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## The Analysis of Social Network on Business Performance of Women: The Mediating Role of Innovation

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### Abstract

*The study analysed the effects of Social Network (SN) on the Business Performance (BP) of women in Nigeria using Innovation (I) as a mediator in order to improve the performance of Women which at the long-run will contribute positively towards the increase of Nigeria GDP. Data required for the study was collected from the Women Micro, Small and Medium Enterprises (MSME's) operating in the North-Western Nigeria using a survey design using a systematic random and stratified disproportionate sampling. A designed questionnaire has been distributed across the target population of 576 through self-administration. In order to evaluation the proposed data, the study has adopted the PLS-SEM. The results shown that SN and Innovation are important strategic for women MSMEs performance in the North-Western Nigeria. The findings also revealed that women MSME performance depends on the degree of SN of the business performance. Innovation was found to mediate the effects between SN and business performance of women. The outcomes of this research will provide important insights to women owner and managers of MSMEs, policy makers and also the researchers to better understand the impacts of SN and I on women MSME performance. Women MSMEs should also be encouraged to improve their SN and I which may increase their performances.*

**Keywords:** Micro Small and Medium Enterprises, Business Performance of Women, Social, Network, Innovation.

### INTRODUCTION

The significance of MSMEs in impacting on the economic growth is recognized, all the over the world but their performance is unanticipated (Ibrahim & Rosli, 2016; Ali, Hilman & Gorondutse, 2017; Gorondutse, Ali, Abubakar & Naalah, 2017). The high level of unemployment and low contribution to Country's Gross Domestic Product indicate their low performance (Naala, Nordin & Omar, 2017). This bring many researchers and practitioners to given so much attention

to their significant contributions to the economic growth and the development in developed and developing countries (Gorondutse, Ibrahim, Abdullwahab, & Naalah, 2018; Naala Nordin & Omar, 2017; Naala, 2016; Eniola, 2014).

Even though women entrepreneur's performance an essential role in the economic development of their families and the countries at large, nevertheless, it has been revealed that they have lower performance in their business in contrasted to their male counterparts (Ogujiuba, Fadila & Stiegler, 2013; Abdulkadir, Umar, Garba, & Ibrahim, 2012), as such lack of education on social network affects their entrepreneurial performance (SMEDAN, 2013).

The social network is vital to entrepreneurs in starting up, and growing business as such women entrepreneur is in developing countries are lacking social connections of sourcing information on accessing the micro-finance facilities (Zali, Schott, Kordnaeji & Najafian, 2017; Ogunnaike & Kehinde, 2013). Social network with others is carried out since the majority of entrepreneurs depend on the raw materials, information, knowledge or technology, in order to efficiently perform, develop and acceptable in the societies. The social network provides a way in which significant information can be potentially attained cost-effectively. Equally, social networks are becoming popular in MSMEs as a result of the competitive advantage and ability to share resources and capabilities with other organisations by gaining economic of scale, reducing transaction costs, providing access to resources, obtain resources below the market price, identify new business opportunities, and secure legitimacy from external stakeholder (Ogunnaike & Kehinde, 2013; Stam, Arzlanian & Elfring, 2014). Therefore, the social network can increase a business capital through the provision of access to information and human capital in improving productive activities (Stam et al., 2014)

Preceding studies have showed that firm innovation performance shows a crucial role in determining the growth and competitiveness of an organisation (Chan-Kim & Mauborgne, 2005; Lindic, Bavdaz, & Kovacic, 2012) Innovation signifies the combination of technology, knowledge, and entrepreneurship in order to increase organisational productivity (Janeway, 2012). There is increasing proof from the literature review that innovation plays a very vital role in shaping the growth and competitiveness of firms in a country (Forsman & Temel, 2011; Martinez-Conesa, Soto, Acosta & Palacios-Manzano, 2017). Innovation has become a pre-requisite linked in the performance, growth and the competitive increase in profit at the same a long-term survival of the firm (Jimenez- Jimenez & Sanz-Valle, 2011; Pletcher & Mann, 2013).

