Evaluating the Effectiveness of MOOCs in Developing Agribusiness Pitching Skills: A Study of Agropreneurship Diploma Students

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Abstract: *This study explores the effectiveness of Massive Open Online Courses (MOOCs) in developing pitching skills for agribusiness students. Pitching skills are critical for agropreneurship students as they seek to secure funding, partnerships, and market access. The study focuses on 27 fourth-semester diploma students in agropreneurship who completed a 4-week MOOC designed to improve business pitching. A mixed-methods approach was used, including pre-and post-course assessments to measure changes in students' confidence and skill comprehension and focus group discussions to gather detailed feedback. Quantitative findings show a significant increase in confidence and understanding of crucial pitching concepts following the course. Qualitative feedback highlights that students valued the accessibility and flexibility of the MOOC but expressed a need for more interactive exercises to better develop practical pitching skills. The study suggests that MOOCs can effectively support specific skill-building in agropreneurship but should incorporate hands-on elements to enhance real-world application. These results offer insights into the role of online courses in niche skill development and provide recommendations for future MOOC design in agribusiness education.*

Keywords: *Agribusiness, Agropreneurship, Entrepreneurship, Massive Open Online Course, pitching*

1.0 INTRODUCTION

The agricultural sector is rapidly evolving, with entrepreneurship becoming a vital skill for students aiming to enter agribusiness. As competition increases, aspiring agropreneurs must develop a range of skills to differentiate their ideas, products, and services, and effectively pitch these to investors, clients, and stakeholders (Higgins et al., 2018). Pitching skills are crucial for securing funding, gaining market access, and building partnerships in agribusiness (Chapple et al., 2022; Fairbairn et al., 2022; Guimtrandy & Burger-Helmchen, 2022). Agriculture is a key sector globally, but there is a need for improved entrepreneurship skills in this area, especially in business pitching. By embedding social learning into MOOCs, business pitching becomes a dynamic and interactive process, enabling learners to refine their skills while benefiting from the collective wisdom and experiences of a global learning community (Bell et al., 2016). This approach not only improves individual pitching abilities but also fosters collaboration, creativity, and resilience, which represent the key traits for entrepreneurial success.

Massive Open Online Courses (MOOCs) have emerged as popular educational platforms, offering diverse and accessible training resources for skill acquisition, including business and entrepreneurship (Chea, 2016). MOOCs' flexibility, affordability, and accessibility make them an appealing option for students, especially those seeking to develop business-specific skills such as pitching (Liyanagunawardena, 2015). MOOCs have become essential for skills training due to their accessibility and scalability, particularly in underrepresented fields like agriculture. Nowadays, MOOCs have revolutionized how people learn, providing access to high-quality content from prestigious institutions. In business education, MOOCs have been used to teach various skills like leadership, finance, and entrepreneurship (Pampouri et al., 2021). Prior research shows MOOCs can be effective but with limitations such as low completion rates and lack of direct interaction (Baturay, 2015; Loh et al., 2024).

Agribusiness entrepreneurship is crucial for driving innovation and sustainability in agriculture. Business pitching is a key skill because it helps entrepreneurs attract investment, partnerships, and market opportunities (Al-Atabi & Deboer, 2014; Bousbahi & Chorfi, 2015; Resei

et al., 2018; Solórzano-García & Navío-Marco, 2019; Vorbach et al., 2019; Żur, 2018). Traditionally, agricultural education has focused more on technical skills, leaving a gap in entrepreneurial training, especially in business communication. The emergence of agriculture-focused MOOCs is addressing this gap by offering content that combines technical agriculture knowledge with entrepreneurial skills like business pitching. It is believed that MOOCs in agribusiness have the potential to empower entrepreneurs by providing them with tools and strategies that can help scale their businesses. The development of MOOC for AGB283 Agriculture Business Pitching is one of the examples of MOOCs that has been successfully published and is currently available on online platforms. On a side note, agropreneurship students often require specialized training to effectively communicate and market their agricultural ventures. However, traditional education formats may not always provide intensive training focused on pitching skills. Thus, MOOCs serve as an accessible alternative to address this gap.

