

Confirmatory Factor Analysis (CFA) of Managerial Entrepreneurial Competencies Model Required by Technical College Students for Self-employment

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ABSTRACT: Technicians have a crucial role in the industrial development and provision of the middle level manpower that in the long run might change the fortunes of Nigeria industrially and economically. Accordingly, entrepreneurship has an enormous contribution in most nations globally; it plays a fundamental part in the national and economic growth of any country. In this study, descriptive survey research design has been used for the collection of the data, which includes using a questionnaire to determine the respondents' opinions and views the target population of the study was 891 subjects constituting 650 teachers and 241 entrepreneurs. As a result, 254 teachers and as well as 110 entrepreneurs were drawn making the sampled subjects to be 364. The samples were drawn from the population using Krejcie and Morgan table (1970). For the selection of the sample, simple sample random technique was employed by applying snow ball. This study established 10 important elements of managerial entrepreneurial competencies. The study found that managerial entrepreneurial competencies are worth for inclusion into the technical college programs curriculum in Nigeria. Therefore, it is recommended that the curriculum needs to be reviewed to ensure that they meet the educational changes such as global trends, 21st century education policies and the sustainable entrepreneurial trends.

Keywords: *Technical colleges, managerial entrepreneurial competencies, self-employment*

I. INTRODUCTION

Nigeria government acknowledged the fact that globalization of market, independence of international system, expanding roles of technology and high skilled technical, vocational and managerial leaders are key drivers of any national economy. Therefore, government's commitment to prioritize technical and vocational education has always been reiterated [1]. For Nigeria to achieve its desired position in the international community great emphases must be given to TVET and in particular the training of the younger generation in entrepreneurship. Technicians have a crucial role in the industrial development and provision of the middle level manpower that in the long run might change the fortunes of Nigeria industrially and economically. Accordingly, entrepreneurship has an enormous contribution in most nations globally; it plays a fundamental part in the national and economic growth of any country. The FRN (2013) in the NPE acknowledges the role of TVET as the most important approach for national development at all levels of education. The policy described the goals of TVET as follows:

- (a) Provide trained manpower in applied science, technology and business, particularly at craft, advanced craft and technician level;
- (a) Provide the technical knowledge and vocational skills necessary for agriculture, commercial and economic development;
- (b) Give training and impart the necessary skills to individual who shall be self-reliant economically [2].

Accordingly, TVET does not only equip individuals with basic scientific knowledge and practical skills for self-reliance, but helps in making them to be productive members of the society [3]. Technical education traditionally had several objectives, such as providing the students with general employability skills and preparing them to enter paid employment in a specific occupation. However, in recent years the goals of TVET have expanded to include preparing students not only for entry into work but also for career advancement and entry into further education.

Despite the general acceptance of entrepreneurship and the position of entrepreneurship in sub-Saharan Africa as a global hot spot, entrepreneurship education suffers from huge drawbacks in the region in particular and Africa as a whole. Chimucheka, argued that although there are challenges

confronting entrepreneurship education, strategies for the enhancement of entrepreneurship education should be implemented, if the socio-economic challenges such as unemployment and poverty rate are to be reduced in the country. He further confirms that lack of entrepreneurship education is one of the prime factors that hinder the economic growth of South Africa [4]. In effect it means improving entrepreneurship education in Africa will increase and promote the low rate of entrepreneurial activities and the economic growth of the continent.

II. TECHNICAL COLLEGES IN NIGERIA

Technical and vocational institutions are designed to train young people for employment and self-reliance. TVET is one of the most functional and important human capital resources needed for Africa for rapid strategic industrial revolution and national development [5]. TVET as the form of education that encompasses the training and acquisition of skills and competencies necessary for the place of work in all human endeavor that will help individual to compete favorable in international society.

For instance, in Nigeria technical colleges are designed to address the issue of job creation, youth employment, self-reliance, poverty eradication, skill development and increase productivity so as to compete with the current opportunities and challenges in the labor market. Historically, the world economic depression in the 1930s was the first instance which wake up the colonial masters from their slumber in term of technical education the government at that time realized that hiring expats to fulfil the essentials of the country was uneconomical and it should not endure to it [6].

