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STUDENTS' PERSPECTIVES ON GENERATIVE AI AS A CO-CREATOR IN BUSINESS MODEL WORKSHOPS

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Abstract

This study explores business students' perceptions of generative AI (GenAI) as a co-creator in business model innovation workshops. A mixed-methods approach combined quantitative survey data with thematic analysis of qualitative responses from undergraduate students at the University of National and World Economy in Sofia, Bulgaria. The workshop integrated Business Model Innovation Pattern Cards with GenAI tools like ChatGPT for brainstorming and refinement. Results showed 54% of students found AI "essential" in generating ideas, while 46% considered it "helpful but not critical". Notably, 82% of participants rated AI as significantly improving idea quality, and 100% supported future AI integration in workshops. Thematic analysis revealed four themes: positive AI experience, enhanced idea generation, challenges with prompt clarity and output quality, and suggestions for improvement. The findings suggest students perceive GenAI as a valuable co-creative partner, augmenting ideation when combined with human judgment. However, effective integration requires structured approaches, prompt literacy instruction, and pedagogical designs balancing AI's capabilities with human evaluation. The study contributes to research on AI-enhanced entrepreneurship education, highlighting opportunities and challenges in leveraging GenAI for collaborative innovation.

Keywords: chatGPT, brainstorming, business model innovation, higher education, student perceptions, generative AI

JEL: I23; O31; O33; L26

Introduction

The rapid emergence of generative artificial intelligence (GenAI) tools, particularly ChatGPT, has fundamentally transformed educational landscapes across disciplines. In business and entrepreneurship education, these technologies present unprecedented opportunities to enhance creative ideation, business model development, and collaborative learning processes (Vecchiarini and Somià, 2023). As educational institutions grapple with integrating AI into pedagogical

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practices, understanding student perspectives becomes crucial for effective implementation and policy development.

Business model innovation (BMI) represents a critical competency for contemporary entrepreneurs, requiring creative thinking, systematic analysis, and iterative refinement (Osterwalder and Pigneur, 2010). Traditional workshop-based approaches to teaching BMI emphasize collaborative brainstorming, visual canvas tools, and peer feedback. The introduction of GenAI as a co-creative partner in these workshops raises important questions about how students perceive and utilize these tools, their impact on ideation quality, and implications for future pedagogical design.

Despite growing interest in AI-enhanced education, empirical research examining student experiences with GenAI in business model workshops remains limited. Existing studies have explored general AI acceptance in education (Chen, Tallant and Selig, 2024) and entrepreneurship competency development (Somià and Vecchiarini, 2024), but few have specifically investigated the role of GenAI as a co-creator in structured innovation exercises. This gap is particularly significant given the unique demands of business model ideation, which requires balancing creative divergence with practical constraints.

This study addresses this gap by examining how business students perceive and experience GenAI tools (such as ChatGPT) as a co-creative partner in BMI workshops. Specifically, it investigates: (1) How do students evaluate the role and value of GenAI in business model brainstorming? (2) What perceived benefits and challenges do students experience when using GenAI for idea generation and refinement? (3) To what extent do students support future integration of GenAI in entrepreneurship education?

The research contributes to emerging scholarship on AI-enhanced entrepreneurship education by providing empirical evidence of student perspectives in authentic workshop settings. By employing a mixed-methods approach combining quantitative survey data with qualitative thematic analysis, the study offers nuanced insights into both the measurable impacts and lived experiences of GenAI integration. These findings have practical implications for educators designing AI-enhanced curricula and institutions developing policies for responsible AI use in higher education.

Literature Review

Theoretical Foundations and Student Acceptance

Generative Artificial Intelligence (GenAI), especially Large Language Models (LLMs) such as ChatGPT, is profoundly transforming higher education by reshaping pedagogical approaches, student engagement, and curriculum

design, particularly in creative and business disciplines (Kamalov, Santandreu Calonge and Gurrib, 2023; Labadze, Grigolia and Machaidze, 2023; Zulfiqar et al., 2025). Empirical findings indicate that students generally appreciate GenAI's ability to enhance efficiency, support brainstorming, facilitate research, and assist in academic writing (Boubker, 2024; Zulfiqar et al., 2025). However, concerns remain about AI's limitations in creativity, accuracy, and ethical implications including plagiarism and over-reliance potentially undermining critical thinking (Labadze, Grigolia and Machaidze, 2023; Habib et al., 2024). Social influences, such as peer and instructor attitudes, strongly shape student willingness to use AI, highlighting the need for institutional guidance and critical engagement frameworks (Vecchiarini and Somià, 2023; Zulfiqar et al., 2025).