2.0 PROBLEM STATEMENT

Despite the increasing availability of MOOCs, there is limited empirical research on their effectiveness in practical skill development, particularly for niche areas like agribusiness pitching. This gap raises questions about whether MOOCs can adequately prepare agropreneurship students for the unique demands of pitching in the agricultural sector. While several studies have explored MOOCs' impact on general education and skill acquisition, few have focused on assessing specific skill development, particularly in the context of pitching for agribusiness students. This research aims to fill this gap by examining how well a pitching-focused MOOC supports diploma students in agropreneurship by establishing the following research questions.

- Are MOOCs effective in enhancing the pitching skills of agropreneurship students?
- Do students perceive MOOCs as accessible and relevant for learning pitching skills?
- What are the limitations of using MOOCs for practical skill development in agribusiness?

3.0 OBJECTIVE

Objective 1: To evaluate the impact of MOOCs on students' confidence and comprehension of pitching skills in agribusiness.

Objective 2: To assess students' perceptions of the accessibility and relevance of MOOCs as a learning tool for developing agribusiness pitching skills.

Objective 3: To identify challenges and limitations faced by students in applying pitching skills learned through MOOCs in real-world agribusiness contexts.

4.0 RELATED WORKS

The study design employs a pre-post intervention approach to quantitatively and qualitatively assess the effectiveness of a MOOC in improving pitching skills among Diploma in Agropreneurship students in the Faculty of Plantation and Agrotechnology at Universiti Teknologi MARA (UiTM) Sabah Branch, Kota Kinabalu Campus. A mixed-methods approach captures measurable improvements in skills as well as subjective experiences.

4.1 METHODOLOGY

i. Sampling and Participants:

- Population sample: Fourth-semester diploma students in agropreneurship (AT113) with limited prior exposure to formal business pitching training.

ii. Data Collection Instruments:

- Pre- and Post-Course Questionnaire: To gauge students' baseline and post-course confidence, understanding, and perceived adequacy of MOOC resources (Table 1).
- Focus Group Discussions: Conducted post-MOOC to gather in-depth qualitative data on participants' learning experiences, challenges, and course impact.

iii. MOOC Content:

- A customized, 4-week MOOC (https://ufuture.uitm.edu.my/mooc/course_detail.php?course=AGB283website) (Figure 1-4) covering the fundamentals of agribusiness pitching, including topics such as pitch structuring, effective communication, identifying unique selling propositions, and real-world case studies.

4.2 ANALYSIS APPROACH

To evaluate the effectiveness of MOOCs in developing pitching skills for agropreneurship students, a multi-faceted analysis approach was employed. First, comparisons of pre- and post-course ratings on confidence and skill were conducted to quantify improvements, providing insight into participants' growth in pitching competencies. Additionally, changes in participant goals before and after the course were examined to assess the alignment of course content with students' learning objectives and practical needs. Post-course feedback on the accessibility and adequacy of MOOC resources was then analyzed to understand the course's perceived value compared to traditional educational formats. Finally, feedback was gathered on suggested improvements, offering recommendations for refining future iterations of the course. Together, these analyses provide a comprehensive view of the course's impact and areas for enhancement.

4.3 PRE- AND POST- QUESTIONNAIRE QUESTIONS

No.	Pre-Questionnaire Questions	Post-Questionnaire Questions
1	What is your current level of confidence in pitching business ideas to investors? (1 = Very Low, 5 = Very High)	After completing this MOOC, how would you rate your confidence in pitching business ideas to investors? (1 = Very Low, 5 = Very High)
2	How would you rate your understanding of key pitching components (e.g., structure, timing, highlighting unique selling points)? (1 = Poor, 5 = Excellent)	How would you rate your current understanding of key pitching components (e.g., structure, timing, highlighting unique selling points)? (1 = Poor, 5 = Excellent)