Technical colleges trained students in various profession so that they graduate students at craftsmanship level and advanced craftsmanship level. The students acquired skills which qualifies them for work in government and private organizations, while certificate obtained enabled them to further their education [7], [8]. The technical college programs are classified into trade related course which include mechanical engineering trades, automobile trades, building trades, business trades, computer trades, electrical/electronic trades, and hospitality trades [9].

III. ENTREPRENEURSHIP EDUCATION IN NIGERIA

Entrepreneurship education in Nigeria is perhaps not a new concept in its education system. Even before the advent of colonial masters in Africa the people of Nigeria especially in the northern part of the country are known with Trans Sahara trade [10]. The reason why people in the north are

predominantly Muslims and it is well established in Islamic Jurisprudence books the issues of trade, business and enterprise. That is why the first community commercial secondary school was established in Kano state in 1967 (now Aminu Kano Community Commercial College). After the curriculum conference of 1969 there was an intensive efforts to transform enterprise education in secondary schools education unfortunately the aim was not realized [11]. As a result, there is therefore, an urgent need for the implementation of entrepreneurship education in the present 6-3-3-4- system of education operated in the country [11].

Literature [12], [13] asserted that the issue of unemployment, rural migration among other challenges could be solved by developing entrepreneurial competencies among school and college students. Therefore inclusion and implementation of entrepreneurial education in our institutions of learning would inculcate entrepreneurial mindset into the students who would become well educated novice entrepreneurs thereby create new jobs opportunities [14]. It is well known that entrepreneurship education play a vital role in producing prospective entrepreneurs, and critically enhances the economic growth and development of a nation [15].

A. OBJECTIVE OF THE STUDY

The main objective of this study was to validate the elements of Managerial Entrepreneurial competencies required by technical college students for self-employment in Nigeria.

B. RESEARCH QUESTION

What is the relationship between teachers' and the entrepreneurs' responses on the important elements of Managerial ECs required by technical college students for self-employment in Nigeria?

C. RESEARCH HYPOTHESIS

There exists a relationship between the responses of teachers and that of the entrepreneurs on the important elements of managerial entrepreneurial competencies required by technical college students for self-employment in Nigeria

IV. RESEARCH METHODOLOGY

The study research methodology describes the procedure involved in carrying out the study which are discussed under relevant sub-headings below.

A. RESEARCH DESIGN

In this study, descriptive survey research design has been used for the collection of the data, which includes using a questionnaire to determine the respondents' opinions and views. The research focuses on the important elements of managerial entrepreneurial competencies required by technical college students for self-employment.

B. SAMPLE AND SAMPLING TECHNIQUE

The target population of the study was 891 subjects constituting 650 teachers and 241 entrepreneurs. As a result, 254 teachers and as well as 110 entrepreneurs were drawn making the sampled subjects to be 364. The samples were drawn from the population using Krejcie and Morgan table (1970). For the selection of the sample, simple sample random technique was employed by applying snow ball. The rationale for adopting this technique is that every person in the population has an equal chance of being selected [16], [17].

C. INSTRUMENTATION

Questionnaire is a written tool used to obtain information on a number of issues. A 5 - Likert scale questionnaire was used for the study. Likert scale is a written instrument or data collecting tool used in survey for data collection in quantitative research [18]. In this study the questionnaire was developed based on the outcome of the qualitative research phase and the finding from the broad literature review. The questionnaire items were developed for the data collection based on the research questions of the study.

A structured questionnaire was formulated by the researchers to answer research question about the managerial entrepreneurial competencies required by technical college students for self-employment in Nigeria. In addition, the questionnaire was constructed by the use of 5-point Likert scale of Not Required 'NR', Less Required 'LR', Partially Required 'PR', Moderately Required 'MR', and Highly Required 'HR' with allocated scores of 4,3,2,1, and 0.

Subsequent to the passing of the draft questionnaire the content validity through the experts' review and pilot test of instrument, a final questionnaire was developed and was distributed to the

study respondents to collect the quantitative data. The quantitative data was collected through the distribution of 364 sets of questionnaires by the researcher consequently, 331 sets were returned with a response rate of 90%.