Social network is vital to entrepreneurs in starting up, and growing business as such women entrepreneur in developing nations are lacking social connections of sourcing information on accessing the micro-finance facilities (Anis & Mohamed, 2012). The social network was measured and reveal to have a positive significance influence on the business performance (Anis & Mohamed, 2012; Ahmed & Saif, 2013; Surin & Wahab, 2013; Ogunnaike & Kehinde, 2013).

The current study used innovation as a mediator to examine the effects of social network on business performance of women. More so, it is very vital to note that without analysing the mediating variable, it will be very difficult to evaluate the relations between social network and business performance of women on why they effect each other and under what condition of indirect effects (Baron & Kenny, 1986; Hayes, 2009). Therefore, based on writing literature review, this study proposes to investigate if innovation mediates the effects between social

networks on business performance of women in (Kaduna, Kano and Sokoto) North-Western Nigeria.

This paper has been classified into five sections, and this section is the introduction, the literature review. The third and fourth sections are methodology of the study as well as the result and discussions, respectively. Lastly, conclusion.

## LITERATURE REVIEW

Palacios-Marques, Merigo and Soto-Acosta (2015) reviewed social network online on enabler of innovation in organisation using a sample of 197 hospitals in Spain. Questionnaire was for data gathering while structural model for data analysis. Findings revealed online social network have a significance relationship on innovation. In other hand, Davoudi, Fartash, Venera, Asiya, Rashad, Anna and Zhann (2018) examined the Relationship between Intellectual Property Rights and Organizational Performance on the Mediating Role of Open Innovation with a sample of 30 Semnan Science companies of Technology Park in Russia. Using questionnaire for data collection and Structural Equation Model for data analysis finding revealed a significant positive relationship between open innovation and organizational performance. Recommend future study to improve the study by involving other sector i.e. educational, electronic, service, manufacturing, virtual organizations.

Zhou, Zhou, Feng and Jiang (2017) explored the mediating role of innovation on the dynamic capabilities and organisation performance. A sample of 204 Chinese firms in China was selected. Data were drawn from a questionnaire and the PLS-SEM was for data analysis. Results revealed a significant effect of innovation on dynamic capabilities and organization performance. The researchers suggested that future study should expand the dimension of innovation by extending the scope of the study to various enterprises.

Al-sa'di, Abdallah and Dahiyat (2017) examined the mediating role of product and process innovation on the relationship between knowledge management and operational performance in manufacturing companies with the with a sample of 207 Jordanian companies in Amman using survey questionnaires employing the using of PLS model. The finding reveals that Knowledge Management has a positive significant impacts on the product and process innovations.

Mahmoud, Blankson, Owusu-Frimpong, Nwankwo and Trang (2016) studied the mediating role of innovation on the impact of market orientation and business performance using a sample of 28 banks in Ghana with survey data of senior managers and multiple linear regressions for data analysis. Findings showed a significance impact of innovation on market orientation and business performance was consistent. They recommended future researchers to use larger sample size.

Sharma, Davcik and Pillai (2016) investigated the influence of Research, Development expenditure and the brand equity on marketing performance the mediating role of product innovation. Using a sample of 10,282 data of Bureau van Dijk Electronic and ACNielsen Italy's report on household's financial statement of food purchase database using regression for data analysis. Findings showed Research, Development expenditure and Brand Equity have a significance positive impact on the product innovation and the marketing performance. Recommended future researchers to use moderating role of product innovation.

Lu, Zhu and Bao (2015) investigated the mediating role of innovation on the High-performance of human resource management and firm performance in China. A sample of 150

pre-survey Chinese manufacturing industries in Beijing, Changchun, Harbin, Shanghai, Shenzhen, and other cities. Data were drawn from questionnaires and the PLS-SEM for data analysis. Results revealed that innovation is positive effect on high-performance to HRM and firm performance. The researchers suggested that future study should expand the measurement of innovation. Therefore, based on the above studies, the present research have proposes to investigate the following hypotheses:

- H<sub>1</sub>: Social Network is positively related with Business performance of women in North-Western Nigeria.
- H<sub>2</sub> Innovation is positively related with Business performance of women in North-Western Nigeria.
- H<sub>3</sub> Innovation mediates the effect of Social Network (SN) and business performance of women in North-Western Nigeria.

