

Development and validity testing of marketing entrepreneurial competencies conceptual model for technical colleges in Nigeria

Muhammad, Abubakar Ibrahim¹, Hamza, Samaila², Jogana, Musa Ali³ and Haruna, Rabi⁴

¹Department of Metalwork Technology, School of Secondary Education (Technical), Federal College of Education (Technical), Bichi Kano Nigeria

²Department of vocational and Technology Education, Abubakar Tafawa Balewa University, Bauchi, Nigeria

³Department of Building Technology, School of Secondary Education (Technical), Federal College of Education (Technical), Bichi Kano Nigeria

⁴Department of Electrical / Electronic Technology, School of Secondary Education (Technical), Federal College of Education (Technical), Bichi Kano Nigeria

Abstract

Entrepreneurial marketing competencies are crucial for preparing technical college students for self-employment in Nigeria. This study aimed to identify essential elements of a marketing entrepreneurial competencies model tailored for technical college students. Using a quantitative research design, data were collected from 27 technical colleges, 241 small and medium enterprises (SMEs), 650 teachers, and 241 entrepreneurs, resulting in a total population of 891. The study utilized Confirmatory Factor Analysis (CFA) via AMOS 23 to validate the model, which demonstrated a strong fit and identified eight key elements, including "Building and retaining effective sales relationships." The findings support the integration of this model into technical college curricula to enhance students' entrepreneurial capabilities under effective supervision by college heads.

Keywords: Technical colleges, entrepreneurial marketing competencies, confirmatory factor analysis

Introduction

Globalization, technological advancements, and the need for skilled vocational and managerial professionals are pivotal drivers of economic growth. In Nigeria, technical and vocational education and training (TVET) is a government priority, as emphasized by the National Policy on Education [1]. TVET's objectives include producing skilled manpower for economic development, fostering self-reliance, and preparing students for career advancement [2]. However, many technical college graduates lack quality skills, particularly in entrepreneurial competencies, which are essential for self-employment [3]. The curriculum of technical colleges requires continuous updates to address workplace needs [4]. Entrepreneurial education plays a transformative role in reducing unemployment and fostering economic growth, as demonstrated in South Africa [5]. Similarly, in Nigeria, integrating entrepreneurial competencies into the curriculum can empower students to become self-reliant and contribute to national development [6]. Entrepreneurship education plays a critical role in addressing socio-economic challenges such as unemployment and poverty, particularly in sub-Saharan Africa. According to [7] emphasized that entrepreneurship education fosters entrepreneurial skills and competencies necessary for economic growth. Similarly, [8] highlighted that creativity and innovation in entrepreneurship education influence students' business potential. Technical and Vocational Education and Training (TVET) is a cornerstone of Nigeria's national policy on education, which aims to equip students with employable skills and entrepreneurial competencies [1]. However, despite government efforts, challenges persist, such as inadequate curriculum design, insufficient funding, and limited practical exposure [9]. In contrast to [10] observed that a well-structured entrepreneurial curriculum should incorporate skills such as opportunity identification, market analysis, and innovative planning. Studies by [8] demonstrate the importance of marketing entrepreneurial competencies in enhancing students' self-reliance. Their findings align with earlier research by [11] which underscores the role of marketing competencies in fostering entrepreneurial character among students. This study builds on these foundations to propose a validated model of entrepreneurial marketing competencies for technical college programs.

The objective of the study was to identify key elements for a marketing entrepreneurial competencies model to be integrated into the technical college curriculum. Consequently, previous research by [12] emphasized behavioural observation scales for entrepreneurial growth.

Research Question

What key elements should a marketing entrepreneurial competencies model include to equip technical college students in Nigeria for self-employment?

Methodology

This study employed a quantitative research design to develop and validate a marketing entrepreneurial competencies model for technical college students. A researcher-designed questionnaire, titled “Marketing Entrepreneurial Competencies for Technical College Students Questionnaire (MECTCSQ),” was utilized. The questionnaire featured a 5-point Likert scale to assess responses from 27 technical colleges, 241 SMEs, 650 teachers, and 241 entrepreneurs, with a total population of 891 respondents. The sampling method ensured representation across diverse stakeholder groups, including educators and industry practitioners.