3	Have you previously received any formal training in business pitching? (Yes/No)	Did you achieve your initial goals for this course? (Yes/No)
4	What do you hope to achieve by completing this MOOC?	How often do you anticipate practicing or presenting business pitches after this MOOC?
5	How often do you practice or present business pitches? ● Regularly ● Occasionally ● Rarely ● Never	Do you feel the MOOC provided adequate resources for developing your pitching skills? (Yes/No)
6	What is your current level of familiarity with agribusiness-focused MOOCs? (1 = Not Familiar, 5 = Very Familiar)	Which of the following skills improved most as a result of this MOOC? ● Structuring a pitch ● Identifying unique selling points ● Confidence in delivery ● Handling investor questions
7	Do you currently use any online resources or courses to develop your agribusiness skills? (Yes/No)	How do you compare the accessibility of this MOOC to traditional education formats for similar skills? (1 = Much Less Accessible, 5 = Much More Accessible)
8	How accessible do you find online courses for learning practical skills like pitching? (1 = Very Inaccessible, 5 = Very Accessible)	Did the MOOC meet your expectations in terms of practical application and feedback? (1 = Not at All, 5 = Exceeded Expectations)
9	In your opinion, what are the primary challenges you face when pitching your agribusiness ideas?	How would you describe the impact of the MOOC on your career or business opportunities? ● Significant impact ● Moderate impact ● Limited impact ● No impact

10	How important do you believe networking opportunities are to improve your pitching skills? (1 = Not Important, 5 = Very Important)	What improvements would you suggest for future iterations of this MOOC?

Table 1. Lists of Pre-and Post-Questionnaire Questions

Figure 1. Front Cover of the AGB283 MOOC on Agriculture Business Pitching in UFuture Platform

Figure 2. The Learning Activities Interface of the AGB283 MOOC on UFuture

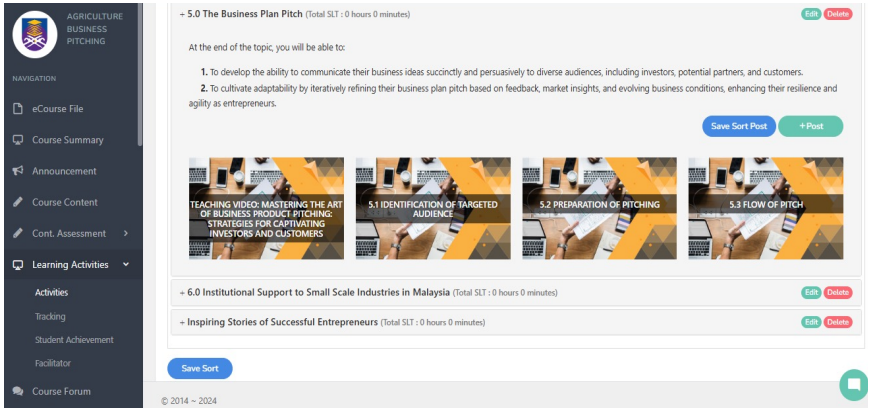

Figure 3. The Business Pitching Learning Activities via UFuture

Average confidence ratings increased from pre-course ($M = 2.8$, $SD = 0.7$) to post-course ($M = 4.1$, $SD = 0.5$), with a paired t-test showing statistical significance ($p < 0.01$). Ratings for understanding key pitching components rose from an average of 3.0 (pre-course) to 4.2 (post-course), indicating improved comprehension. The significant increase in confidence and skill comprehension ratings indicates that MOOCs can effectively build foundational skills in pitching as observed in Figure 4. Students found the MOOC format accessible and flexible via UFuture, particularly for rural students or those balancing studies with work commitments. Nonetheless, students noted a need for hands-on practice opportunities within the MOOC and expressed a need for live feedback or interactive exercises to simulate real-world pitching experiences better. Students highlighted the relevance of course content, with many reporting that they better understood how to structure pitches that align with agribusiness market expectations. Despite the improvements, qualitative data suggests that the MOOC format may lack sufficient opportunities for practical skill application and personalized feedback, a common critique of online learning for hands-on skills (Saharuddin et al., 2024a). Nonetheless, expanding assessment methods, such as incorporating self-evaluations, project-based learning, formative feedback, and peer assessment, aligns seamlessly with the use of Massive Open Online Courses (MOOCs) for lecturing on agricultural business pitching (Uygun & Cesur, 2024).