Impact on Creativity and Ideation

GenAI tools have been shown to augment divergent thinking, a central aspect of creativity in education. Experimental studies using the Alternative Use Task (AUT) demonstrate that ChatGPT increases fluency, flexibility, elaboration, and originality in idea generation by serving as a non-judgmental brainstorming partner that reduces social evaluation apprehension and fosters idea diversity (Labadze, Grigolia and Machaidze, 2023; Gindert and Müller, 2024; Habib et al., 2024). Despite these enhancements, human creativity remains crucial for critical evaluation and selection of ideas, as AI-generated content can lack contextual depth and radical novelty required for breakthrough innovation (Jorzik et al., 2024; Pescher and Tellis, 2025). Controlled experiments find that AI-supported innovation teams outperform control groups in idea quality, speed, and diversity, with participants reporting greater satisfaction and engagement (Gindert and Müller, 2024). In writing and ideation, GenAI accelerates processes such as brainstorming, outlining, revising, and editing, easing cognitive load and providing immediate feedback, particularly benefiting non-native speakers (Labadze, Grigolia and Machaidze, 2023; Pescher and Tellis, 2025).

Business and Entrepreneurship Education

In entrepreneurship education, GenAI streamlines key processes including idea generation, business model development, market research, and customer analysis (Labadze, Grigolia and Machaidze, 2023; Vecchiarini and Somià, 2023; Zulfiqar et al., 2025). AI facilitates iterative refinement and exploration of novel value propositions, enabling students and organizations to simulate real-world decision-making and risk assessment within controlled environments, fostering both technical skills and entrepreneurial mindsets (Jorzik et al., 2024; Zulfiqar et al., 2025). However, limitations such as lack of real-time data access,

occasional inaccuracies, and insufficient contextual understanding necessitate critical instructor mediation and evaluation frameworks (Vecchiarini and Somià, 2023; Jorzik et al., 2024). The typology of AI-driven business model innovation (BMI) perspectives highlights managerial challenges including the need for new leadership skills, organizational culture shifts, and strategic alignment with AI capabilities (Jorzik et al., 2024).

Collaborative Learning and Pedagogical Implications

AI-enhanced collaborative learning environments benefit from personalized and adaptive learning experiences, immediate feedback, and mass personalization that foster learner autonomy and self-regulated learning (Kamalov, Santandreu Calonge and Gurrib, 2023; Labadze, Grigolia and Machaidze, 2023; Zulfiqar et al., 2025). Chatbots and AI tools provide continuous, 24/7 support, improving student satisfaction, engagement, and learning outcomes (Chen, Tallant and Selig, 2024). These tools also facilitate collaborative creativity by supporting group projects and peer interaction, promoting community and collective problem-solving (Chen, Tallant and Selig, 2024). Challenges include risks of over-reliance on AI, potential erosion of critical thinking skills, and ethical concerns related to data privacy and academic integrity (Labadze, Grigolia and Machaidze, 2023; Habib et al., 2024). Balanced pedagogical strategies and institutional policies are essential to ensure AI functions as an augmentative partner rather than a replacement for human creativity and educator roles (Zulfiqar et al., 2025).

Global Student Perceptions and Socio-Demographic Variations

A large-scale global survey reveals that students primarily use ChatGPT for brainstorming, summarizing, and research assistance, valuing its ability to simplify complex information but expressing skepticism about its reliability and classroom applicability (Ravšelj et al., 2025). Perceptions vary by field of study, income region, gender, and study mode: applied sciences students report higher satisfaction, while arts and humanities students express more ethical concerns and preference for human interaction (Ravšelj et al., 2025). Students from low-income regions rely more heavily on ChatGPT as a critical educational resource, indicating its potential to bridge educational disparities (Ravšelj et al., 2025).

Ethical, Regulatory, and Emotional Considerations

Academic integrity, plagiarism, misinformation, and social isolation are widespread concerns among students and educators regarding AI use in education (Labadze, Grigolia and Machaidze, 2023; Ravšelj et al., 2025). Students call for

clear ethical guidelines, transparency, and institutional policies to regulate AI use responsibly (Kamalov, Santandreu Calonge and Gurrib, 2023; Chen, Tallant and Selig, 2024). Emotional responses to GenAI are predominantly positive, characterized by curiosity and calmness, though anxiety and frustration are noted among some groups, often related to performance pressures and technical issues (Ravšelj et al., 2025).