The study employed a two-phase validation process. First, the instrument underwent expert review to ensure content validity. Second, a pilot study was conducted, revealing a Cronbach's alpha score of 0.823, indicating high reliability. Data were analysed using AMOS 23 for confirmatory factor analysis (CFA) to test the model's fit indices, including GFI, CFI, and RMSEA.

Reliability testing through a pilot study yielded a Cronbach's alpha score of 0.823, indicating high internal consistency [13]. Data analysis was conducted using confirmatory factor analysis (CFA) with AMOS 23 to assess the measurement model's fit indices.

Results

The confirmatory factor analysis (CFA) identified eight key elements of marketing entrepreneurial competencies, which demonstrated satisfactory model fit indices (GFI = 0.958, CFI = 0.949, RMSEA = 0.076). These elements include building effective sales relationships, developing marketing strategies, and ensuring compliance with regulatory standards. The findings indicate a significant correlation between the responses of educators and entrepreneurs, supporting the hypothesis of a shared understanding of essential competencies

Findings of the Study

The study identified eight critical elements for a marketing entrepreneurial competencies model to be integrated into the technical college curriculum:

1. Building and retaining effective sales relationships
2. Recognizing marketing opportunities in diverse markets and local communities

3. Developing marketing strategies and plans
4. Creating and implementing marketing distribution plans
5. Delivering exceptional customer service and support
6. Formulating sales strategies and plans
7. Planning product selection for market needs
8. Ensuring compliance with legal, regulatory, and ethical standards

These elements align with previous research by [8] who emphasized behavioural observation scales for entrepreneurial growth. This model provides a robust framework for equipping students with the competencies needed for successful self-employment and sustainable economic growth.

Discussion

The findings reveal that integrating marketing entrepreneurial competencies into technical college curricula is essential for equipping students with self-employment skills. The identified elements align with prior studies, including those by [14] who highlighted the significance of marketing competencies for entrepreneurial success. Similarly, [15] underscored the impact of marketing competencies on students' entrepreneurial intentions.

The eight elements provide a comprehensive framework for fostering entrepreneurial mind-set and reducing unemployment among Nigerian youth. Effective implementation will require regular curriculum reviews, sufficient funding, and active collaboration between educators and industry stakeholders ([10]).

Conclusion

This study provides a validated model of marketing entrepreneurial competencies tailored for Nigerian technical colleges. The findings highlight the critical role of these competencies in preparing students for self-employment and contributing to national economic development. Future research should explore the practical implementation of this model and its impact on student outcomes in diverse educational contexts.

Implications

The integration of entrepreneurial marketing competencies into technical college curricula has significant implications for education policy and practice. By addressing gaps in skill development, the proposed model can enhance students' readiness for self-employment. Collaboration between educators, industry stakeholders, and policymakers is essential to ensure

successful implementation. Additionally, regular curriculum updates and resource allocation are crucial for sustaining program effectiveness.

Appendices

Appendix A: Questionnaire Items

The following items were included in the Marketing Entrepreneurial Competencies for Technical College Students Questionnaire (MECTCSQ):

1. Knowledge of consumer preferences and product requirements
2. Ability to identify and explore marketing opportunities
3. Development of effective sales strategies and distribution plans
4. Implementation of customer service strategies
5. Compliance with legal, regulatory, and ethical standards
6. Development of marketing plans tailored to local and diverse markets

