

Competencies of Women Entrepreneurs in Nigeria: Cost Strategy as a Mediator

Hazril Izwar Ibrahim ^a, Mohammed Kabir ^b, Mohamad Khairul Anuar Mohd. Shah ^c

^a *School of Management, Universiti Sains Malaysia.*

^b *Mai Idris Aloom Polytechnic, Yobe State, Nigeria (Corresponding Author).*

^c *School of Management, Universiti Sains Malaysia.*

Abstract

This study aimed at achieving three objectives: to examine relationship that exist between women entrepreneurial competencies and cost strategy; to examine relationship between cost strategy and firm performance; to analyse mediating effect of cost strategy between women entrepreneurial competencies and firm performance. A sample of 230 women entrepreneurs running various types of micro business units in Kaduna state, the northwest part of Nigeria, participated in this study. Data was collected from the respondents using questionnaires. The data collected were analysed using SPSS and Smart PLS. The findings revealed that strategic, opportunity and organizing competencies, influence cost leadership strategy positively. Cost leadership strategy also has direct positive relationship with firm performance. The result also showed that cost leadership strategy significantly mediates relationship between women entrepreneurial competencies and performance of their firms. Limitations, contributions and suggestions for future researchers are presented at the end of this paper.

Keywords: Women entrepreneurs, cost strategy, firm performance.

1. Introduction

Entrepreneurs have been identified as the driving force in searching for opportunities, job creation, poverty alleviation and innovation (Adesua- Lincoln, 2012). In the process, they add value and provide solution to address critical economic problems, such as unemployment, narrowing the gap between the wealthy and the poor. However, women-led businesses in Nigeria like their counterpart in United States, Europe and Asia depend mainly on the owners' skills and abilities. They mostly leverage on the expertise of the owners because they are usually small scale business organizations (Carter & Shaw, 2006; Lerner, Brush, & Hisrich, 1997; Small and Medium Enterprises Development Agency of Nigeria & National Bureau of Statistics, 2013).

It means, achieving business success depends heavily on competencies of the entrepreneur (Mitchelmore & Rowley, 2013; Mitchelmore, Rowley, & Shiu, 2014). Their competencies are the most vital asset of the business as the business owner is responsible for making strategic and operational decision as well as implementing them (Lerner & Almor, 2002). Only then, the aims and objectives of establishing the venture can be effectively achieved. Similarly, an entrepreneur needs to acquire varieties of competencies, abilities, skills and capabilities that are fundamental for corporate and continued existence of the business firm (Mitchelmore et al., 2014). These competencies will serve as contributing elements that will be boosted by cost leadership strategy of their business and this will consequently lead to better performance of their firms.

In view of the above, there is need for women-led businesses in Nigeria to gain competitive advantage for their business. Since they operate their business in a highly competitive environment, as a result of globalization, bilateral and multilateral agreement between Nigeria and other countries of the world, the women entrepreneurs need to equip their firms with competitive strategy such as cost leadership strategy (Oyedijo, 2012; Teeratansirikool, Siengthai, Badir, & Charoenngam, 2013) and combine it with their personal competencies that will boost their firm's performance and achieve business success (Ahmad et al., 2010; Man, Lau, & Snape, 2008).

However, businesses owned by women in Nigeria were not growing to the expectation compared to their male counterpart. According to Mayoux, (2001) and United Nations(2006) poor financial management, liquidity problems, inexperience in management and incompetence, lack of or poor books and records keeping, problems of sales and marketing strategies among others were some of reasons responsible for failure of women-owned businesses, in which women entrepreneurs in Nigeria are not the exception. These problems probably arise as a result of their poor competitive strategy which is affecting their performance negatively vis-à-vis customer base, growth in sales, profitability and revenue (Princess, Samuel, & Ayodotun, 2015).

Therefore, this study aimed at achieving the following objectives:

1. To examine the relationship between women entrepreneurial competencies and cost leadership strategy.
2. To examine the relationship between cost leadership strategy and firm performance.
3. To analyse the mediating effect of cost leadership strategy between women entrepreneurial competencies and firm performance.

2. Literature review

Competence can be divided into natural and unnatural competence, natural competence consist of characteristic, attitude, self-image and social role while the unnatural or learned competence are competencies that are needed when a task is done through practical and theoretical learning which include; skill, knowledge and experience (Meutia& Ismail, 2012). Hayton and McEvoy (2006) stated that competency describes a combination of skills, attitudes, and behaviours that an individual or an organization is competent at, that is, the ability to deliver; perform or carry out a set of jobs with relative ease and with a high level of predictability in terms of quality and timeliness. According to Kaur and Bains (2013) is the sum of experiences, knowledge, skills and attitude which we acquire during our lifetime for effective performance of a task or job. This means competency is a concept of knowledge, skills and attitude of the person.

Kiggundu (2002) relates entrepreneurial competencies as the total sum of entrepreneurs' attributes such as attitudes, beliefs, knowledge, skills, abilities, personality, expertise which can be social, technical and managerial and behavioural tendencies needed for successful and sustaining entrepreneurship. According to Man and Lau (2005) entrepreneurial competencies have dual source: Firstly, it comprises of components that are more deeply rooted in a person's background such as traits, personality, attitudes, social role and self-image. Secondly, those that can be acquired from the workplace, through theoretical or practical/physical training and education such as skills, knowledge and experience. These are what Lazar and Paul (2015) referred to as the underlying characteristics possessed by an individual which assist him to execute the tasks in a manner that is most befitting.