The pilot study in this study was conducted on a small group having similar characteristic with the target population, and do not participate in the actual study. The pilot study was done after the qualitative phase had taking place. The pilot study was conducted to check the reliability of the questionnaire. In this study, the pilot study consists 20 respondents [19], [20] both from technical education teachers and entrepreneurs from Katsina state one of the states in the target population. These respondents were selected using sample random sampling. Consequently, they did not participated in the actual survey [18]. The pilot study had been published [21].

D. SCOPE OF THE STUDY

This study developed a conceptual model of managerial entrepreneurial competencies required by technical college students for self-employment in Nigeria. The delimitation of the study is the focus on the technical teachers and entrepreneurs in the north-west zone of Nigeria.

V. RESULTS

Analysis of Moment Structures (AMOS), Version 23.0 [22] was used to perform CFA on the remaining 201 respondents from the overall sample of 331 to determine if the factor structure need adjustment. In this section of the analysis, as mentioned above, AMOS was used to achieve research objective, provided an answer to research question (RQ) and tested the hypothesis. Both the RQ and the hypothesis (H) were intended to identifying the important elements of managerial entrepreneurial competencies (MEC); and determined the relationship between the responses of teachers and that of entrepreneurs on the important elements of MEC considered appropriate as required by technical college students for self-employment in Nigeria.

RQ: What is the relationship between teachers' and the entrepreneurs' responses on the important elements of MEC required by technical college students for self-employment in Nigeria?

Hypothesis H: There exists a relationship between the responses of teachers and that of the entrepreneurs on the important elements of entrepreneurial competencies required by technical college students for self-employment in Nigeria.

The research question as well as its corresponding hypothesis were answered and tested using AMOS software version 23.0. AMOS being the most powerful and user-friendly SEM software enables researchers to support their research and theories by extending standard multivariate analysis methods, factor analysis, regression, correlation, as well as analysis of variance [23]. It is, therefore, significant to employ AMOS using the identified important elements based on their level of appropriateness and retained; and to eliminate those elements that do not contribute to the model fitness.

Assumptions in Using AMOS

To achieve adequate power in AMOS, a minimum sample size of 100 observations were recommended [24]. In addition, maximum likelihood estimation was found to be achieved with the use of a small sample as low as 50, although a minimum of 100 sample size is more appropriate. Therefore, the sample size of 201 respondents is sufficient enough to achieve adequate power based on Hair's recommendation; hence the sample of 201 respondents (teachers and entrepreneurs) was used in this research. Additionally, a sample size of ten or 20 subjects per variable was recommended according to the rule of thumb [25]. Consequently, in this research sample size of 10 or more subjects per variable was used which is adequate based on the rule of thumb.

Results of Using AMOS

Internal consistency of the important elements considered appropriate for the managerial entrepreneurial competencies construct was determined using Cronbach's alpha statistics. The results obtained were presented in Table 1. These results showed that all the items under important elements of entrepreneurial competencies were found to be reliable. In that, no value was below 0.50 (unreliable) and also all the variables are above adequate of 0.60 which is classified as conventional [24].

Table 1 Instrument reliability of the measurement scale

Construct	No. of items	Cronbach's Alpha
Managerial ECs	15	.864

After the internal consistencies between the elements were obtained, the initial model was tested using the 3 combinations of fit measures as mentioned earlier: Absolute fit measures, Incremental Fit measures and a parsimonious fit measure of the model. Therefore, the measurement model of the managerial entrepreneurial competencies was tested according with the issues related to research question and the research hypothesis. Furthermore, the analysis of the research question and its corresponding hypothesis was presented.

Measurement Model of Managerial Entrepreneurial Competencies

RQ: What is the relationship between the teachers' and entrepreneurs' responses on the important elements of managerial entrepreneurial competencies required by technical college students for self-employment in Nigeria?

H: There exists a relationship between the responses of teachers and that of entrepreneurs on the important elements of managerial entrepreneurial competencies required by technical college students for self-employment in Nigeria.