Appendix B: Model Fit Indices

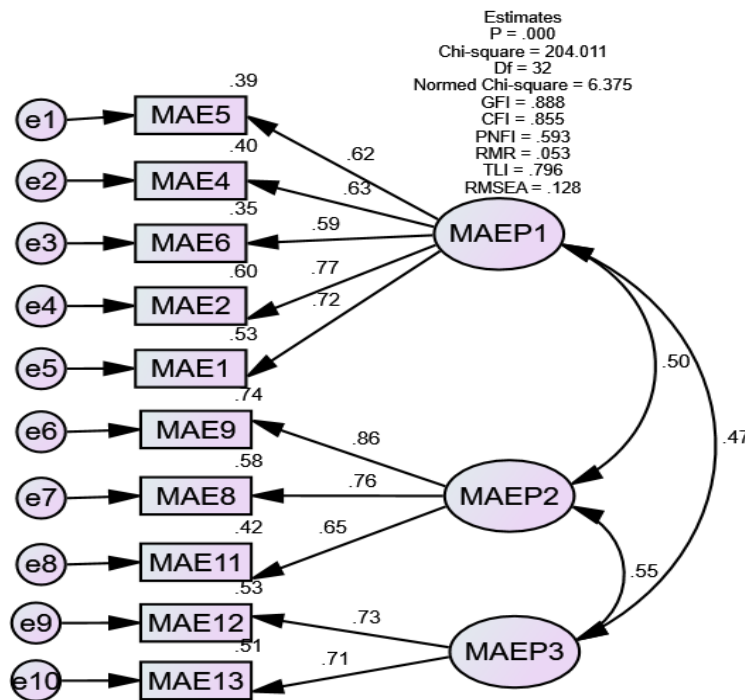


Figure 1: Measurement Model of Marketing Entrepreneurial Competencies

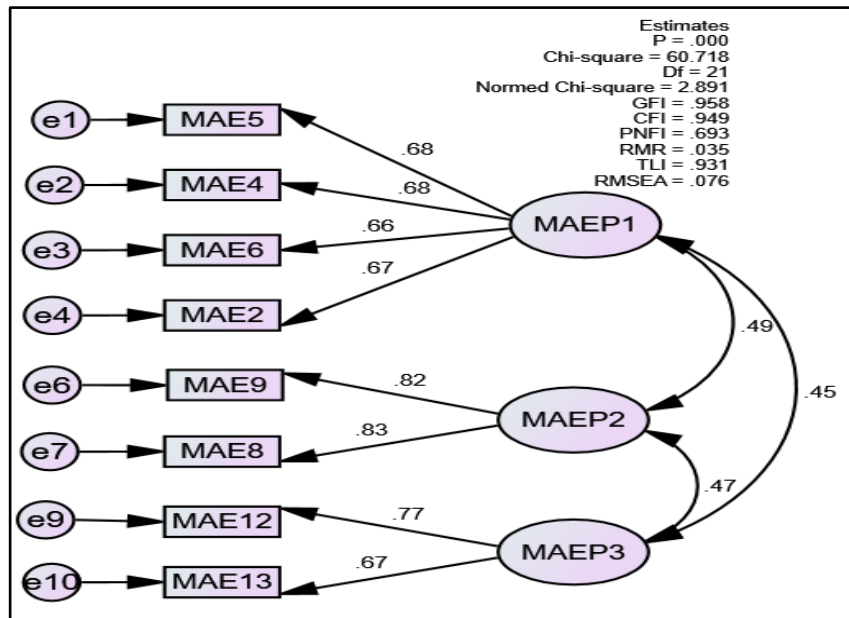


Figure 2

Modified

Model of Marketing Entrepreneurial Competencies

The CFA results for the revised marketing entrepreneurial competencies model showed the following indices:

- GFI (Goodness of Fit Index): 0.958
- AGFI (Adjusted Goodness of Fit Index): 0.928
- RMSEA (Root Mean Square Error of Approximation): 0.076
- CFI (Comparative Fit Index): 0.949
- Normed Chi-Square: 2.891

Acknowledgments

The author acknowledges the valuable contributions of technical college educators, SME entrepreneurs, and academic experts from Abubakar Tafawa Balewa University and Bayero University for their input during the validation of the research instrument. Special thanks go to colleagues and students for their support throughout the research process.