Strategic Competency

Man, Lau, and Chan (2002) stated that strategic competency is about setting, evaluating and implementing the strategies for the whole firm. Entrepreneurs as the owners of the firm, are responsible in setting the direction for the firm(Umeze & Ohen, 2015). They must be able to plan ahead and envision where their enterprises should be in the future. It is this vision that will enable entrepreneurs to focus on actions and decisions that have impact on the achievement of strategic edge over the current and potential competitors (Ahmad et al., 2010).Lopa and Bose (2014) argue that entrepreneur should be able to understand the needs and wants of customers, find out their needs yet to be fulfilled by current and potential competitors, connect tasks via proper coordination, identify long-term issue, respond to change from within and outside organization and explore new ideas and ways of doing things. In view of these, they proposed that this competency will have positive connection with firm performance. Thus, women entrepreneurs have to do all these so that the principal objectives of setting up their business organizations can be actually achieved.

Opportunity Competency

Opportunity competency is the ability of the entrepreneur to assess, seek, develop and utilised opportunities available in the market that would yield high return on investment (De Koning, 2003). However, positive perception of numerous opportunities available out there in marketplace is one of the vital conditions that are crucial for the success of the firm (Hoyos-Ruperto, Romaguera, Carlsson, & Lyytinen, 2013).Opportunity competency is one of the central functions of the entrepreneur, to be able to identify and make the best use of business opportunities (Ahmad et al., 2010). It comprises of the

entrepreneurial activities in actively seeking new opportunities, spotting opportunities, and developing the opportunities (Seabela & Fatoki, 2014). According to Ahmad et al. (2010), opportunity competency includes ability to perceive consumer needs yet to be met by existing competitors, seize high-quality business opportunities, actively look for products or services that will provide real benefit to customers and identify goods or services that the customer wants. In view of this, it is paramount for the entrepreneur to be able to identify opportunities. Hence, identification of qualitative opportunity will prompt the entrepreneur to take considerable risk that will turn these opportunities (Ahmad et al., 2010) into profitable business venture.

Organizing Competency

Organizing competency can be referred to the ability of the entrepreneurs to lead, control, monitor, organize, and develop both external and internal resources towards the abilities and capabilities of their firms (Umeze & Ohen, 2015). This competency is related to managerial competency, as it involves managing both internal and external programs of the organization, for instance, promotion of firm's goods and services, proper financial management, logistics and management of human resources (Lans, Verstegen, & Mulder, 2011; Wickramaratne et al., 2014). All these activities require the entrepreneur to come up with direction for the firm (Wickramaratne et al., 2014). Consequently, having the capacity to arrange and lead would assist the business owners in reducing failure of small firms (Ahmad et al., 2010). It is expected that to lead a fruitful endeavour, a business person needs to set themselves up with organizing competency which includes overseeing and effective utilization of both physical and abstract resources of the organization. That is to say, regardless of firm's wealth, lacking in organizing competency will lead the entrepreneur to misuse resources. Hence, wrong allocation of resources would take the business nowhere. It will tantamount to waste of otherwise useful resources. For these reasons, firm with little resources but possessed better organizing competency will outperform its rival enterprises that possessed vast resources but are unable to organize and use it effectively. Thus, these activities require the entrepreneur to come up with formidable direction for the enterprise (Wickramaratne, Kiminami, & Yagi, 2014), that will result to better performance.

Cost Strategy

Cost leadership strategy is concerned with the ability of the entrepreneurs to assemble resources at a lower cost, produce goods and services at a lesser cost and sell these goods and services at a price lower than that of their competitors. In the process they gain more customers, achieve greater sales volume and higher profit than the competitors. Women entrepreneurs in Nigeria opt for cost strategy, as the customers of goods and services do not give much importance to brand, but they are price sensitive with strong bargaining power (Gorondutse & Aliyu, 2015). Considering consumers of goods and services in Africa in general and Nigeria in particular, are price sensitive customers that always want to obtain products that were offered to the market at a low price but with good value. This can be traced to the level of poverty been experienced by the people in this part of the world, coupled with series of bilateral and multilateral trade agreement signed by their government with different countries of the world and the effects of globalization and technological advancement. The resultant effect of this is the free flow of goods and services from industrialized countries to less developed countries. These further deepen the stiffness of competition faced by women entrepreneurs in Nigeria.

Women entrepreneurs in Nigeria are commonly operators of micro business units, struggling to contend and contain the challenges confronting their business operations and wanting to remain relevant and maintain a stable competitive position in the market. They are confronted with adoption of either cost leadership or differentiation strategy or both as strategies that could be used to beat today's fierce market forces and volatility (Princess et al., 2015). Evidently, in Nigeria cost leadership seems to be widely pursued by entrepreneurs as the price of goods and services play a substantial role in customers' choice and purchase decisions (Okpara, 2014).

To engage in cost leadership strategy, they will need to emphasize on cost reduction in all activities of their firms. Teeratansirikool, Siengthai, Badir, and Charoenngam (2013), referred this as a cohesive set of actions taken to provide goods or services with distinctive features sold to customers at the lowest price compared to rival firms or at reduced cost to achieve superior profitability. Reductions in cost can come from government incentives by reducing taxes and charges in the environment where businesses operate, entrepreneurial ability to cut off unnecessary expenses and maintain rules and regulations set up by statutory body to avoid from being penalized (Pereira-Moliner et al., 2015).

Firm Performance

Defining firm performance in the context of entrepreneurship is important but is a challenging concept because of its multidimensional nature as the success of business is also a multifaceted phenomenon (Laguna, Wiecheteck, & Talik, 2012). Performance is about allocating and managing well the components of the causal model(s) that lead to the timely achievement of stated aims within constraints peculiar to the firm and the situation (Lebas, 1995). Performance is viewed as the ability of a firm to create outcome and actions that is acceptable to the stakeholders (Gharakhani & Mousakhani, 2012). Firm performance means that the firm have to perform better compared to the competitor and increase its market share (Porter, 1991). Most often than not level of competitiveness in the market, where the firm carries out its business activities determine the degree of business performance (Morgan, 2012). Therefore, firm performance is the consequence of the strategic steps and decisions taken by the owners of a firm, which can be positive or negative.