Research Gaps and Future Directions

Despite promising evidence, research gaps remain concerning AI's impact on top-idea generation, idea selection, and long-term pedagogical effects (Habib et al., 2024; Pescher and Tellis, 2025). There is a need to develop integrated innovation management tools incorporating AI throughout ideation stages, improve AI-assisted idea screening and selection, and address challenges of information overload and ethical use (Jorzik et al., 2024). Further empirical studies should explore AI's role in enhancing absorptive capacity, knowledge spillover, and entrepreneurial ecosystems (Gindert and Müller, 2024). Tailored AI integration strategies that account for socio-demographic and disciplinary differences are essential to ensure equitable and effective educational outcomes (Ravšelj et al., 2025; Zulfiqar et al., 2025).

The literature converges on the transformative potential of GenAI to enhance creativity, efficiency, and engagement across higher education and innovation processes. Nonetheless, limitations in AI's creativity, reliability, and ethical challenges necessitate critical pedagogical integration and institutional governance. Socio-demographic factors influence perceptions and usage, underscoring the importance of inclusive AI education policies. Future research should focus on refining AI-supported ideation tools, ethical frameworks, and comprehensive educational strategies to maximize GenAI's benefits.

Methodology

Research Design and Workshop Context

The study combines quantitative survey data and thematic analysis of the qualitative answers from the open-ended questions in an administered survey. Data was retrieved from the students after their participation in a workshop dedicated to business model idea generation as a part of their course on "Business Entrepreneurship". The study was conducted with 28 participants (n = 28), undergraduate students, studying "Business Economics and Management" in English, at the University of National and World Economy (UNWE), Sofia, Bulgaria.

The workshop they took part in mixes several approaches: students use the BMI Pattern Cards (Gassmann, Frankenberger and Csik, 2018), the tool behind the University of St. Gallen's Business Model Navigator (Gassmann et al., 2020); this tool is combined with brainstorming, ranking and evaluation the generated ideas for which process they are encouraged to use GenAI tools such as ChatGPT, Gemini, others. The students are facilitated and provided with sample prompt texts to use in the GenAI (not mandatory, they can get creative with the prompting) by their tutor who oversees the conduction of the workshop.

After the workshop, the students were administered a structured survey (designed in MS Forms) to collect the following data:

Table 1: Survey questions and methods used for analysis

Original Question title (column)	Method for analysis	Question type
1	2	3
How would you rate your overall experience in the workshop?	JASP, labeled as: Overall workshop experience_rating	QUANTITIVE QUESTIONS | Likert scales
How effectively did the BMI Lab business model cards help in generating ideas?	JASP, labeled as: BMI_cards_ effectiveness_rating	
Did you feel confident using the BMI Lab cards during the workshop?	JASP, labeled as: BMI_cards_ usage confidence	
How helpful was the group brainstorming process for refining your ideas?	JASP, labeled as: Group brainstorming_helpfullness_ rating	
How helpful was the involvement of AI (ChatGPT) in enhancing idea creation?	JASP, labeled as: Involvement of AI_helpfullness_rating	
Did the use of AI improve the quality of your ideas or solutions?	JASP, labeled as: AI_Idea impovement_rating	
How would you describe the role of AI in the brainstorming process?	JASP, labeled as: AI_Role	
How comfortable did you feel interacting with AI during the workshop?	JASP, labeled as: AI_usage comfort	
Do you think AI (ChatGPT) should be more integrated into future workshops?	JASP, labeled as: AI_Future integration	
How familiar were you with using AI tools before this workshop?	JASP, labeled as: AI tools_ familiarity pre- workshop	

Continued

1	2	3
What did you find most valuable about the use of AI in this workshop?	Thematic Analysis and Mapping	*QUALITATIVE QUESTIONS | Themes, Codes*
What challenges, if any, did you experience when using AI during the workshop?		
Do you have any suggestions for improving the use of AI in future workshops?		
What is your field of study?	Not explored in the current study	DEMO-GRAPHICS
What is your gender?		
What is your age?		

