Perceived Entrepreneurial Competencies Required By Automobile Technology Students In Technical Colleges In Bauchi And Gombe States, Nigeria

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Abstract

The purpose of the study was to investigate the perceived entrepreneurial competencies required by Automobile Technology students in Technical Colleges in Bauchi and Gombe states of North Eastern Nigeria. The study adopted a descriptive survey research design. The population of the study was 265 consisting of 96 Automobile Technology Teachers and 169 Automobile Technology Entrepreneurs. The study was guided by three research questions and three hypotheses, formulated and tested at 0.05 level of significance. The instrument used for the study was a structured questionnaire which was face and content validated by three experts. Cronbach Alpha reliability method was adopted to determine the internal consistency of the instrument which yielded a reliability coefficient of 0.82. The data collected were analyzed using mean, standard deviation and z-test statistic. It was found out that entrepreneurial competencies were perceived to be highly required on marketing, financial and accounting competencies by Automobile Technology Students. It was recommended among others that, the teaching staff of technical colleges should be exposed to adequate training and retraining on the entrepreneurial skills and competencies and the new contents of automobiles technology to be included into the curriculum of technical colleges.

Key words: *Automobile Technology, Entrepreneur, Entrepreneurship, Entrepreneurial Competencies, Small and Medium Scale Enterprise.*

Introduction

Automobile technology involves the application of scientific knowledge in the design, selection of materials, construction, operation and maintenance of automobiles. Auto Mechanic/Motor Vehicle Mechanic Work is one of the mechanical trades offered as Motor Vehicle Mechanics Work (MVMW) in Technical Colleges (Federal Republic of Nigeria [1] (FRN), (2004). The MVMW trade programmes examined students based on the NBTE curriculum for the award of National Technical Certificate (NTC) and Advanced National Technical Certificate (ANTC). The curriculum is developed to offer a complete secondary education in general education subjects, in addition to an occupational area. [1] FRN (2004) pointed out that the main feature of the curricular activities for technical colleges is structured in foundation and trade modules; the curriculum for each trade consists of general education, theory and related courses, workshop practice, industrial training components and small business management. This curriculum, if adequately implemented, is expected to produce competent craftsmen in Motor Vehicle Mechanics Work for industrial and technological development

in Nigeria. Such craftsmen if they possess adequate competencies can be employable or be self-reliant and enterprising.

Craftsmen are expected to sets up a business of their own called small and medium enterprises (SMEs) where they can apply the knowledge and skills they acquired from technical college after graduation for production of goods and services [2] (Ile, 2001). Ile further stated that the act of utilizing skills acquired through technology education in setting up business ventures or enterprises, managing it effectively and bearing risks to achieve the set goal is known as entrepreneurship. Entrepreneurship according to [3] Nwafor (2007), is the acquisition of skills, ideas and managerial abilities necessary for personal self-reliance. In other words, an automobile technology entrepreneur is any one or group of individuals who create a business in automobile, establish it and nurture it to growth and profitability, or takes over an existing business with sole purpose of introducing new products and services or developing new sources of materials and continues to build and innovate on it. An automobile technology craftsman who possesses adequate skills and is competent can become an entrepreneur in auto body repair, auto engine repair, auto electrician, auto parts merchandise and auto tire vulcanizing.

[4]Nwokolo, (2009) stated that to be competent means the individual has acquired the knowledge, skills and attitudes required in order to perform successfully at a specified proficiency level in a given work. [5]Kiggundy (2002) viewed competency as the capacity to perform a task or tasks skillfully and effectively. Entrepreneurial competencies are needed by entrepreneurs to seek and run an enterprise successfully. Entrepreneurial competencies refer to the sum of the entrepreneur's requisite attributes for successful and sustainable entrepreneurship [6](Aminu, 2008). According to [5]Kiggundy (2002), these attributes include attitudes, values, beliefs, knowledge, skills, abilities, personality, wisdom, expertise (social, technical, and managerial), mindset, and behavioral tendencies. These attributes enable one to plan business activities such as marketing and management of time, resources, finance and accounting to the growth of the business. [7]Howell (2005) stated that a good entrepreneur must possess the ability to plan, manage and organize business effectively.