Currently, financial and non-financial indicators have become most widely means of evaluating performance of organization among managers and business owners (Gorondutse & Aliyu, 2015). In terms of financial performance, studies will rely on self-report or archival data collected from secondary sources (Sidik, 2012). Mahmood and Hanafi (2013) and Sheehan (2013) stated that obtaining financial data is very challenging. Hence, business owners or their manager does not want to disperse information about their firm performance to outsiders. However, they are willing to provide information on their own subjective evaluation. For this study, subjective performance was used.

Some of the subjective performance measures recommended by previous researchers are discipline level, customer satisfaction, accomplishment of objectives, employee satisfaction, perception of leadership on firm performance, positive relationship with supplier, work and life balance, behaviour of individual in the firm, good business image, effectiveness, owner's self-satisfaction, customer retention, sales growth, market share and good workplace relationship (Ahmad, 2007; Anggadwita & Mustafid, 2014; Sidik, 2012). In addition to these, performance measurement parameters such as customer complaints and

growth in customer base can also be used to determine subjective performance of firm as revealed by the study conducted by Oyedijo (2012) among the paint manufacturing SMEs in south-western Nigeria.

Hypotheses development

For a firm to achieve high performance in its business operation, acquiring and leveraging on entrepreneurial competencies are of crucial importance. Therefore, competencies possessed by female entrepreneurs in Nigeria will enable them to reduce cost of their goods and services and to improve the desirability of their products in the eyes of their current and potential customers. Based on the foregoing explanations and research framework in figure 1, the following hypotheses are proposed:

H1.1: Strategic competency is positively and significantly related to cost strategy.

H1.2: Opportunity competency is positively and significantly related to cost strategy.

H1.3: Organizing competency is positively and significantly related to cost strategy.

H2: Cost leadership strategy is positively and significantly related to firm performance.

H3.1: Cost leadership strategy positively and significantly mediates between strategic competency and firm performance.

H3.2: Cost leadership strategy positively and significantly mediates between opportunity competency and firm performance.

H3.3: Cost leadership strategy positively and significantly mediates between organizing competency and firm performance.

3. Methodology

Sample and Data Collection

The sample of this study included 230 women entrepreneurs running various micro businesses in Kaduna state, Nigeria. They were selected via simple random sampling. The sampling frame was obtained from Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) at Kaduna office in collaboration with the headquarters in Abuja. To apply simple random sampling method, the process involves picking of pieces of paper in box which contains the names of the registered women entrepreneurs in Kaduna state. Picking was done from the box without replacement until 230 women entrepreneurs were selected. Thus, the data were collected using questionnaires.

Survey Instrument

Survey instrument used to measure entrepreneurial competencies was initially developed by Man (2001) was adopted for this study. The Cronbach Alpha reported was above 0.70. Each of the women entrepreneurs were asked to rate the items that best described the competencies they possessed. A five point Likert-scale was used. The ratings are from 1 strongly disagree to 5 strongly agree.

Similarly, cost strategy was measured by research instrument developed by Allen and Helms (2006). Reported Cronbach Alpha was 0.78. A five point Likert-scale was used and ratings started from 1 strongly disagree to 5 strongly agreed.

Furthermore, survey instrument used for measuring firm performance (subjective performance) was developed by Chandler and Hanks (1993) with Cronbach Alpha of 0.87. The rating was also based on five point Likert-scales, starting from 1 very dissatisfied to 5 very satisfied.

Therefore, this study applied two software. This is Statistical Package for Social Sciences (SPSS) and Partial Least Square (SmartPLS) version 2.0. SPSS was used for data entry and screening. Smart PLS was used for higher statistical analysis.

Data Screening

In the process of screening the data, three extreme cases of outliers were found and deleted from data file as suggested by Pallant (2005). This reduced the sample size to 227 respondents. This sample size is considered large enough for PLS statistical analysis.

Table 1. The profile of the respondents

Description	Frequency (n=230)	Percentage (%)
Age		
20 or below	47	20.4
21 – 40	99	43.1
41 or above	84	36.5
Marital Status		
Married	101	43.9
Single	75	32.6
Divorced	32	13.9
Widowed	22	9.6
Children		
Yes	158	68.7
No	72	31.3
Years in the current business		
5 years or below	84	36.5
6 – 10 years	113	49.2
11 years or above	33	14.3
Level of education		
Secondary or lower	59	25.7
Diploma/NCE	106	46
HND/First degree	48	20.9
Post graduate	8	3.5
Others	9	3.9
Type of business		
Service	45	19.6
Trade	76	33
Manufacturing	40	17.4
Agriculture	69	30

NCE = National Certificate of Examination

HND = Higher National Diploma.

The profiles of the respondents as showed in Table 1, revealed that majority of the respondents were 20 years and above. This means that, these women entrepreneurs are matured business owners. Although, many of the respondents level of education are below university degree but they have been running their businesses for more than 6 years and above. They got considerable years of business experience which have made good input in the day to day running of their businesses.