In this section of the data analysis, a measurement model of managerial entrepreneurial competencies was tested, which related to research question and tested the hypothesis H_a at >0.05 . In CFA of managerial entrepreneurial competencies via Amos 23, the calculated values for model fit indices on measurement model for important elements of managerial entrepreneurial competencies for technical college programs the results showed that the measurement model does not satisfy the goodness of fit indices; with DF (62), normed Chi-square (4.682), TLI (0.815), CFI (0.853), RMSEA (0.106) and $P = 0.00$. This led to the modification of the initial model by eliminating variables that contribute less to the model goodness of fit. Therefore, to further run the model analysis, upon re-examining the contents of the items (MEC5 and MEC6) were excluded in CFA. Figure 4.1 presents the structure of the measurement model.

Figure 1 presents thirteen important elements of MEC: MEC1 (The ability to achieve the mission, vision and strategic objectives of a new venture.), MEC2 (Quality control management in venturing.), MEC5 (Ability to manage time), MEC3 (Self-control.), MEC4 (Successful planning of the enterprises.) and MEC6 (Demonstration of self-organizational discipline.). Factor 2 covered four items which included MEC10 (Personal relationship.), MEC7 (Ability to prepare a feasibility

study.), MEC8 (Making decisions for which they are responsible.) and MEC11 (Ability to develop business plan.). Factor 3 has three items these are MEC14 (Communication for social interaction that touches every sphere of human and organization activities.), MEC13 (Comparing of standard with actual situation.) and MEC15 (Efficient, rational and ethical management of all the resources of the organization.) that were measured to determine their relationship with data sample for integration in technical college programs. The model revealed that e3 (MEC5) <--> e8 (MEC7) had modification index (MI) value of 17.118 greater than the threshold value of 15 also e6 (MEC6) <--> e8 (MEC7) had modification index (MI) value of 18.561 greater than the threshold value of 15; which contributed to the unfit of the model. Therefore, to further run the model analysis, upon re-examining the contents of MEC5 (Ability to manage time), MEC6 (Demonstration of self-organizational discipline.) and MEC7 (Ability to prepare a feasibility study.), were excluded in CFA.