References

1. Brown, T. C., & Hanlon, D. (2016). Behavioral Criteria for Grounding Entrepreneurship Education and Training Programs: A Validation Study. *Journal of Small Business Management*, 54(2), 399–419. <https://doi.org/10.1111/jsbm.12141>

2. Chernysheva, A., Anna, Kalygina, V., & Zobov. (2017). Marketing and PR activities of the leading world universities: Modern tools and development trends. In D. Vrontis, Y. Weber, & E. Tsoukatos (Eds.) 10th Annual Conference of the EuroMed Academy of Business Global and national business theories and practice: Bridging the past with the future (pp. 347–357). EuroMed.
3. Chimucheka, T. (2014). Entrepreneurship education in South Africa. *Mediterranean Journal of Social Sciences* (January). <https://doi.org/10.5901/mjss.2014.v5n2p403>
4. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (7th ed.). Pearson Education Limited. <https://doi.org/10.1038/259433b0>
5. Marom, S., & Lussier, R. N. (2017) [Online]. Developing a small business management concentration within a business degree. *Small Bus. Inst. J.*, 13(2) (pp. 15–30). <https://www.sbij.org/index.php/SBIJ/article/view/277/223>
6. Muhammad, A. I., Jogana, M. A., & Hamza, S. (2020). Small and medium enterprises participation in funding and financing the integration of entrepreneurship education into technical colleges in Nigeria. *J. Vocat. Tech. Educ.*, 5(5), 166–177.
7. Muhammad, A. I., Kamin, Y. B., & Abd, N. H. B. (2020a) [Online]. Wahid. *Exploring entrepreneurial competencies for technical college programs*. Taylor & Francis Group. <https://www.taylorfrancis.com/books>
8. Muhammad, A. I., Kamin, Y. B., & Abd, N. H. B. (2020b). Wahid. & S. Hamza, “Exploratory factor analysis of marketing entrepreneurial competencies required by technical college students for self-employment,”. *International Journal of Psychosocial Rehabilitation*, 24(05), 5208–5219. <https://doi.org/10.37200/IJPR/V24I5/PR2020228>
9. Muhammad, A. I., Kamin, Y. B., & Abd, N. H. B. (2020c). Wahid, “Exploratory factor analysis of financial entrepreneurial competencies for technical college programs for a sustainable Self-employment,”. *International Journal of Psychosocial Rehabilitation*, 24(05), 5374–5380. <https://doi.org/10.37200/IJPR/V24I5/PR2020244>
10. Muhammad, A. I., Kamin, Y. B., & Abd Wahid, N. H. B. (September 2019). The need for integrating entrepreneurial Education and training in Nigerian technical colleges: A preliminary study. *Int. J. Recent Technol. Eng.*, vol. 8, C2(1), 625–628. <https://doi.org/10.35940/ijrte.B3314.098319>

11. Muhammad, A. I., M., Zahadeen, M., A., Usman, G., & Kamin, Y. B. (2023). Exploring managerial entrepreneurial competencies framework for technical college programs. *Shodh Sari-An Int. Multidiscip. J.*, 02(03), 150–170. <https://doi.org/10.59231/SARI7597>
12. Federal Republic of Nigeria. (2013) [Online]. *National policy on education* (6th ed.). Nigerian Educational Research Council (NERDC) Press. <http://www.google.com>
13. Olesin, A. (October 24, 2015) [Online]. Buhari: We will prioritise technical, vocational education. <http://leadership.ng/news>. <http://leadership.ng/news>
14. Onoh, B. C. E. C. (2013). Marketing skills needed by Self-employed building craftsmen in blockmoulding industries that are acquirable through entrepreneurship education in Enugu urban. *Journal of Education and Practice*, 4(23), 141–146.
15. Yousaf, M., U., & Altaf, M. (2013). Rani, Z. & Alam, “Improving entrepreneurial marketing learning: A study of business graduates, Pakistan,” *J. Journal of Entrepreneurship Education*. Women’s Press, 1(2), 74–89.
16. Kumar, N. (2024). A Critical Study of Provisions Related to School Education with Special Reference to National Education Policy 2020. *Shodh Sari-An International Multidisciplinary Journal*, 03(01), 267–274. <https://doi.org/10.59231/sari7670>

Received on Aug 29, 2024

Accepted on Oct 04, 2024

Published on Jan 01, 2025

Development and validity testing of marketing entrepreneurial competencies conceptual model for technical colleges in Nigeria © 2025 by Abubakar Ibrahim Muhammad, Samaila Hamza, Musa Ali Jogana and Rabi Haruna is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)