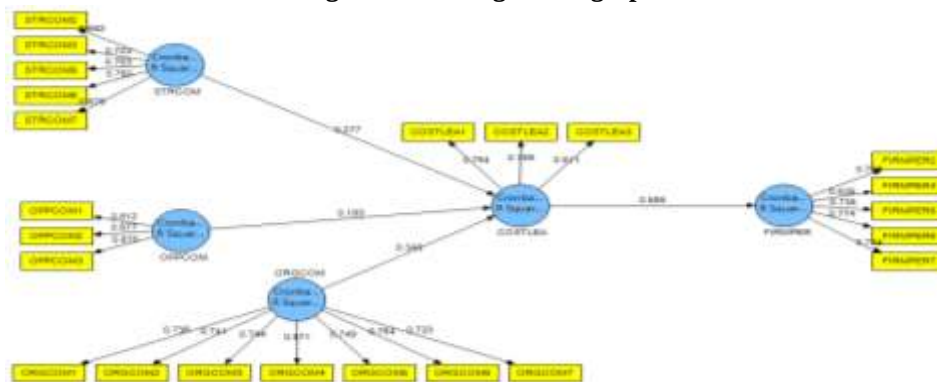
4. Results

The result of this study were presented base on measurement and structural models evaluation. The former comprised of the relationship between the variables and their indicators. While the latter indicates relationships between the latent variables (Anderson & Gerbing, 1988). Furthermore, Coefficient of Determination (R^2), Effect Size (f^2) and predictive relevance (Q^2) were also presented.

Measurement Model Evaluation

The measurement model evaluation of this study was assessed to determine the reliability of the items and validity of the construct. It comprised of internal consistency reliability and constructs validity to establish items reliability and constructs' accuracy (Hair, Hult, Ringle, & Sarstedt, 2014). Figure 2 shows the PLS Algorithm graph for this research.

Figure 2. PLS Algorithm graph.



STRCOM = Strategic competency, **OPPCOM** = Opportunity competency, **ORGCOM** = Organising competency, **COSTLEA** = Cost leadership strategy, **FIRMPER** = Firm performance.

Reliability Analysis

The aim of reliability analysis is to evaluate the consistency of the measurement items. In PLS, Composite Reliability (CR) is a more selected way of reliability analysis. In this manner, internal consistency reliability, outer loadings and their respective indicator reliability (IR) were examined. The result presented in table 2 shows that both measurement items and indicator reliability were all reliable

because all composite reliability (CR) measurements are more than the cut-off values of 0.70 and indicator reliability were more than 0.4 based on recommendation made by Hair et al. (2014) and Hulland (1999) respectively.

Construct Validity

To attain construct validity both convergent validity and discriminant validity are examined. Convergent validity is examined through the outer loadings and AVE. Discriminant validity is commonly examined via Fornell-Larcker criterion.

Convergent validity

Hair et al. (2014) suggested an AVE value of 0.50 or more indicates that, on average, the variable explains more than half of the variance of its indicators. For this study all the constructs used achieve threshold of .50 as showed in Table 2.

Table 2. Parameter Estimates of the Measurement Model

LV	MV	Outer Loadings	IR	CR	AVE
COSTLEA	COSTLEA1	0.794	0.630	0.840	0.637
	COSTLEA2	0.789	0.623		
	COSTLEA3	0.811	0.658		
FIRMPER	FIRMPER2	0.708	0.501	0.842	0.517
	FIRMPER4	0.635	0.403		
	FIRMPER5	0.736	0.542		
	FIRMPER6	0.774	0.599		
	FIRMPER7	0.734	0.539		
OPPCOM	OPPCOM1	0.812	0.659	0.766	0.524
	OPPCOM2	0.677	0.458		
	OPPCOM3	0.675	0.456		
ORGCOR	ORGCOR1	0.736	0.542	0.890	0.537
	ORGCOR2	0.741	0.549		
	ORGCOR3	0.744	0.554		
	ORGCOR4	0.671	0.450		
	ORGCOR5	0.749	0.561		
	ORGCOR6	0.764	0.584		
	ORGCOR7	0.720	0.518		
STRCOR	STRCOR2	0.692	0.479	0.845	0.521
	STRCOR3	0.723	0.523		
	STRCOR5	0.763	0.582		
	STRCOR6	0.750	0.563		

STRCOM7 0.679 0.461

LV = latent variable, **MV** = Manifest variable, **CR**= Composite Reliability, **AVE**= Average Variance Extracted, **IR** = Indicator Reliability

Discriminant Validity

Using Fornell-Larcker criterion, it indicates that, a variable is unique and captures phenomena not represented by other varying variables in the model. It also indicated that square root of AVE of each variable is greater than the highest correlation for each construct. The figures in bold as showed in Table 3 are all higher than each of the coefficients on which they have been placed. This means Fornell-Larcker criterion has been met as stated by Hair et al. (2014). Hence, each construct are distinct from one another. Table 3 presents the result of discriminant validity.

Table 3. Discriminant validity of construct Fornell-Larcker criterion

	COSTLEA	FIRMPER	OPPCOM	ORGCOM	STRCOM
COSTLEA	0.798				
FIRMPER	0.585	0.719			
OPPCOM	0.434	0.352	0.724		
ORGCOM	0.529	0.396	0.365	0.733	
STRCOM	0.501	0.421	0.417	0.417	0.722

COSTLEA = Cost leadership strategy, **FIRMPER** = Firm performance, **OPPCOM** = Opportunity competency, **ORGCOM** = Organising competency, **STRCOM** = Strategic competency.

Structural Model Evaluation

The paths of the relationship between the latent variables were computed in the structural model and bootstrap was done to assess the statistical significance of the path coefficient. The significance levels were set at $p < .10$ $p < .05$ and $p < .01$. The critical values are 1.65 (significance level = 10%), 1.96 (significance level = 5%) and 2.57 (significance level = 1%) the confidence levels were taking at 90%, 95% and 99% respectively. Figure 3 and Table 4 shows parameter estimates of direct effect relationships for this study.