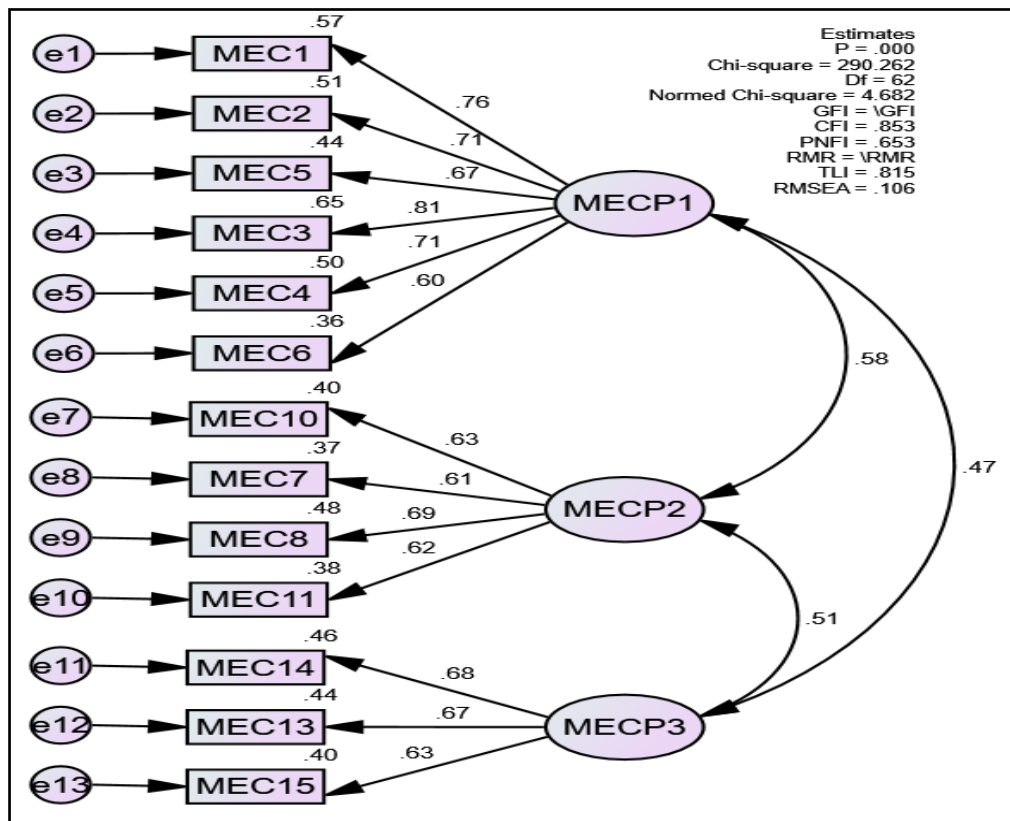


Figure 1 Measurement Model of Managerial Entrepreneurial Competencies

After the second run of the CFA via Amos 23, the validity inspection of measurement model of MEC indicated that the level of model fit was satisfied as the results of the standardized estimates (Figure 4.2) indicated that the value of CMIN was 85.908 with 32 as DF. Although the p-value related to this result was significant at $p = <0.000$, since the sample size in this study for CFA was reasonably enormous ($N = 201$), a significant p-value might be anticipated [24]. In addition, (2.854) was adequate as the relative Chi-square since the accepted value is between 1 and 3. More so, a good value of normed chi-square (2.685), was lower than 3 because it was sufficient to indicate a good model fit [24]. The GFI (0.952) and AGFI (.917) were both greater than 0.9; The CFI (0.949), TLI (0.928), were also greater than 0.9; and specifically, the RMSEA was 0.071 (i.e., a measure of less than 0.08) established the goodness-of-fit analysis.

These results suggest that the modified model of managerial entrepreneurial competencies revealed a satisfactorily good fit. Therefore, the hypothesis about the significant relationship among the teachers' and the entrepreneurs' responses on important elements of managerial entrepreneurial competencies was hereby upheld at 0.05 and Figure 4.2 was generated.