If automobile technology craftsmen are therefore trained in entrepreneurship, they can become entrepreneurs. However, most of these students are graduating from technical colleges without the necessary skills and entrepreneurial competencies [6](Aminu, 2008). Furthermore many of these students do not possess entrepreneurial skills that will enable them establish and manage a small business enterprise so as to become self-employed and self-reliant on graduation [8](Okoli, 2009). Similarly, [9]Aina (2008) observed that National Policy on Education [1](FRN, 2004) stated goals with respect to automobile technology are yet to be achieved due to lack of the necessary practical skills and entrepreneurial competencies that will enable them to be self-employed. The high rate of unemployment among the technical college students has been attributed to lack of competencies required in the world of work. [10]Ifedi (2009) in his reaction agrees that one of the main causes of unemployment among college students is lack of employable skills. Thus, we are faced with the burdens of surplus unemployable manpower as a result of the wide gap created by absence of entrepreneurial competencies by the Automobile Technology students. This calls for the acquisition of entrepreneurial skills which is a prerequisite for any meaningful self-employment. Therefore, this study sought to identify the perceived entrepreneurial competencies required by Automobile technology students for establishing small and medium scale enterprises in Gombe and Bauchi States.

Research Questions

The following research questions were answered to guide this study:

1. What are the entrepreneurial managerial competencies required by Automobile Technology students in establishing an automobile enterprise?

- 2. What are the entrepreneurial marketing competencies required by Automobile Technology students in establishing an automobile enterprise?
- 3. What are the entrepreneurial financial and accounting competencies required by Automobile Technology students in establishing an automobile enterprise?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

- 1. There is no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial managerial competencies required by Automobile Technology students in establishing an automobile enterprise.
- 2. There is no significant difference between the mean responses of automobile technology teachers and entrepreneurs on the entrepreneurial marketing competencies required by Automobile Technology students in establishing an automobile enterprise.
- 3. There is no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial financial and accounting competencies required by Automobile Technology students in establishing an automobile enterprise.

Methodology

The study was carried out in technical colleges in Gombe and Bauchi States which is located in North-Eastern part of Nigeria. The population of the study was 265 made up of 96 automobile technology teachers and 169 automobile technology entrepreneurs in Gombe and Bauchi States. The entire population was involved in the study because the size is manageable.

The study adopted a descriptive survey design. A structured questionnaire containing 35 items developed by the researchers from literature reviewed was used for data collection from the respondents. The instrument was divided into sections, A and B. A was designed to obtain pertinent background and personal data of the respondents, B was designed to obtain information from the automobile technology teachers and entrepreneurs on managerial competencies, marketing competencies and financial and accounting competencies required of automobile technology students in establishing an automobile enterprise. A five point scale of Highly required (HR), Required (R), Moderately Required (MR), Not-Required (NR), Highly Not-Required (HNR), were written against each item with a corresponding assigned values of 5, 4, 3, 2, and 1 respectively.

The instrument was face and content validated by three experts from the Department of Technology Education, Modibbo Adama University of Technology, Yola. Cronbach Alpha reliability method was adopted to determine the internal consistency of the instrument. A reliability coefficient of 0.82 was obtained. According to [8]Okoli, (2009) a reliability coefficient of 0.70 and above is desirable. The questionnaires were administered by the researcher with the help of two research assistants. The respondents were allowed a period of two weeks, after which the researcher and the research assistants went round to collect the questionnaire items for analysis.

The data collected was analyzed using mean and z-test. The grand mean of items were used to answer the three research questions, while the z-test statistics was employed to test the three null hypotheses. Each hypothesis was accepted if the test statistics is in the critical region and rejected if it is not in the critical region while an item was accepted as a required competency, if the calculated grand mean of that item is equal to or greater or equal to 3.00, while mean of any item below 3.00 was considered as not required.

Results

Research Question 1: What are the entrepreneurial managerial competencies required by Automobile Technology students in establishing an automobile enterprise?

 Table 1: Mean rating of respondents on the entrepreneurial managerial competencies required by Automobile

 Technology Students in establishing an Automobile enterprise.