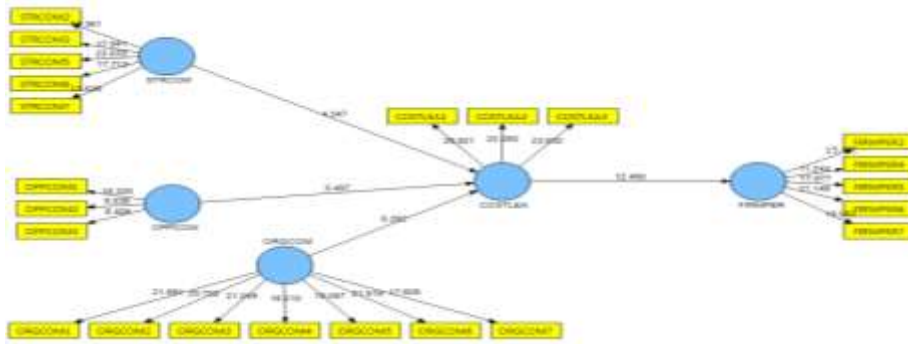
The regression paths in the model are three that encompassed the direct and indirect relationships. The first path is independent variables to mediating variable relationship. The second path is mediating to dependent variable relationship. The third path is independent to dependent via the mediating variable.

Direct Effects

The results showed that all the three constructs were positively related to cost leadership strategy. Strategic competency(STRCOM)as an independent variable with ($\beta = 0.277$, $p < 0.01$, $t = 4.17$): Opportunity competency (OPPCOM) as an independent variable with ($\beta = 0.193$, $p < 0.01$, $t = 3.34$); Organizing competency (ORGCOM) with as an independent variable ($\beta = 0.343$, $p < 0.01$, $t = 5.35$) respectively, have direct positive relationship with cost leadership strategy. Similarly, cost leadership strategy (COSTLEA) as a mediating variable was positively related to firm performance (FIRMPER)

with ($\beta = 0.585$, $p < 0.01$, $t = 12.73$). Therefore, hypotheses H1.1, H1.2, H1.3 and H2 of this study were all supported.

Figure 3: Bootstrap Graph



STRCOM = Strategic competency, **OPPCOM** = Opportunity competency, **ORGCOM** = Organising competency, **COSTLEA** = Cost strategy, **FIRMPER** = Firm performance.

Table 4. Parameter Estimates of Direct Effect Relationships

Hypotheses	Path	Beta	SE	t value	Decision
H1.1	STRCOM -> COSTLEA	0.277	0.067	4.17***	Supported
H1.2	OPPCOM -> COSTLEA	0.193	0.058	3.34***	Supported
H1.3	ORGCOM -> COSTLEA	0.343	0.064	5.35***	Supported
H2	COSTLEA -> FIRMPER	0.585	0.046	12.73***	Supported

***significant at $p < 0.01$, **significant at $p < 0.05$, *significant at $p < 0.10$, All hypotheses are one tailed

Testing the Mediating Effect

Regarding tested relationship between independent and mediating variable; mediating and dependent variable. In which both showed positive relationship. Hypotheses 3.1, 3.2 and 3.3 respectively, fulfilled the conditions required to establish mediation relationship based on their significant indirect effects. The results of the mediation effect as shown in Table 5, led this study to conclude that the effect of strategic competency (t -value: 4.00), opportunity competency (t -value: 3.30) and organizing competency (t -value: 4.47) were significantly mediated by cost leadership strategy as the t -values exceeded the critical value of 2.57 at the 99% confidence level.

Table 5. Parameter Estimates of Indirect Effect Relationships

Hypotheses	Path	Beta	SE	t value	Decision
H3.1	STRCOM-> COSTLEA -> FIRMPER	0.162	0.041	4.00***	Supported
H3.2	OPPCOM-> COSTLEA -> FIRMPER	0.054	0.034	3.30***	Supported
H3.3	ORGCOM-> COSTLEA -> FIRMPER	0.095	0.045	4.47***	Supported

***significant at $p < 0.01$, **significant at $p < 0.05$, *significant at $p < 0.10$, All hypotheses are two tailed.

Coefficient of Determination (R^2)

Scholarly researches consider R^2 value of 0.67, 0.33 and 0.19 as substantial, moderate and weak respectively (Chin, 1998). The Coefficient of Determination (R^2) value of COSTLEA for this study was 0.404, meaning that 40.4% of variance in cost strategy was explained by strategic, opportunity, organizing competency. Therefore, R^2 for this study is considered moderate.

Effect Size (f^2)

It is the effect size that determined the effectiveness of interaction model over the main effect model (Wilson, 2010). It explains how strong the relationship between two or more variables is, in a research model. Chin (2010), argued that, in social science oriented studies, 2% effect sizes are small but acceptable, 5-10% moderate, 11% and above are substantial. The effect size f^2 was determined using this formula:

$$f^2 = \frac{R^2_{\text{inclusive}} - R^2_{\text{exclusive}}}{1 - R^2_{\text{inclusive}}}$$

where;

$R^2_{\text{inclusive}}$ = Variance explained coefficient when the variable is included in the model.

$R^2_{\text{exclusive}}$ = Variance explained coefficient when the variable is excluded.

1 = constant

The result of the interaction between the mediator and independent variables is shown in table 6. It indicated that the effect of STRCOM (Strategic competency) with effect of 0.096, OPPCOM (Opportunity competency) with effect of 0.047 and ORGCOM (Organising competency) with effect of 0.153.

Table 6. Effect Size (f^2)

Variable	$R^2_{\text{inclusive}}$	$R^2_{\text{exclusive}}$	Effect (f^2)	Size
STRCOM	0.404	0.347	0.096	Moderate
OPPCOM	0.404	0.376	0.047	Small
ORGCOM	0.404	0.313	0.153	Substantial

STRCOM = Strategic competency, **OPPCOM** = Opportunity competency,

ORGCOM = Organising competency.

The result revealed that the size of the effect of strategic, opportunity and organizing competency on cost leadership strategy was moderate, small and substantial. Base on the opinion of Cohen, lots of effects in the social sciences are mostly small (Paterson, Harms, Steel, & Credé, 2016), but acceptable. Therefore, all the three independent variables of this study have effect on mediator variable (cost leadership strategy).