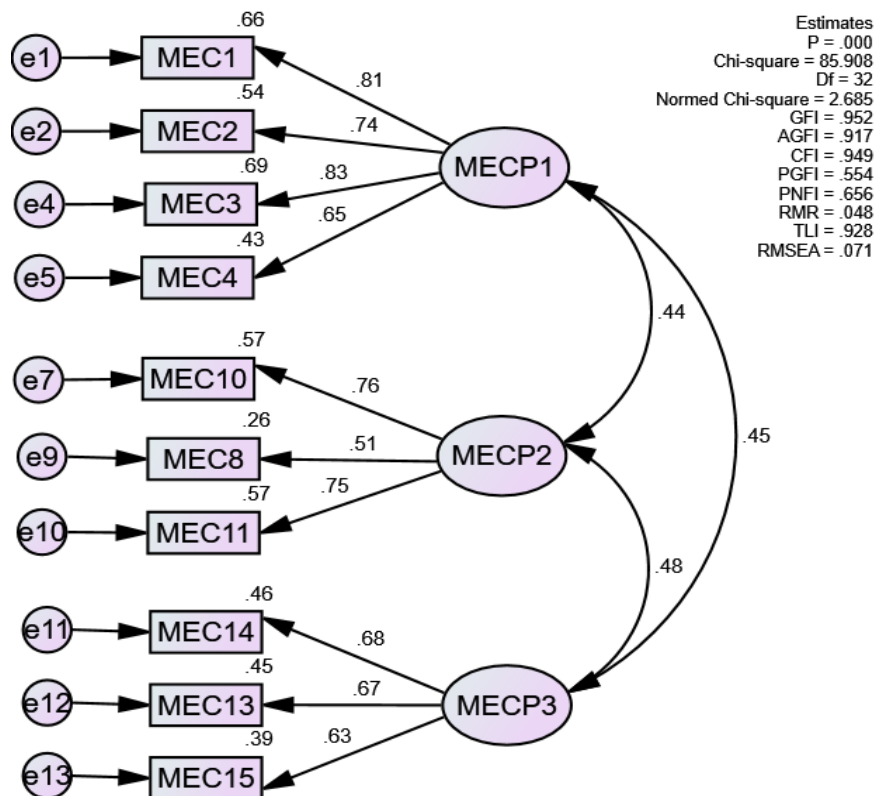


Figure 2 Modified Model of Managerial Entrepreneurial Competencies

Figure 2 shows a modified measurement model of the significant relationship between the respondents’ responses and the ten elements of managerial entrepreneurial competencies considered important for integration into technical college programs in Nigeria for self-employment. Therefore, based on the modified model (Figure 2) it may deduce that, in order to suitably integrate entrepreneurial competencies in the technical college programs these identified significant elements of managerial entrepreneurial competencies should be highly considered.

Validity and Reliability of Managerial Entrepreneurial Competencies

Accordingly, the output estimate of MEC in CFA via Amos 23 showed that the values of all factor loadings were adequate since the overall items were above 0.7. Similarly, the average variance extracted (AVE) of MEC was 0.54 and the composite reliability (CR) of MEC was 0.76. These results indicated that the overall values of AVE were higher than 0.5 and values of CR were higher than 0.7. Hence, these results showed that convergent validity of MEC was accepted [26].

Table 2 Summary of the Elements of Managerial Entrepreneurial Competencies

Construct	Managerial Entrepreneurial Competencies Elements
Managerial Entrepreneurial Competencies	MEC1: The ability to achieve the mission, vision and strategic objectives of a new venture.
	MEC2: Quality control management in venturing.
	MEC3: Self-control.
	MEC4: Successful planning of the enterprises.
	MEC10: Personal relationship.
	MEC8: Making decisions for which they are responsible.
	MEC11: Ability to develop business plan.
	MEC14: Communication for social interaction that touches every sphere of human and organization activities.
	MEC13: Comparing of standard with actual situation.
	MEC15: Efficient, rational and ethical management of all the resources of the organization.

VI. DISSCUSSION

The result of this study on managerial entrepreneurial competencies model revealed that ten important competencies are accepted by the respondents to be integrated into technical college programs. Therefore, these competencies are discussed as follows:

The ability to achieve the mission, vision and strategic objectives of a new venture; Making decisions for which they are responsible; Comparing of standard with actual situation. These findings are in line with the finding of [27], [28] who found that clear vision and mission of a business and decision making assist in re-investment, delivery and supply of profits judiciously so that it will enhance financial management to achieve excellent business outcome.

Self-control; Personal relationship; Communication for social interaction that touches every sphere of human and organization activities; Efficient, rational and ethical management of all the resources of the organization. Efficient, rational and ethical management of all the resources of the organization. These findings are in agreement with work of [29], [30] who identified these competencies among the key managerial competencies needed by every entrepreneur which is valuable for any educational institution dedicated to the development of entrepreneurial competencies to it students. Accordingly, the findings are concur with the work of [31] which revealed that communication for societal relation with others and use diverse media channels.

Quality control management in venturing; Ability to manage time; Successful planning of the enterprises and Demonstration of self-organizational discipline; Ability to prepare a feasibility study; and Ability to develop business plan. These findings are in agreement with [32]–[34] who stresses the necessity of business plan ability as a vital competencies for every entrepreneur. It has been understood that planning is one of the fundamental competencies of modern business, without good and timely planning, a business can easily be broken. Similarly, [35] affirmed that business plan was one of the most important entrepreneurial skill found worthy of inclusion in their entrepreneurial program.

VII. CONCLUSION

The findings indicate that the MECs identified in this study have positive correlations with and potentially direct impact on the rising of self-employment of technical college students in Nigeria. Accordingly, the study offers new understandings of how and why the need for entrepreneurial

competencies by technical college students in Nigeria. The study was successful in achieving a conceptual model of MEC with 10 elements positive and significant for inclusion into technical college programs in Nigeria.

