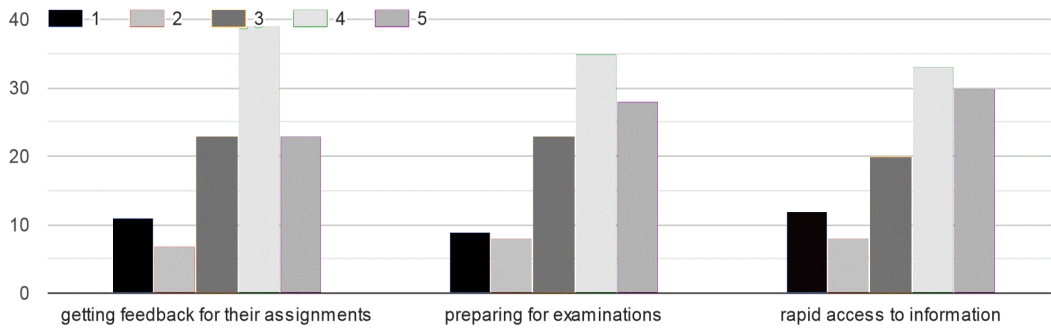


Figure 1: The benefits of using Chatbots for educational purposes

4.2 The Benefits of Using Chatbots to Develop a Business Model Canvas

The entrepreneurial students were investigated for the benefits of using chatbots to develop a business model canvas. The questionnaire required participants to rate their responses on a scale of 1 (very poor) to 5 (excellent). The findings revealed that 57 students responded positively to using the chatbots to generate new and creative ideas to develop a business model canvas. 54 students responded that chatbots assist in developing newer insights to identify and understand distinct variables. 64 students agreed that chatbots provide rapid access to information. 57 students believe that chatbots help in increasing student’s productivity and efficiency. Thus, chatbots are of great help to entrepreneurial students in developing business model canvas. It helps think of ideas that will be innovative. It can be useful in the illustration of an existing business model that describes several concepts that made it successful. Chatbots assist in the creation of financial models, business plans, value propositions, SWOT analyses, and marketing plans.

Table 2: The benefits of using Chatbots to develop a business model canvas

The benefits of using Chatbots to develop a business model canvas	No. of students rated themselves 1 on Likert scale	No. of students rated themselves 2 on Likert scale	No. of students rated themselves 3 on Likert scale	No. of students rated themselves 4 on Likert scale	No. of students rated themselves 5 on Likert scale
Generate new ideas	15	8	21	40	17
Newer insights	11	10	27	37	17
Rapid access to information	11	8	17	40	24
Increase student’s productivity and efficiency	12	6	28	37	20

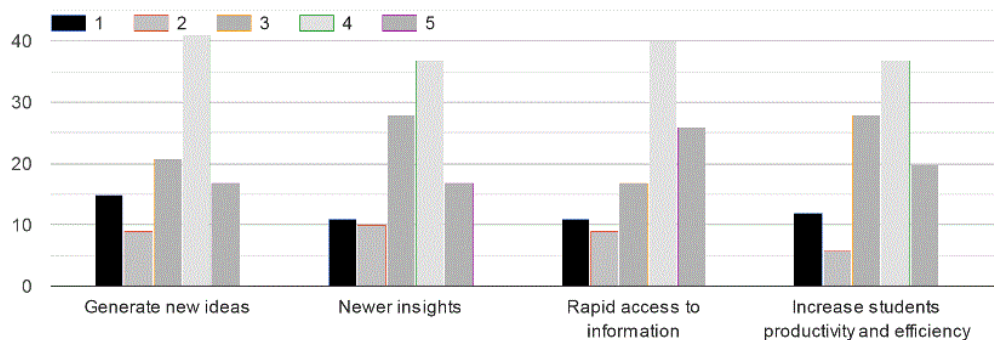


Figure2: The benefits of using Chatbots to develop a business model canvas

### 4.3 The Limitations of Chatbots to Improve Business Model

The entrepreneurial students were inquired about the limitations of using Chatbots to improve business models. The questionnaire required participants to rate their responses on a scale of 1 (very weak) to 5 (very strong). The findings revealed that the student's response to creativity as a limitation of chatbots scored a p-value of 0.485, which is insignificant. Thus, creativity is not a limitation of chatbots. As per, sources and accuracy of data as a limitation of chatbots, a p-value of 0.481, which is not significant, thus it is not a limitation. The student's response on getting specific and real-time data from chatbots, had a p-value of 0.488, which is not significant, thus it is not a limitation. Accordant with, wording a prompt correctly and asking specific questions, a p-value of 0.490, which is not significant, thus, it is not a limitation. Therefore, entrepreneurial students don't consider the variables that are discussed above as a limitation of AI chatbots to improve their business model. The students don't think chatbots lack creativity and provide standardized responses. It can provide real-time information about surveys/demand and statistics, which would aid in the customer development plans of a new venture. Chatbots recognize the wording of questions asked and respond accurately.