In addition, 20% of students rated MOOCs as more accessible than traditional classroom formats, mainly due to the flexible, self-paced nature of the course, suggesting that technology-mediated education enhances the overall learning effectiveness of the learners (Abhishek et al., 2023). Compared to traditional classroom settings, the lack of live interaction in MOOCs limits their effectiveness in teaching practical skills like pitching that benefit from feedback and active practice. Common responses have included requests for more interactive components, personalized feedback, and live pitch practice sessions. Many students are likely to perceive the MOOC favorably in comparison to traditional classes due to the MOOC's focus on specific pitching skills relevant to agribusiness.

Nonetheless, the findings are expected to support the growing role of MOOCs as supplementary educational tools in agropreneurship training. Increased confidence and perceived skill improvements indicate that MOOCs can effectively deliver critical business skills, such as pitching, which is essential in agribusiness. However, the demand for more practical, interactive experiences suggests that MOOCs should incorporate case-based learning and mentor feedback to maximize their effectiveness (Saharuddin et al., 2024b).

Figure 4. An original instructional video by the author on pitching guidelines via MOOC

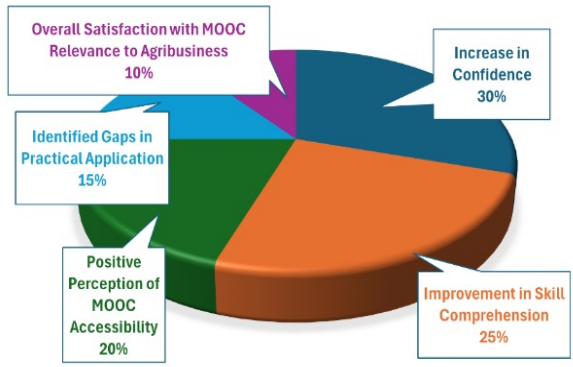

Figure 5. Core findings of the MOOC effectiveness study

This study suggests that MOOCs could serve as valuable supplementary tools in agropreneurship programs, especially in regions with limited access to traditional educational resources. However, integrating MOOCs with live workshops or mentorship sessions could address the practical limitations identified.

5.0 CONCLUSION

This study demonstrates that MOOCs can effectively enhance agropreneurship students' pitching skills, with significant improvements in confidence and comprehension observed. However, the lack of practical application opportunities highlights the need for complementary learning experiences to support skill transfer. The study's sample size is limited to 27 students, which may affect generalizability. Expanding the sample size and investigating hybrid models that combine MOOCs with hands-on training components could contribute to a more comprehensive approach to skill development in agribusiness.

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8.0 AUTHORS' CONTRIBUTION

The research was conceptualized by Joseph, J., who identified the study's focus and designed the methodological approach. Data collection and pre- and post-course assessments were conducted by Joseph, J., who also organized and facilitated focus group discussions. The initial draft of the manuscript was written by Joseph J. who contributed to subsequent revisions, critically reviewed the content, and approved the final manuscript for submission.

9.0 CONFLICT OF INTEREST DECLARATION

I certify that the article is the Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication, nor has it been published in whole or in part elsewhere. I testify to the fact that the author has contributed significantly to the work, validity, and legitimacy of the data and its interpretation for submission to IJELHE.

10.0 REFERENCES

Abhishek, N., Kulal, A., Divyashree, M. S., & Dinesh, S. (2023). Effectiveness of MOOCs on learning efficiency of students: A perception study. Journal of Research in Innovative Teaching and Learning. https://doi.org/10.1108/JRIT-12-2022-0091

Al-Atabi, M., & Deboer, J. (2014). Teaching entrepreneurship using Massive Open Online Course (MOOC). Technovation, 34(4), 261–264. https://doi.org/10.1016/j.technovation.2014.01.006

Baturay, M. H. (2015). An Overview of the World of MOOCs. Procedia - Social and Behavioral Sciences, 174, 427–433. https://doi.org/10.1016/j.sbspro.2015.01.685

Bell, F., Mackness, J., & Funes, M. (2016). Participant association and emergent curriculum in a MOOC: Can the community be the curriculum? Research in Learning Technology, 24. https://doi.org/10.3402/rlt.v24.29927

Bousbahi, F., & Chorfi, H. (2015). MOOC-Rec: A case-based recommender system for MOOCs. Procedia - Social and Behavioral Sciences, 195, 1813–1822.