Source: Created by the author

Data Analysis

The analysis in this study focuses mainly on the data related to the research questions exploring the helpfulness of the involvement of GenAI in the idea creation process, the rate of improvement of the quality of the generated ideas, the perceived role of the AI in the brainstorming process, and the student's attitude towards the future integration of AI tools in such educational contexts. For this quantitative data, descriptive statistics (frequencies, percentages) were calculated using JASP v.0.95.3 statistics software. To examine the relationship between the perceived role of AI and the outcome variables (idea improvement rating, future integration preferences) cross-tabulations were used for descriptive comparisons, given the small sample size and the exploratory nature of the study.

The open-ended responses were analyzed via thematic analysis adopting the traditionally outlined approach for conducting it (Braun and Clarke, 2006): creating initial codes systematically across the dataset; searching for themes present in the codes; identifying, naming themes and organizing them by frequency and conceptual relation; finally, mapping the themes for reporting.

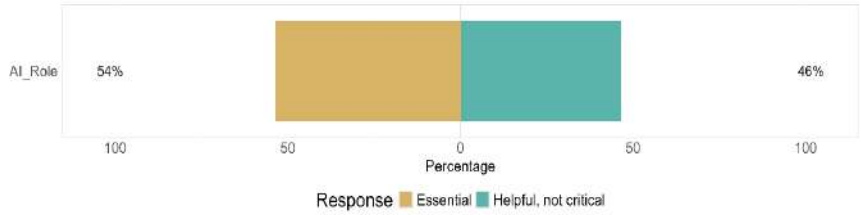
Results

When asked about the role of AI and how they perceived it in the brainstorming process during the workshop, students were given the following options to describe it:

- "AI was essential in generating new ideas" ("*Essential*");

- "AI was helpful but not critical" ("*Helpful, not critical*");
- "AI was not helpful" ("*Not helpful*");
- "I did not notice any major difference due to AI" ("*No difference*").

The majority (53,6%) of them described the role of AI as "*Essential*", and the other large group (46,4%) thought that its role was "*Helpful, not critical*". For both of these groups, the role of the AI introduction to the workshop was perceived as a valuable addition. The very close results indicate that for one of the groups it played a crucial role, while for the other, although found useful, it was perceived as a supplementary tool.



Source: Created by the author based on survey data

Figure 1: Perceived role of the AI introduction in the brainstorming process

What is more important, none of the students described the usage of GenAI tools as not helpful or that it brought no difference to their workshop experience. This establishes the importance and usefulness of the GenAI applications in educational contexts even further. The introduction of this type of technology in the educational process is viewed not as a question of whether it should be used or not, but whether its utilization is either more or less beneficial in specific contexts.

When asked if the use of AI improved the quality of their ideas or solutions (*possible answers: 1 = Not at all, 5 = Significantly*), most of the students (82,2%) stated significant improvement, rating it at 4 or 5 on the 5-point scale. There were no ratings scaled at 1, which further backs the conclusion that for all students the GenAI introduction brought feasible improvements to their ideas.