**Table 3: The limitations of Chatbots to improve business model**

Variables	N	Mean	Std. Dev.	t-test	p-value
Creativity	103	3.28	1.20	0.036	0.485
Sources and accuracy of data	103	3.24	1.10	0.046	0.481
Specific and real time data	103	3.22	1.20	0.028	0.488
Wording a prompt correctly	103	3.24	1.18	0.023	0.490

### 4.4 The Business Advice Usually Requested From Chatbots

The entrepreneurial students were inquired about the kind of business advice they usually request from Chatbots. The questionnaire required participants to rate their responses on a scale of 1 (Never) to 5 (Always). The findings revealed that 39 students are positive about getting suggestions on marketing for business advice. 46 students responded that chatbots help in competitor analysis. 47 students responded that chatbots assist in market research. 32 students agreed that chatbots facilitate legal aspects. 47 students responded that chatbots aid in social media and web design. Thus, entrepreneurial students are optimistic about getting distinct business advice from AI chatbots.

**Table 4: The business advice usually requested from Chatbots**

The overall benefits of using Chatbots in education	No. of students rated themselves on Likert scale	No. of students rated themselves 2 on Likert scale	No. of students rated themselves 3 on Likert scale	No. of students rated themselves 4 on Likert scale	No. of students rated themselves 5 on Likert scale
Suggestion on marketing	20	14	30	26	13
Competitor analysis	17	11	28	23	13
Market research	15	9	32	30	17
Legal aspects	18	15	32	21	12
Social media and web design	14	7	32	30	17

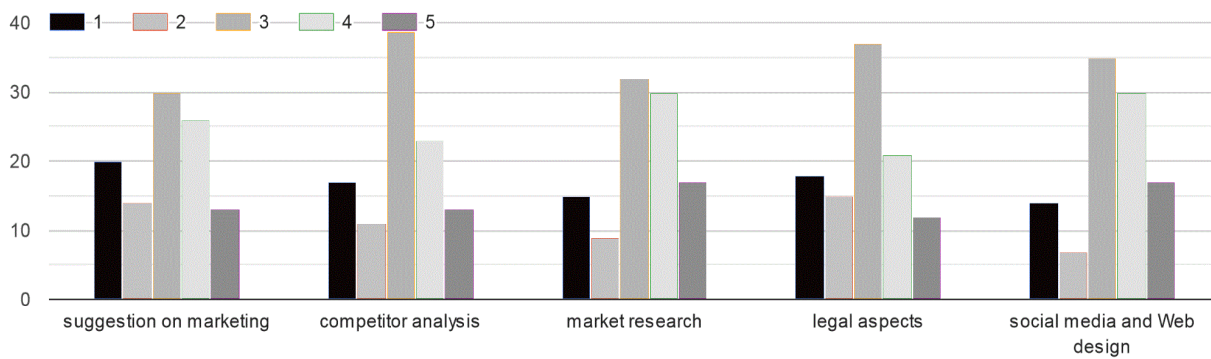


Figure 3: The business advice usually requested from Chatbots

## 5. Conclusion

The study established that the majority of entrepreneurial students are using AI chatbots for their educational purposes. Most of these students got information about these chatbots through social media platforms. Some students also got information about chatbots through people they know and from their college. Most of the students have accessed ChatGPT for their educational purposes.

The entrepreneurial students responded that getting feedback for their assignments, preparing for examinations and rapid access to information are major benefits of using Chatbots for educational purposes. It can assist in generating new ideas, developing newer insights, and getting rapid access to information to evolve a business model canvas. It also increases the productivity and efficiency of students. AI chatbots facilitate entrepreneurial students' business advice on marketing and competitor analysis. It also assists in market research and legal aspects. Chatbots provide valuable insights on social media and web design to develop business plans.

## 6. Limitations

Though our research studies the impact of Artificial Intelligence on advancement in entrepreneurial education, it is restricted to a small number of respondents. Secondly, it does not observe the impact of AI on entrepreneurial education from the point of view of the instructors in entrepreneurial institutions.

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