Predictive Relevance (Q^2)

The predominant measure of predictive relevance is the Stone-Geisser Q^2 technique. It evaluates the research model's prediction capability (Henseler, Ringle, & Sinkovics, 2009). Predictive relevance is usually estimated using an omission distance of 5 to 10 in PLS. In this study, 7 were chosen. Predictive relevance values greater than 0 indicate exogenous variables have predictive relevance for the endogenous variable (Hair et al., 2014).

Table 7 provide the summary of predictive relevance for this study. The results show that all exogenous constructs have predictive relevance because all cases have values greater than 0.

Table 7. Predictive relevance (Q^2)

Number of Rounds	Endogenous variable	
	Cost Leadership Strategy	Firm Performance
Case 1	0.205	0.115
Case 2	0.252	0.174
Case 3	0.271	0.183
Case 4	0.293	0.108
Case 5	0.162	0.162
Case 6	0.194	0.179
Case 7	0.268	0.218

All cases were obtained by **1 – SSE/SSO** using blindfolding technique. SSE = Sum of Square Error. SSO = Sum of Square Observation.

5. Discussion

The three aims of this study are: to examine the relationship between women entrepreneurial competencies and cost leadership strategy; to examine relationship between cost leadership strategy and firm performance; to analyse the mediating effect of cost strategy between women entrepreneurial competencies and firm performance. As a result of these aims, hypotheses were formulated and tested. All the seven hypotheses (H1.1, H1.2, H1.3, H2, H3.1, H3.2, and H3.3) formulated were supported.

Competency is referred to as the sum of experiences, knowledge, skills and attitude which we acquire during our lifetime for the efficient performance of a task or job (Kaur & Bains, 2013). This implies that for female business owners to carry out their entrepreneurial work, they need to equip themselves with necessary competencies that will enable them to acquire and sustain their competitive advantage. Meanwhile, the result of this study buttressed the opinion of Ahmad, et al. (2010a) that entrepreneur must demonstrate competency in many domains such as strategic, opportunity and organising competencies as part of their role.

Strategic competency entails that woman entrepreneurs should plan ahead and envision where their enterprise should be in the future. Ahmad, et al. (2010) opined that it is of paramount important for the entrepreneur to have vision for their firms. It is the vision that they have for their firm that will guide them from derailment from their original plan. The result in this study is contrary to result of the survey conducted by Man and Lau (2005) where business owners in Hong Kong ranked strategic competency low among ten competencies. They claimed that it is not relevant to them because the scope of their management is simpler and less extensive. However, women entrepreneurs in Nigeria felt that it will be

beneficial to their business to link their short term day to day task in the context of long-term direction of their firms. This will stimulate them to employ competitive strategy that will yield competitive advantage. Opportunity competency comprises of the entrepreneurial activities in actively seeking new opportunities, spotting opportunities, and developing the opportunities (Seabela & Fatoki, 2014). This competency assists women entrepreneurs to uncover lots of business opportunities in Nigeria. Study conducted by Lopa and Bose (2014) on small and medium manufacturers in Khulna city, Bangladesh, revealed that entrepreneurs in that country were unable to innovate due to hectic routine of daily job. Women entrepreneurs in Nigeria make concerted efforts to scan the environment to unfold those business opportunities as they have already perceived that there are lots of unmet consumer needs in Nigeria. Hence, achieving this will enable their firms to perform better than their competitors that lack this competency, thereby achieving competitive advantage.

Organizing competency in this regard is known to be overseeing and efficient utilization of both physical and abstract resources of the firm. The result of this study proved that women entrepreneurs in Nigeria knew that no matter how wealthy their firms are, lacking in organizing competency will undoubtedly lead their business to crash-land. The result of hypotheses H1.3 is in consonant with study conducted by Ahmad (2007) revealed that entrepreneurs in Australia and Malaysia spend reasonable time in planning and organizing both human and material resources of their firms. Female entrepreneurs in Nigeria were oriented towards organising the resources of their firms, they lead their subordinates, supervise subordinates to ensure that they are in the right place doing the right thing, they also delegate effectively. Possession and application of organising competency will ensure that tasks of their firms are well coordinated. Organizing competency to a large extent makes women who owned firms in Nigeria secure strategic position in the marketplace and move their business to a higher level.

The result of this study as revealed by the hypotheses H2 showed that the relationship between cost strategy and firm performance is strongly supported. This strategy paves way for women entrepreneurs in Nigeria to deliver their products at a lower cost, produce goods and services at lesser cost and sell these goods and services at lower competitive price in the process gain more customers, achieve greater sales volume and better profit than their competitors. To achieve cost advantage, women entrepreneurs in Nigeria ensured that they practice an exhaustive assessment of their firm's cost structure. They embark on efficient and effective cost control system with minimum operational cost.

The finding in this study did not support the result of the survey conducted by Gorondutse and Aliyu (2015) which indicated that small firms in Kano, Nigeria that practiced cost strategy as their core strategy is insignificant to performance of their businesses. On the other hand, the result of this study is in agreement with the study conducted by Lechner and Gudmundsson (2014). Their study found that cost leadership strategy had a positive impact on firm performance. This study showed that women entrepreneurs in Nigeria vigorously pursue cost reductions. They closely monitor their overhead costs by ensuring that indirect cost was kept at a lower rate. They also ensure that they minimize their distribution costs. Doing this reduces the cost of their day to day running of their businesses and their profitability is enhanced.

Meanwhile, the mediating role of cost strategy on relationship between entrepreneurial competencies (strategic, opportunity and organizing competency) was also tested. The result proved that cost strategy mediate the relationship between strategic, opportunity and organizing competencies. Women entrepreneur in Nigeria used cost strategy as their firms' competitive strategy. Having perceived those

needs of the consumers yet to be met by the competitors. This eventually created opportunity for them to explore and take advantage of the opportunity available.