Chapple, D., Pollock, N., & D'Adderio, L. (2022). From Pitching to Briefing: Extending entrepreneurial storytelling to new audiences. Organization Studies, 43(5), 773–795. https://doi.org/10.1177/01708406211024564

Chiam, C. C. (2016). Benefits and challenges of massive open online courses. ASEAN Journal of Open & Distance Learning (AJODL), 8(1), 16-23.

Fairbairn, M., Kish, Z., & Guthman, J. (2022). Pitching agri-food tech: Performativity and non-disruptive disruption in Silicon Valley. Journal of Cultural Economy, 15(5), 652–670. https://doi.org/10.1080/17530350.2022.2085142

Guimtrandy, F., & Burger-Helmchen, T. (2022). The Pitch: Some Face-to-Face Minutes to Build Trust. Administrative Sciences, 12(2), 38. https://doi.org/10.3390/admsci12020047

Higgins, L. M., Schroeter, C., & Wright, C. (2018). Lighting the flame of entrepreneurship among agribusiness students. International Food and Agribusiness Management Review, 21(1), 121–132. https://doi.org/10.22434/IFAMR2016.0166

Liyanagunawardena, T. (2015). Massive Open Online Courses. Humanities, 4(1), 35–41. https://doi.org/10.3390/h4010035

Loh, H. Sen, Martins van Jaarsveld, G., Mesutoglu, C., & Baars, M. (2024). Supporting social interactions to improve MOOC participants' learning outcomes: A literature review. Frontiers in Education, 9. https://doi.org/10.3389/feduc.2024.1345205

Pampouri, A., Kostelidou, S., Sionta, E., Souitsme, M., & Mavropoulos, A. (2021). Massive open online courses (MOOCs): A Review. INTED2021 Proceedings, 7349-7356. https://doi.org/10.21125/inted.2021.1468

Resei, C., Friedl B, C., & Żur, A. (2018). MOOCs and entrepreneurship education-Contributions, opportunities and gaps.

Saharuddin, S., Syaza Jaafar, A., Anisah, N., Dolah, A. @, Fatiha, N., Yusof, M., Nur, Syed Jamalulil, N., Hamimi, A., Tharim, A., & Othman, M. A. (2024). Shaping the Future of Education: Student Perspectives Towards MOOCs in Learning Building Services. International Journal of Business and Technology Management, 6(S1), 373–383. https://doi.org/10.55057/ijbtm.2024.6.S1.33

Solórzano-García, M., & Navío-Marco, J. (2019). Developing social entrepreneurs through distance education: The value of commitment and interactivity with the learning community. International Journal of Mobile Learning and Organisation, 13(1). https://doi.org/10.1504/IJMLO.2019.096466

Uygun, E., & Cesur, K. (2024). Teaching English for general purposes through a MOOC in higher education: A quasi-experimental study to explore its effects on learner achievement and satisfaction. Education and Information Technologies. https://doi.org/10.1007/s10639-024-12948-w

Vorbach, S., Poandl, E., & Korajman, I. (2019). Digital Entrepreneurship: MOOCs in Entrepreneurship Education - The Case of Graz University of Technology. Advances in Intelligent Systems and Computing, 917, 529-538. https://doi.org/10.1007/978-3-030-11935-5_52

Żur, A. (2018). Changing Entrepreneurship Learning Ecosystems: Massive Open Online Courses - Opportunities and Limitations. Przedsiębiorczość - Edukacja, 14, 473–482. https://doi.org/10.24917/20833296.14.32