			N1=96	5 N1	=169
S/N	Item		$1 \overline{X}_2$	$\overline{\mathbf{X}}_{\mathbf{G}}$	Remark
	Maintain proper channel of communication		3.14	2.79	2.92 Not
requi			5.14	2.19	2.72 1100
2	Have a cordial communications with customers an	ıd			
	staff	2.99	2.83	2.89	Not required
3	Make effective use of feedback from customers		3.03	2.89	2.93 Not
requi	red				
4	Have a long and short term vision for managing a	n			
	enterprise	3.05	2.80	2.89	Not required
5	Maintain proper purchasing policy for the right				
	tools and spare parts	2.49	2.73	2.64	Not required
6	Effectively direct the affairs of the enterprise			2.67	2.78 2.74 Not
requi	red				
7	Set achievable goals and target for the enterprise		2.94	2.69	2.78 Not
requi	red				
8	Plan effectively on how to attain the goals of the				
	enterprise	3.62	2.73	3.05	Required
9	Organize human resources for managing an				
	enterprise	2.01	2.68	2.44	Not required
10	Understand the concept of time management and				
	Job demands	2.17	2.72	2.52	Not required
11	Carry out self-evaluation of skills, knowledge and				
	abilities needed to manage an enterprise		2.68	2.97	2.86 Not
requi			• • •		
12	Have a good human relations	2.36	3.01	2.77	Not required
13	Maintain a good labour relations		2.67	2.70	2.69 Not
requi			2 25	0.02	
14	Maintain cost effectiveness policy		2.27	2.83	2.69 Not
requi		0 50	0.00	0.04	
15	Discipline staff appropriately ey: $\bar{\mathbf{x}} = \text{mean}, \ \bar{\mathbf{x}}_{G} = \text{Grand mean}$	2.53	2.23	2.34	Not required

Key: Key: $\bar{x} = mean$, $\bar{x}_G = Grand mean$

Result in Table 3, revealed that both Automobile Technology Teachers and Automobile Technology Entrepreneurs agreed that all the items except item 23 under the entrepreneurial managerial competencies required for establishing an Automobile enterprise are required with grand total mean rating ranging from 2.34 to 2.93.

Research Question 2: What are the entrepreneurial marketing competencies required by Automobile Technology students in establishing an automobile enterprise?

Table 2:	Mean rating of respondents on the entrepreneurial marketing competencies required by Automobile
	Technology Students in establishing an Automobile enterprise

		N1=96	N1=	=169	
S/N	Item	$\overline{\mathbf{x}}_1$	$\overline{\mathbf{x}}_2$	$\overline{\mathbf{X}}_{\mathbf{G}}$	Remark
1	Satisfy customer needs		4.04	4.37	4.25 Required
2	Identify various marketing techniques		3.75	4.29	4.08 Required
3	Recognize opportunities for business	3.46	4.24	4.02	Required
4	Understand the importance of advertising in				
	business	3.88	4.23	4.10	Required
5	Forecast future trends in the automotive market		3.88	4.48	4.26 Required
6	Recognize the concept of customer				
	kingship (customer is always right)	4.08	4.33	4.24	Required
7	Provide adequate services as well as storage				-
	facilities	3.98	4.24	4.15	Required
8	Identify existing and future competitors		3.98	4.06	4.03 Required
9	Provide alternative products which can compete				
	favourably with branded products	4.24	4.40	4.34	Required
10	Understand policies like licensing, insurance and				-
	leasing	3.94	4.29	4.16	Required

Key: $\bar{\mathbf{x}} = \text{mean}, \ \bar{\mathbf{x}}_{G} = \text{Grand mean}$

Table 2, revealed that both Automobile Technology Teachers and Automobile Technology Entrepreneurs agreed that all the items under the entrepreneurial marketing competencies required for establishing an Automobile enterprise are required with grand total mean rating ranging from 4.02 to 4.34.

Research Question 3: What are the entrepreneurial financial and accounting competencies required by Automobile Technology students in establishing an automobile enterprise?