Therefore, indeed it is vital to re-emphasize the urgent and prompt attention need for the inclusion of these entrepreneurial competencies into the curriculum of technical college in Nigeria. Failure to this will increase the rate of unemployment among the youths which in turn lead to poverty, moral decadence and insecurity which is at the moment is in its peak.

REFERENCES

- [1] G. Afeti, “Technical and vocational education and training for industrialization,” Scribd, 2007.
- [2] UNESCO-UNEVOC, “UNESCO TVET strategy 2016-2021 report of the UNESCO-UNEVOC virtual conference,” UNESCO-UNEVOC, 2016. [Online]. Available: www.google.com. [Accessed: 18-Oct-2017].
- [3] UNESCO-UNEVOC, “Delivering TVET through quality apprenticeships,” Report of the UNESCO-UNEVOC virtual conference, 2015. [Online]. Available: <http://www.google.com>. [Accessed: 18-Oct-2017].
- [4] UNESCO-UNEVOC, “Making youth entrepreneurship a viable path. How can TVET institutions help promote entrepreneurship,” UNESCO-UNEVOC, 2016. [Online]. Available: www.unevoc.unesco.org. [Accessed: 21-Oct-2017].
- [5] O. Onwuliri, *Entrepreneurship development principles and practice*. Kaduna: Wolsak printers Ltd, 2009.
- [6] T. W. Schultz, *The economic value of education*. New York: Columbia university, 1963.
- [7] G. S. Becker, *Human capital: A theoretical and empirical analysis with special references to education*. New York: National Bureau of Economic Research, 1964.
- [8] B. C. Martin, J. J. McNally, M. J. Kay, M. Martin, Bruce; McNally, Jeffrey J.; & Kay, and B. M. Martin Jeffrey J.; & Kay, Michael, “Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes,” *J. Bus. Ventur.*, vol. 28, no. 2, pp. 211–224, 2013.

- [9] R. E. Ployhart and T. P. Moliterno, "Emergence of the human capital resource: A multilevel model," *Acad. Manag. Rev.*, vol. 36, no. 1, pp. 127–150, Jan. 2011.
- [10] A. Rufai, "Conceptual model for technical and employability skills of mechanical engineering trades program in Nigeria," *Universiti Tecknologi Malaysia*, 2014.
- [11] J. C. & M. Nwosu E. M. and E. M. Nwosu, J. C. & Micah, "Technical and vocational education and training as a tool for national development in Nigeria," *Mediterranean J. Soc. Sci.*, vol. 4, no. 8, pp. 85–90, 2017.
- [12] N. U. Alhasan and A. Tyabo, "Revitalizing Technical and Vocational Education (TVET) for Youth Empowerment and Sustainable Development," *J. Educ. Soc. Res.*, vol. 3, no. July, pp. 149–154, 2013.
- [13] J. U. Maigida, J. F., Saba, T. M. & Namkere and J. F. Maigida Saba, T. M. & Namkere, J. U., "Entrepreneurial skills in technical vocational education and training as a strategic approach for achieving youth empowerment in Nigeria," *Int. J. Humanit. Soc. Sci.*, vol. 3, no. 5, pp. 303–310, 2013.
- [14] V. Caggiano Akanazu, H., Furfari, A. & Hageman, A. and A. Caggiano, V., Akanazu, H., Furfari, A. & Hageman, "Entrepreneurship Education: A global evaluation of entrepreneurial attitudes and values (a Transcultural Study)," *ECPS - Educ. Cult. Psychol. Stud.*, no. 14, pp. 57–81, 2016.
- [15] H. Yousif, A. H., Rifai, F. & Alhroot, "Investigating relationship of innovation and entrepreneurship adoption concept and university competitive advantage: A field study," *Int. J. Bus. Manag.*, vol. 12, no. 7, pp. 138–145, 2017.
- [16] F. I. & F. Okon U. K. and U. K. Okon, F. I. & Firday, "Entrepreneurial Education: A Panacea for Youth Unemployment in Nigeria," *Int. J. Small Bus. Entrep. Res.*, vol. 3, no. 5, pp. 11–22, 2015.
- [17] J. W. Creswell, *Research Design: Qualitative, quantitative, and mixed method approaches*, 3rd ed. Los Angeles: SAGE, 2009.
- [18] J. W. Creswell, *Research Design: Qualitative, quantitative, and mixed methods approach*, 4th ed. California: SAGE, 2014.