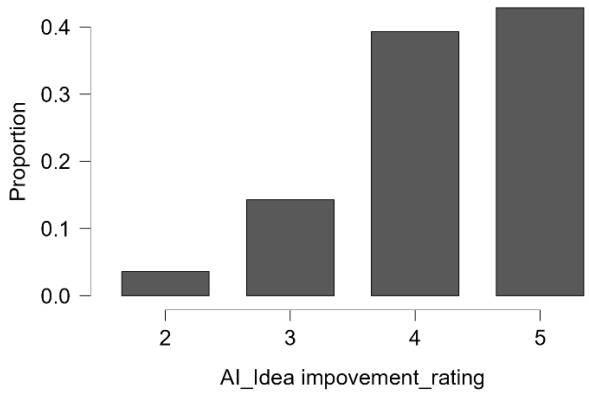


Figure 2: Impact of AI usage on idea / solution quality

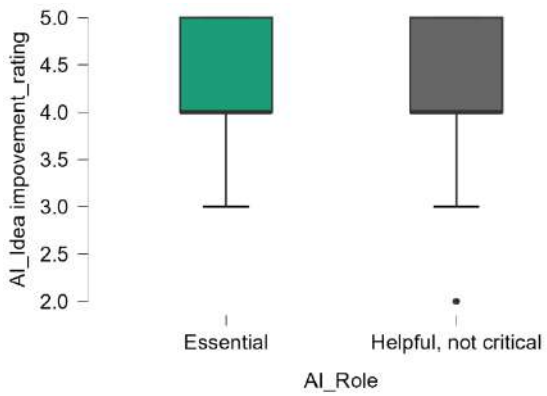


Figure 3: AI improvement rating by groups

Sources: Created by the author based on survey data

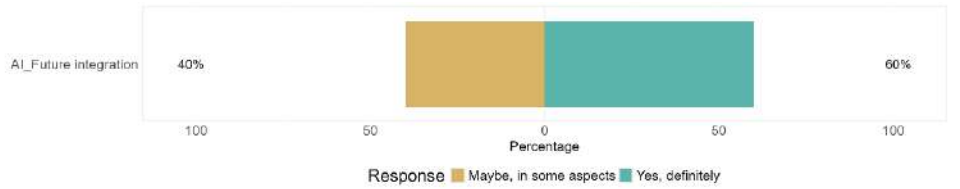
The proportions in the distribution of the results regarding the improvement rating cause by the AI usage, demonstrate strong consensus among the students that AI positively impacted the quality of their works.

Furthermore, evident from the boxplot on Figure 3, the two major groups by perceived role of the AI (*essential / helpful*), exhibit similar results, **rating the improvement at scales of 4** (40,0% – *essential;* 38,5% – *helpful)* **and 5** *(*46,7% – *essential;* 38,5% – *helpful)*.

Future AI Integration Preferences

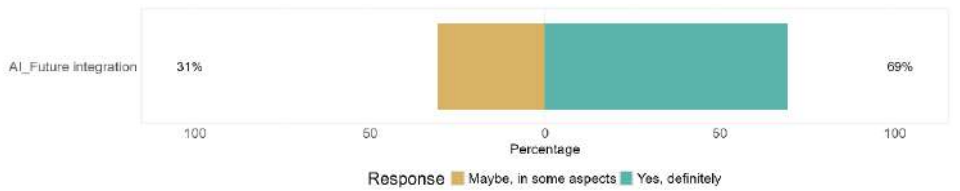
The expressed level of support for the future integration of AI in workshops also leans towards the wider adoption of such tools – most students (64,3%) answered with "**Yes, definitely**", and the others (35,7%) with "**Maybe, in some aspects**". Following the tendency, again, no respondents (0,0%) answered **"No, not necessary"**, supplementing the overall expressed support for GenAI as a co-creator. Notably, 100% of the participants expressed at least some level of support for future AI integration, with the majority being definitive.

Examining the future integration preferences by AI role perception also brings interesting results: 60,0% of the students thinking of the AI as "*Essential*" expressed definitive support, while the other 40,0% of them were more conservative and endorsed its implementation in more limited aspects.



Source: Created by the author based on survey data

Figure 4: Future AI Integration Preferences by perceived role ("Essential")



Source: Created by the author based on survey data

Figure 5: Future AI Integration Preferences by perceived role ("Helpful")

Interestingly, the students from the "*Helpful*" group showed bigger support for the future integration of AI (69,2% answered **"Yes, definitely"**), and a smaller proportion of them (30,8% answered **"Maybe, in some aspects"**) had more conservative views on the matter.

Thematic Analysis and Mapping

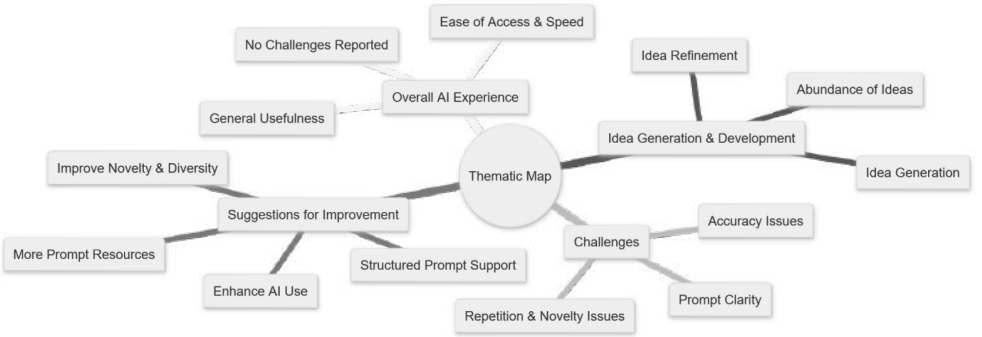
The thematic analysis of the open-ended responses identified four major themes that capture the students' experiences, benefits, and challenges with AI in the workshop context. They are reviewed on the table below.