 Table 3: Mean rating of respondents on the entrepreneurial financial and accounting competencies required by Automobile Technology Students in establishing an Automobile enterprise

		N1=96	N1=	=169		
S/N	Item	$\overline{\mathbf{x}}_1$	$\overline{\mathbf{X}}_2$	$\overline{\mathbf{X}}_{\mathbf{G}}$	Rema	rk
1	Exhibit knowledge of income and expenditure		4.14	3.55	3.76	Required
2	Exhibit of cost accounting	4.11	3.56	3.76	Requi	ired
3	Maintain good credit policy	4.00	3.44	3.64	Requi	ired
4	Calculate gross and net profits		4.09	3.48	3.70	Required
5	Explore and utilize available banking facilities					
	e.g. ATMs, POS, mobile banking, e-banking etc		3.90	3.42	3.59	Required

6	Determine cost of capital 4.15	3.40	3.67	Required
7	Determine how profit to be retained in the business 4.05	3.50	3.70	Required
8	Make insightful financial decisions4.11	3.36	3.63	Required
9	Understand causes of business failure	4.25	3.47	3.75 Required
10	Compute trade and cash discount 4.28	3.50	3.78	Required

Key: $\bar{\mathbf{x}} = \text{mean}, \ \bar{\mathbf{x}}_{G} = \text{Grand mean}$

Table 3, revealed that both the Automobile Technology Teachers and Automobile Technology Entrepreneurs agreed that all the items under the entrepreneurial financial and accounting competencies required for establishing an Automobile enterprise are required with grand total mean rating ranging from 3.59 to 3.78. **Hypothesis 1:** There is no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial managerial competencies required by Automobile

Technology students in establishing an automobile enterprise.

Table 4:z-test of the difference between the mean score of Automobile Technology Teachers and
Automobile Technology Entrepreneurs on entrepreneurial managerial competencies required by
Automobile Technology Students in establishing an Automobile enterprise

Respondents	Ν	x	δ	z-cal	z-crit	Remark
Automobile Technology Teachers	96	2.71	0.13	-0.42	1.96	Accepted
Automobile Entrepreneurs		169	2.76			

N = Number, $\bar{\mathbf{x}}$ = Mean, δ = Standard deviation

The analysis in table 4 shows that the calculated value of z (z-cal) which is -0.42 is less than z-critical value of 1.96. Thus, the null hypothesis was accepted and the alternative hypothesis rejected. Therefore, there is no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial managerial competencies required by Automobile Technology students in establishing an automobile enterprise.

- **Hypothesis 2:** There is no significant difference between the mean responses of automobile technology teachers and entrepreneurs on the entrepreneurial marketing competencies required by Automobile Technology students in establishing an automobile enterprise.
- Table 5: z-test of the difference between the mean score of Automobile Technology Teachers and AutomobileTechnology Entrepreneurs on entrepreneurial marketing competencies required by AutomobileTechnology Students in establishing an Automobile enterprise

Respondents	Ν	x	δ	z-cal	z-crit	
Remark						
Automobile Technology Teachers		96	3.92			
			0.13	-4.87	1.96	Accepted
Automobile Entrepreneurs		169	4.29			

N = Number, \bar{x} = Mean, δ = Standard deviation

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The analysis in table 8 shows that the calculated value of z (z-cal) which is -4.87 is less than z-critical value of 1.96. Thus, the null hypothesis was accepted and the alternative hypothesis rejected. Therefore, there is no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial marketing competencies required by Automobile Technology students in establishing an automobile enterprise.

- **Hypothesis 3:** There is no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial financial and accounting competencies required by Automobile Technology students in establishing an automobile enterprise.
- Table 6:z-test of the difference between the mean score of Automobile Technology Teachers and
Automobile Technology Entrepreneurs on entrepreneurial financial and accounting competencies
required by Automobile Technology Students in establishing an Automobile enterprise

Respondents	Ν	$\overline{\mathbf{x}}$	δ	z-cal		z-crit
Remark						
Automobile Technology Teachers		96	4.11			
			0.23	15.53	1.96	Rejected
Automobile Entrepreneurs		169	3.47			-

N = Number, \bar{x} = Mean, δ = Standard deviation

The analysis in table 9 shows that the calculated value of z (z-cal) which is 15.53 is greater than zcritical value of 1.96. Thus, the null hypothesis was rejected and the alternative hypothesis accepted. Therefore, there is significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial financial and accounting technical competencies required by Automobile Technology students in establishing an automobile enterprise.