- [19] Z. Yong, “Competitive advantage model for technical and vocational colleges in guizhou, China,” *Universiti Teknologi Malaysia*, 2016.
- [20] P. B. Sheatsley, *Handbook of survey research*. San Diego, CA: Academic Press, Inc., 1983.
- [21] S. Sudman, *Handbook of survey research*. San Diego, CA: Academic Press, Inc., 1983.
- [22] A. I. Muhammad, Y. Bin Kamin, N. Husna, B. Abd, and M. Al-rahmi, “Managerial Entrepreneurial Competencies Required by Technical College Students: Pilot,” *Int. J. Recent Technol. Eng.*, vol. 8, no. 4, pp. 1163–1167, Nov. 2019.
- [23] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate data analysis*, 7th ed. England: Pearson Education Limited, 2014.
- [24] D. T. Fabrigar, L. R. & Wegener, *Exploratory factor analysis*. Oxford, United Kingdom: Oxford University Press., 2011.
- [25] H. B. Comrey, A. L. & Lee, *A First Course in Factor Analysis*, 2nd ed. New Jersey: Psychology Press, 2013.
- [26] J. T. Osborne, J. W., Costello, A. B., & Kellow, *Best Practices in Exploratory Factor Analysis*. In *Best Practices in Quantitative Methods*. Thousand Oaks, CA: Sage Publishing, 2008.
- [27] T. C. & Brown and D. Hanlon, “Behavioral criteria for grounding entrepreneurship education and training programs: A validation study,” *J. Small Bus. Manag.*, vol. 54, no. 2, pp. 399–419, 2016.
- [28] J. M. Inoti, “Entrepreneurial factors affecting performance of motor repair firms in Nairobi industrial area: A case of members of the Kenya motor vehicle repairer’s association (KEMRA),” *Int. Acad. J. Innov. Leadersh. Entrep.*, vol. 2, no. 1, pp. 46–70, 2017.
- [29] L. Robles and M. Zárrega-Rodríguez, “Key competencies for entrepreneurship,” *Procedia Econ. Financ.*, vol. 23, pp. 828–832, 2015.
- [30] E. Rezaeizadeh, M., Hogan, M., O’Reilly, J., Cunningham, J. & Murphy, “Core entrepreneurial competencies and their interdependencies: insights from a study of Irish and Iranian entrepreneurs, university students and academics,” *Int Entrep Manag J*, vol. 13, pp. 35–73, 2017.

- [31] M. Zarefard and S. E. Cho, “Relationship between entrepreneurs’ managerial competencies and innovative start-up intentions in university students: an Iranian Case.,” *Int. J. Entrep.*, vol. 21, no. 3, pp. 1–19, 2017.
- [32] V. E. Onweh, N. Akpan, and E. E. Caleb, “Youth Empowerment and the Integration of Entrepreneurship Education into Technical Vocational Education and Training (TVET) in Nigeria,” *Acad. J. Interdiscip. Stud.*, vol. 2, no. 2, pp. 211–216, 2013.
- [33] C. W. Njoroge and J. M. Gatungu, “The Effect of Entrepreneurial Education and Training on Development of Small and Medium Size Enterprises in Githunguri District-Kenya,” *Int. J. Educ. ...*, vol. 1, no. 8, pp. 1–22, 2013.
- [34] J. M. Medugu, J. D. & Dawha, “Perceived entrepreneurial competencies required by automobile technology students in technical colleges in Bauchi and Gombe states, Nigeria,” *Int. J. Innov. Educ. Res.*, vol. 3, no. 8, pp. 1–9, 2015.
- [35] A. Ghina, T. M. Simatupang, and A. Gustomo, “A systematic framework for entrepreneurship education within a university context,” *Int. Educ. Stud.*, vol. 7, no. 12, pp. 1–19, 2014.

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