In addition to this, women entrepreneur were able to organise resources of their firm, coordinate their tasks as entrepreneur and ensuring that they are at the right place doing the right thing at the right time. Thus, they were able to employ competitive strategy that enable them penetrate the market at least cost with qualitative products and service that were less expensive for consumers to acquire. Therefore, women entrepreneurs in Nigeria are comfortable with cost strategy because it enhances the relationship between their competencies and performance of their firms.

6. Conclusion

One of the contributions of this study is that it has proved that, for women entrepreneurs in Nigeria to achieve better performance for their firms, they must acquire and applied necessary competencies that will enable them play their role effectively as entrepreneur. Furthermore, it has contributed to women entrepreneurial literature in Africa in general and Nigeria in particular. In this part of the world, researches on competencies of women entrepreneurs have not been given attention that it deserved, it is thereby neglected. The results obtained from this study will also serve as further stepping stone to awake the government and stakeholders in Nigeria that after providing financial facilities to women entrepreneurs without proper training and development will not yield the desired result. Hence, training and retraining plays significant role in competency development of the entrepreneurs. Lastly, study has also contributed to research framework of women entrepreneurial competencies and firm performance by placing cost leadership advantage as mediating variable between these two constructs.

This study was conducted under semi-natural setting where people report issues about themselves. It is not without some limitations. Future researchers are advice to extend their research work to women entrepreneurs in informal sector of Nigeria economy. This study was limited to women entrepreneurs in the formal sector. The use of mixed method is also suggested to future researchers for better generalization of the research results.

In conclusion, this study suggests to women entrepreneurs in Nigeria that, they should take issue of competencies and strategy with all seriousness it deserved. It was proved that it is these competencies that will enable them to make best use of the resources available to their firms. Supported by cost strategy, will no doubt allow them outperform their competitors and yield better performance for their businesses. Their ability to use these competencies and strategy effectively will allow their firms to remain in the market despite stiff competition from locally made goods and services and imported products.

References

- Baharumshah, A.Z., Chan, T.-H. and Fountas, S. (2005) A panel study on real interest rate parity in East Asian countries: Pre- and post-liberalization era. *Global Finance Journal*, 16(2), 69-85.
- Adesua-Lincoln, A. (2012). Nature of leadership practices of Nigerian female entrepreneurs, *International Journal of Business and Social Science*, 3(10), 50-59.
- Ahmad, N. H. (2007). A cross-cultural study of entrepreneurial competencies and entrepreneurial success in SMEs in Australia and Malaysia. Unpublished PhD dissertation, University of Adelaide, Australia.

- Ahmad, N. H., Halim, H. A., & Zainal, S. R. M. (2010). Is entrepreneurial competency the silver bullet for SME success in a developing nation? *International Business Management*, 4(2), 67-75.
- Ahmad, N. H., Ramayah, T., Wilson, C., & Kummerow, L. (2010a). Is entrepreneurial competency and business success relationship contingent upon business environment? A study of Malaysian SMEs. *International Journal of Entrepreneurial Behavior & Research*, 16(3), 182-203.
- Allen, R. S., & Helms, M. M. (2006). Linking strategic practices and organizational performance to Porter's generic strategies. *Business Process Management Journal*, 12(4), 433-454.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3), 411.
- Anggadwita, G., & Mustafid, Q. Y. (2014). Identification of factors influencing the performance of small medium enterprises (SMEs). *Procedia-Social and Behavioral Sciences*, 115, 415-423.
- Carter, S., & Shaw, E. (2006). Women's business ownership: Recent research and policy developments.
- Chandler, G. N., & Hanks, S. H. (1993). Measuring the performance of emerging businesses: A validation study. *Journal of Business venturing*, 8(5), 391-408.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, 295(2), 295-336.
- Chin, W. W. (2010). How to write up and report PLS analyses *Handbook of partial least squares* (pp. 655-690): Springer.
- De Koning, A. (2003). Opportunity development: A socio-cognitive perspective. *Advances in entrepreneurship, firm emergence and growth*, 6, 265-314.
- Gharakhani, D., & Mousakhani, M. (2012). Knowledge management capabilities and SMEs' organizational performance. *Journal of Chinese Entrepreneurship*, 4(1), 35-49.
- Gorondutse, A. H., & Aliyu, M. S. (2015). Determining the effects of cost leadership and market orientation strategies on small and medium enterprise performance. *Nigerian Journal of Management Technology & Development*, 6(1).
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). A Premier on Partial Least Squares Structural Equation Modelling (PLS-SEM). United States of America.
- Hayton, J. C., & McEvoy, G. M. (2006). Competencies in practice: an interview with Hanneke C. Frese. *Human Resource Management*, 45(3), 495-500.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in international marketing*, 20(1), 277-319.
- Hoyos-Ruperto, M. D., Romaguera, J. M., Carlsson, B., & Lyytinen, K. (2013). Networking: A critical success factor for entrepreneurship. *American Journal of Management*, 13(2), 55-72.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20(2), 195-204.
- Kaur, H., & Bains, A. (2013). Understanding the concept of entrepreneur competency. *Journal of Business Management & Social Sciences Research*, 2(11), 31-33.
- Kiggundu, M. N. (2002). Entrepreneurs and entrepreneurship in Africa: What is known and what needs to be done. *Journal of developmental entrepreneurship*, 7(3), 239.
- Laguna, M., Wiechetek, M., & Talik, W. (2012). Competencies of Managers and Their Business Success. *Central European Business Review*, 1(3), 7.