Table 2: Thematic coding and analysis

THEME	DESCRIPTION	KEY CODES	FREQUENCY
Overall AI Experience	Broad evaluations of AI use by the students – mostly positive, smooth experiences, minimal difficulty, general satisfaction with AI features such as speed and convenience.	No challenges reported; No suggestions provided; General usefulness; Ease of access; Fast responses; Guidance from AI	**54**
AI as a Tool for Idea Generation and Development	The value of AI for generating initial ideas, refining concepts, providing clarity, aligning with user thinking, and supporting the creative processes.	Support for idea creation; Idea refinement or completion; AI-generated starter ideas; Abundance of ideas; Alignment with user thinking; Perceived innovation	**19**
Output Quality Limitations of AI tools (Suggestions for Improvement)	Frustrations with repetitive, low-quality, unoriginal, inaccurate, or insufficiently diverse AI outputs.	Repetitive ideas; Lack of originality; Difficulty generating diverse ideas; Underdeveloped outputs; Inaccurate responses; Desire for diversity; Improve idea quality	**10**
Prompting and Learning Curve (Challenges)	Difficulties creating effective prompts, need for repeated refinement, understanding the workshop structure, and desire for more structured guidance.	Need for clear prompts; Prompt refinement; Difficulty writing prompts; Time to gain speed; Initial workshop understanding; Structured prompting; Use more prompt resources	**7**
Non-Substantive or Ambiguous Responses	*Responses that provide no meaningful data or indicate uncertainty about how to improve AI use. Not mapped.*	*Placeholder responses; Unspecified need for improvement*	***7***

Source: Created by the author

To visually demonstrate the balance of positive experiences, functional value, and identified limitations, as well as participants' constructive insights for improving AI-supported workshop environments, the major themes are mapped. This approach allows for a coherent overview of how students perceived and interacted with AI tools, and where future enhancements may meaningfully support learning and ideation.



Source: Created by the author using mermaid.live

Figure 6: Thematic Map

Figure 6 presents a thematic map summarizing the key patterns identified in participants' experiences of using AI during the workshop. These domains reflect the major areas in which participants engaged with, evaluated, and sought to improve the use of AI within the workshop context.

The first domain, **Overall AI Experience**, captures participants' general perceptions of AI as accessible, fast, and broadly useful. Sub-branches such as *Ease of Access & Speed*, *General Usefulness*, and *No Challenges Reported* illustrate that many participants experienced the AI tool as intuitive and helpful, with a large proportion indicating they encountered no significant difficulties.

The second domain, **Idea Generation and Development**, reflects the ways participants used AI to support creative thinking. This includes branches such as *Idea Generation*, *Idea Refinement*, and *Abundance of Ideas*, highlighting how AI assisted in generating initial concepts, elaborating on partially formed ideas, and offering multiple directions during the ideation process. This domain shows the central role of AI as a cognitive and creative aid.

In contrast, the **Challenges** domain captures the limitations and frustrations participants experienced. Key issues included *Prompt Clarity*, referring to the need for precise or well-structured prompts; *Repetition & Novelty Issues*, where AI generated overly similar or predictable ideas; and *Accuracy Issues*, where responses did not always match what participants expected. These challenges indicate areas where participants felt AI performance could be strengthened.

Finally, **Suggestions for Improvement** synthesizes participants' recommendations for enhancing AI integration in future workshops. These include calls for *Structured Prompt Support*, *Improving Novelty & Diversity*, *Enhancing AI Use* through better guidance or facilitation, and providing *More Prompt Resources*. Collectively, these suggestions highlight a desire for better-quality outputs to maximise the usefulness of AI during idea development.

Discussion

Principal Findings and Theoretical Implications

This study provides empirical evidence that business students perceive generative AI as a valuable co-creator in business model innovation workshops, with important nuances regarding its role, benefits, and limitations.

The finding that 54% of students viewed AI as "essential" while 46% saw it as "helpful, not critical" aligns with co-creative learning frameworks (Sharif and Sudirman, 2024) that **position AI as a collaborative partner rather than a passive instrument**. This split suggests that AI's role is contextual and mediated by individual student needs, prior experience, and task characteristics. Students who actively engaged AI in iterative refinement cycles likely experienced it as essential, while those using it primarily for initial idea generation viewed it as supplementary.