Findings of the study

- 1. Both the automatic technology teachers and automatic technology entrepreneurs agreed that all the items except item 23 are required for establishing an automatic enterprise with grand mean ranging from 2.34 to 2.93
- 2. Automatic technology teachers and automatic technology entrepreneurs agreed that all the items are required for establishing an automobile enterprise with grand mean ranging from 4.02 to 4.34
- 3 All the respondents agreed that all the items under the entrepreneurial financial and accounting competencies are required for establishing an automobile enterprise with mean ranging from 3.59 to 3.78
- 4. There is no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial managerial competencies required by Automobile Technology students in establishing an automobile enterprise.
- 5. There is no significant difference between the mean responses of automobile technology teachers and entrepreneurs on the entrepreneurial marketing competencies required by Automobile Technology students in establishing an automobile enterprise.

6. There no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial financial and accounting competencies required by Automobile Technology students in establishing an automobile enterprise.

Discussion

The finding of this study revealed that entrepreneurs of automobile technology need entrepreneurial managerial competencies as revealed by the findings of the study to establish an automobile enterprise. This in line with the result of [11]Olaitan, Eze and Ogbonnaya (2009) that carried out a study on the entrepreneurial competencies required by secondary school graduates for entering into oil palm processing enterprise in south eastern states of Nigeria. The study revealed that managerial competencies are required by graduates of colleges to establish an enterprise in oil palm processing and in other vocational and technical fields.

The graduates of automobile technology require entrepreneurial marketing competencies as revealed by the findings of the study to establish automobile enterprise. This in line with the findings of [12]Leghara and Mbah (2009) who found out that graduate of automobile technology lacked competencies in marketing and communication skills.

The automobile technology entrepreneurs need entrepreneurial financial and accounting competencies such as ability to maintain good credit policy make insightful financial decisions and be able to understand the causes of business failure, Ability to manage time and materials efficiently and minimize cost to achieve maximum profit, in order to establish an automobile enterprise. This finding is in agreement with the result of [7] Howell (2005) and [4] Nwobodo (2009), which identified business competencies as one of the important competencies needed for entrepreneurship education in vocational and technical colleges even at the tertiary level.

There was no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial managerial competencies required by Automobile Technology students in establishing an automobile enterprise. This was indicated by z-test analysis for the null hypothesis 1 in table 4. The non-significance between the two groups may be as a result of lack of the business skills on the part of the graduates as they were not taught business management skills when they were in schools or colleges. This is in agreement with the finding of [12]Leghara and Mbah (2009) that carried out a study on competences/skills needed by science and technology teachers towards the development of entrepreneurial skills in students in Orumba South Local Government Area of Anambra State and discovered that teachers needed planning managerial and general competencies to develop entrepreneurial skills in study.

The z- test analysis of hypothesis 2 in table 5 revealed that there was no significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial marketing competencies required by Automobile Technology students in establishing an automobile enterprise. The nonsignificant difference may be attributed to the fact that graduates of technical colleges may not have been exposed to marketing entrepreneurial competences while in schools or colleges. This is in line with the finding of [12] Leghara and Mbah (2009) that discovered the competencies needed by science and technology teachers towards the development of entrepreneurial skills in students in areas marketing and communication.

The z- test analysis for hypothesis 3 in table 6 revealed that there was significant difference between the mean responses of Automobile Technology teachers and entrepreneurs on the entrepreneurial financial and accounting competencies required by Automobile Technology students in establishing an automobile enterprise. The significant difference between the responses of the groups may also be attributed to the fact that technical colleges do not teach book keeping and financial best practices competencies in technical colleges. This is in conformity with the finding of [9]Aina (2008) and 12]Leghara and Mbah (2009) who observed that most technical college teachers offer adequate accounting and financial skills.

Conclusion

The major findings of this study serves as a basis for drawing the following conclusions which Bauchi and Gombe State Automobile Technology graduates and other stakeholders in public and private institution of learning as well as the general public should consider as a matter of concern. As revealed by the study, both the automobile Technology Teachers and automobile technology entrepreneurs viewed most of the technical competencies items under management, marketing as well as financial and accounting competencies as required.

Recommendation

Based on the findings and implication of the study, the following recommendations were made:

- 1. Government through her educational curriculum planners and developers should review curriculum of technical colleges to include relevant entrepreneurial skills for effectively managing business enterprise to be learnt by the students in the course of their studies while in technical colleges.
- 2. The teaching staff of technical colleges should be exposed to adequate training and retraining on the entrepreneurial skills and competencies and the new contents of automobile technology to be included in to the curriculum of technical colleges.

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