- Lans, T., Verstegen, J., & Mulder, M. (2011). Analysing, pursuing and networking: Towards a validated three-factor framework for entrepreneurial competence from a small firm perspective. *International Small Business Journal*, 29(6), 695-713.
- Lazar, N., & Paul, G. (2015). Entrepreneurial competencies in a business enterprise – An overview. *International Journal of Scientific Research*, 4(1), 226-227.
- Lebas, M. J. (1995). Performance measurement and performance management. *International journal of production economics*, 41(1), 23-35.
- Lechner, C., & Gudmundsson, S. V. (2014). Entrepreneurial orientation, firm strategy and small firm performance. *International Small Business Journal*, 32(1), 36-60.
- Lerner, M., & Almor, T. (2002). Relationships among strategic capabilities and the performance of women-owned small ventures. *Journal of Small Business Management*, 40(2), 109-125.
- Lerner, M., Brush, C., & Hisrich, R. (1997). Israeli women entrepreneurs: An examination of factors affecting performance. *Journal of Business Venturing*, 12(4), 315-339.
- Lopa, N. Z., & Bose, T. K. (2014). Relationship between Entrepreneurial Competencies of SME Owners/Managers and Firm Performance: A Study on Manufacturing SMEs in Khulna City. *Journal of Entrepreneurship and Management*, 3(3).
- Mahmood, R., & Hanafi, N. (2013). Learning Orientation and Business Performance of Women-owned SMEs in Malaysia: The Mediating Effect of Competitive Advantage. *British Journal of Arts and Social Sciences*, 11(2), 150-161.
- Man, T. W. (2001). Entrepreneurial competencies and the performance of small and medium enterprises in tHong Kong services sector., Unpublished doctoral thesis, The Hong Kong Polytechnic University.
- Man, T. W., & Lau, T. (2005). The context of entrepreneurship in Hong Kong: An investigation through the patterns of entrepreneurial competencies in contrasting industrial environments. *Journal of Small Business and Enterprise Development*, 12(4), 464-481.
- Man, T. W., Lau, T., & Chan, K. (2002). The competitiveness of small and medium enterprises: A conceptualization with focus on entrepreneurial competencies. *Journal of Business Venturing*, 17(2), 123-142.
- Mayoux, L. (2001). Jobs, gender and small enterprises: getting the policy environment right, *International Labour Organization*.
- Meutia, & Ismail, T. (2012). The development of entrepreneurial social competence and business network to improve competitive advantage and business performance of small medium sized enterprises: a case study of batik industry in Indonesia. *Procedia-Social and Behavioral Sciences*, 65, 46-51.
- Mitchelmore, S., & Rowley, J. (2013). Entrepreneurial competencies of women entrepreneurs pursuing business growth. *Journal of Small Business and Enterprise Development*, 20(1), 125-142.
- Mitchelmore, S., Rowley, J., & Shiu, E. (2014). Competencies associated with growth of women-led SMEs. *Journal of Small Business and Enterprise Development*, 21(4), 588-601.
- Okpara, J. O. (2014). Business strategy and firms' performance in sub-Saharan Africa. *The Routledge Companion to Business in Africa*, 388-403.

- Oyedijo, A. (2012). Competitive strategy orientations of small and medium business owners and their performance impacts: The case of paint manufacturing SMEs in South-Western Nigeria. *Journal of Asian Business Strategy*, 2(1), 1.
- Pallant, J. (2005). *SPSS survival manual: A step by step guide to using SPSS for windows (version 12)*. New South Wales, Australia: Allen & Unwin.
- Paterson, T. A., Harms, P., Steel, P., & Credé, M. (2016). An assessment of the magnitude of effect sizes: evidence from 30 years of meta-analysis in management. *Journal of Leadership & Organizational Studies*, 23(1), 66-81.
- Pereira-Moliner, J., Font, X., Tarí, J. J., Molina-Azorin, J. F., Lopez-Gamero, M. D., & Pertusa-Ortega, E. M. (2015). The Holy Grail: Environmental management, competitive advantage and business performance in the Spanish hotel industry. *International Journal of Contemporary Hospitality Management*, 27(5), 714-738.
- Porter, M. E. (1991). Towards a dynamic theory of strategy. *Strategic management journal*, 12(S2), 95-117.
- Princess, U., Samuel, A., & Ayodotun, I. (2015). Competitive Strategy and Performance of Selected SMEs in Nigeria.
- Seabela, M., & Fatoki, O. (2014). The entrepreneurial competencies of non-business university students in South Africa. *International Journal of Educational Research*, 6(3), 375-381.
- Sheehan, M. (2013). Human resource management and performance: Evidence from small and medium-sized firms. *International Small Business Journal*, 0266242612465454.
- Sidik, I. G. (2012). Conceptual framework of factors affecting SME development: Mediating factors on the relationship of entrepreneur traits and SME performance. *Procedia Economics and Finance*, 4, 373-383.
- Small and Medium Enterprises Development Agency of Nigeria, & National Bureau of Statistics. (2013). Collaborative survey: selected findings, Nigeria.
- Teeratansirikool, L., Siengthai, S., Badir, Y., & Charoenngam, C. (2013). Competitive strategies and firm performance: The mediating role of performance measurement. *International Journal of Productivity and Performance Management*, 62(2), 168-184.
- United Nations. (2006) *Entrepreneurship and e-business development for women*. Vol. 2. United Nations Publications, Thailand (pp. 1-14).
- Umeze, G. E., & Ohen, S. B. (2015). Marketing Mix Strategies and Entrepreneurial Competence: Evidence from Micro Restaurants in Calabar Metropolis, Cross River State, Nigeria. Paper presented at the 2015 Conference, August 9-14, 2015, Milan, Italy.
- Wickramaratne, A., Kiminami, A., & Yagi, H. (2014). Entrepreneurial competencies and entrepreneurial orientation of tea manufacturing firms in Sri Lanka. *Asian Social Science*, 10(18), 50.
- Wilson, B. (2010). Using PLS to investigate interaction effects between higher order branding constructs. *Handbook of partial least squares* (pp. 621-652). Springer