The prominence of prompting challenges (Theme 4) supports knowledge building and confirms that effective **AI integration requires explicit instruction in prompt design** (Baltà-Salvador et al., 2025). The exhibited students' learning curves mirror findings from Chen et al. (2024) that AI literacy – including prompt formulation, output evaluation, and iterative refinement – constitutes a critical competency. This suggests that workshops should dedicate time to developing prompt literacy before expecting optimal AI utilization. AI literacy could be considered critical in the context of the risk of biases in the GenAI tools, which could be due to flaws in the overall design of the AI (including due to a lack of human supervision) or the use of data without correcting for a potential bias (Kovatcheva, 2024).

Students' simultaneous appreciation for AI's ideational abundance (Theme 2) and concern about output quality limitations (Theme 3) reflects the quality-quantity tradeoff documented in ideation research (Baltà-Salvador et al., 2025). While AI excels at generating volume – lowering cognitive load for divergent thinking – it may produce generic or repetitive outputs requiring human curation. This finding supports recommendations for blended human-AI ideation processes that combine AI's generative capacity with human critical evaluation (Sharif and Sudirman, 2024; Baltà-Salvador et al., 2025).

The high evaluations for the AI's helpfulness and role, as well as the observed improvement ratings, combined with universal support for future integration, suggest that AI can enhance intrinsic motivation and engagement – consistent with Self-Determination Theory applications (Noroozi et al., 2024). Students' positive experiences and desire for continued use indicate that AI meets needs for competence (through idea support) and autonomy (through on-demand assistance), though relatedness (peer collaboration) remained primarily human-mediated.

Also, it is very important to consider the perceived role of AI in such brainstorming and ideation activities which are fundamental for facilitating and nurturing innovations (including these in business modeling) given innovation, particularly product innovation is considered as the engine of the economy and the overall progress of humanity (Blagoev, 2023).

Practical Implications for Entrepreneurship Education

Educators should integrate AI into BMI workshops in a structured way including:

1. **Pre-workshop preparation** during which they should provide prompt literacy training with examples of effective and ineffective prompts;
2. **Structured activities**: Design tasks that combine AI ideation with human evaluation phases;
3. **Reflection protocols**: Build in checkpoints for students to assess AI output quality and applicability.

To address the limitations in output quality identified in Theme 3, educators should instruct students in critical evaluation skills tailored to AI outputs, including fact-checking, originality assessment, and relevance filtering. Moreover, students should be offered domain-specific prompting guidance to enhance the relevance of AI-generated outputs. Academic tutors should promote and enable iterative refinement, encouraging students to improve AI outputs through subsequent prompts. In that context, educators should always explicitly discuss the limitations of AI to align student expectations appropriately.

The near-even split between "essential" and "helpful, not critical" suggests that one-size-fits-all AI integration may be suboptimal. Educators might offer AI as an available resource rather than mandatory tool. In that context, both heavy and light AI users should receive guidance, recognizing that students will engage AI differently based on their needs and preferences.

The study's findings contribute to and establish further the thesis that entrepreneurship and creating entrepreneurs could be undoubtedly successful instruments for fostering economic development in the future, especially by nurturing academic entrepreneurship (Idriz and Sterev, 2023). Given the

significant digital divide between the EU member states (Moraliyska, 2024), the adoption rates of the GenAI technology in the educational processes could prove of utmost importance.

Institutional Policy Implications

The universal support for future AI integration, combined with documented challenges, highlights the need for **institutional policies that provide clear guidelines and support faculty development.**

Students across multiple studies request explicit guidance on appropriate AI use (Chen, Tallant and Selig, 2024). Institutions should develop syllabi statements and assignment guidelines that: specify when and how AI use is acceptable; that address attribution and transparency requirements; that distinguish between appropriate support and academic integrity violations.

Effective AI integration requires faculty who understand both pedagogical opportunities and technical capabilities. Institutions should invest in professional development on AI-enhanced pedagogy; resources for designing AI-integrated assignments; communities of practice for sharing effective strategies. The importance of the systematic training the teaching staff is confirmed to be essential – in the future, the competition of universities will be related not only to the content of the teaching materials they offer, but also to the way in which this content is presented, as well as the flexible learning opportunities offered by them (Peicheva, 2024).

Comparison with Existing Literature

The findings of the study align with and extend existing research in several ways. Like Chen et al. (2024), and Sarwanti et al. (2024), predominantly positive student perceptions of AI for idea generation and support were observed, with high acceptance rates. Moreover, the results support Somià and Vecchiarini's (2024) findings that AI can enhance entrepreneurial competencies, specifically in idea generation and refinement within business model contexts. The Theme 4 findings strongly support Baltà-Salvador et al.'s (2025) emphasis on prompt design instruction as critical for effective AI-enhanced ideation. While prior research documented general acceptance, the study's distinction between "essential" and "helpful, not critical" roles provides new insight into the spectrum of AI integration experiences.

Limitations

Several limitations should be considered when interpreting these findings:

Sample Size and Generalizability: With n = 28 students from a single institution and workshop, findings may not generalize to other contexts, disciplines, or student populations. Cultural, institutional, and curricular factors may influence perceptions.

Single Time Point: This post-workshop cross-sectional design captures immediate reactions but not longitudinal effects on learning, skill development, or attitude evolution. Students' initial enthusiasm may not persist, or alternatively, deeper benefits may emerge over time.

Self-Report Data: Survey responses reflect students' perceptions rather than objective measures of idea quality, learning outcomes, or competency development. Future research may address this by incorporating external assessments of outputs and learning gains.

No Control Group: Without a comparison group completing workshops without AI, the AI's specific contribution from other workshop elements cannot be isolated (BMI cards, group collaboration, instructor facilitation). The high ratings may partially reflect general workshop effectiveness.

Limited Demographic Analysis: Small sample size precluded meaningful analysis of how perceptions varied by gender, age, field of study, or prior AI experience. These factors may moderate the relationships observed.

Workshop-Specific Context: Findings reflect a particular pedagogical design (BMI cards + ChatGPT) and may not apply to other AI tools, workshop structures, or instructional approaches.

All these define the exploratory nature of the study and leave space for further exploring these contexts while addressing the limitations.

Future Research Directions

Research tracking students across multiple AI-enhanced workshops could reveal how perceptions, skills, and usage patterns evolve with experience. Do prompting skills improve? Does the essential vs. helpful distinction shift? Do quality concerns diminish as students learn to better curate AI outputs? Moreover, controlled experiments comparing workshops with and without AI, or comparing different AI integration strategies, would provide causal evidence of AI's impact on learning outcomes, idea quality, and competency development.

Examining the actual prompts students use and correlating prompt characteristics with perceived value and output quality could inform more targeted prompt literacy instruction. Furthermore, following students into subsequent courses or professional contexts could reveal whether AI-enhanced workshop

experiences translate into lasting entrepreneurial competencies or whether benefits are context-specific. Complementing student perceptions with instructor experiences, including challenges in facilitation, assessment, and academic integrity management, would provide a complete picture of AI integration.

Conclusion

This study provides exploratory evidence that business students perceive generative AI, specifically ChatGPT, as a valuable co-creator in business model innovation workshops. With 82% of students rating AI as significantly improving idea quality and 100% supporting future integration, findings demonstrate strong acceptance and perceived value. However, the near-even split between viewing AI as "essential" versus "helpful, not critical" reveals important nuances in how students experience AI's role.

Students particularly valued AI's capacity for rapid idea generation, concept refinement, and provision of diverse perspectives – capabilities that enhanced the creative ideation process when combined with human judgment and collaborative team dynamics. Simultaneously, students identified important limitations including output repetitiveness, generic suggestions, and the learning curve required for effective prompting. These findings underscore that AI serves as a co-creative partner rather than a replacement for human creativity and critical thinking.

For entrepreneurship educators, this research suggests that effective AI integration requires structured approach, explicit prompt literacy instruction, and pedagogical designs that balance AI's generative capabilities with human evaluation and refinement. Workshops should position AI as augmenting collaborative processes while preserving the essential human elements of peer interaction, critical assessment, and creative synthesis.

Institutions must develop clear policies and guidelines that support responsible AI integration while addressing academic integrity concerns. Faculty development initiatives should equip educators with the knowledge and resources to design AI-enhanced learning experiences that maximize benefits while mitigating limitations.

As generative AI technologies continue to evolve and permeate educational contexts, understanding student experiences and perceptions becomes increasingly critical. This study contributes to the emerging scholarship on AI-enhanced entrepreneurship education by providing insights into the opportunities and challenges of integrating AI into collaborative innovation processes. Future research should build on these findings through longitudinal designs, comparative effectiveness studies, and objective quality assessments to further refine our understanding of how to optimally leverage AI as a co-creator in business education.

The integration of generative AI into business model workshops represents not a technological disruption to be managed, but an opportunity to enhance

pedagogical practice – provided educators thoughtfully design learning experiences that harness AI's strengths while cultivating the uniquely human capacities for judgment, originality, and collaborative creativity that remain essential to entrepreneurial success.

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