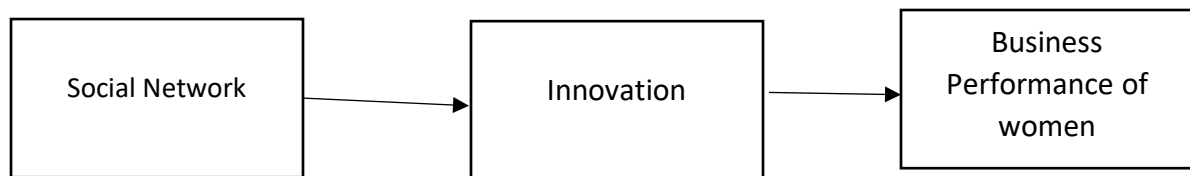


Figure 1: Research frame work

This study employed the Social network theory (SNT) and the Resource-Based Theory (RBT) for enhancing and supporting the framework. The Social Network Theory (SNT), in this context, refers to people who are inclined to reason and act in similar pattern, simply because they are networked or connected. Theory which is being frequently referred to as the Social Network Theory (SNT) suggested that those entrepreneurs facing problem regarding shortage of resources will seek to obtain resources through the networks being established with other contacts. These contacts consist of suppliers, banks, government agencies, competitors, creditors, relatives and friends (Barringer & Harrison, 2000; Premaratne, 2001). These form the basis for networks of the entrepreneurs and key components for the success of the business. Thus, application of RBT maintained that businesses could maximize profits by gaining access to a variable set of technology innovation is the ability and the strength of a business enterprise to initiate a new measure of actualizing the new products and ideas to produce which leads to outperformance on the businesses.

## METHODOLOGY

This present study examines whether innovation mediates the effects of Social Network and business performance of women MSMEs in Nigeria. The population consists of owners/managers of MSMEs in North-Western Nigeria.

Employing disproportionate random sampling to determine the amount of sample drawn from the population of MSMEs in each state, simple random technique was used to select the sample from three states namely: Kano, Kaduna and Sokoto states for which data were finally collected for analysis of this study. Questionnaire were administered to 576 owners/managers of SMEs who are registered member of Nigeria Association of Micro Small and Medium Enterprises (MSME). The distributed questionnaires, 452 (78.5%) were returned completely



answered while 428 (74.3%) were suitable for final analysis due to removal of ambiguous responses and outliers. Thereafter, data were analysed using SPSS (statistical package for social sciences) 25 and Smart-PLS SEM 3. (Hair, Hult, Ringle, & Sarstedt, 2017).

The research framework comprises of 3 variables and multiple items was used to measure each of the construct. All the latent constructs were measured with uni-dimensional and reflective items using 5-point Likert scale to score each item with (1) Agree (2) Strongly Agree. (3) Strongly Disagree (4) Disagree (5) Neither Agree/ nor Disagree The study uses seven items adopted from Suliyanto and Rahab (2012) to measure BP. Eight items were adapted from Doyle (2014) for SN and Innovation 6 items adapted from Huhtala et al. (2014) and Vorhies and Morgan (2005).

Test of common method bias was conducted because of self-administration of questionnaire as well as cross-sectional survey approach (Podsakoff, MacKenzie, Lee, & Podsakoff 2003). Additionally, Harman's single factor test was adopted to study CMV which assumes that, if the amount of CV considerably exists, either a one general factor or a single factor emerges that would account for more than half of the covariance in the independent and dependent variables (Podsakoff & Organ, 1986). All indicators in the current study were subjected to principal component factor analysis in accordance with Podsakoff and Organ (1986). Not a single factor has majority of covariance in both the independent and the dependent variables (Podsakoff, MacKenzie, & Podsakoff, 2012), suggesting the unimportance of common method bias that may likely inflate the link between the variables measured in the current study.

## RESULT AND DISCUSSION

This study conducted reliability test using values from composite reliability and the values from these measures for each of the construct has exceed the recommended figure of 0.70 (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014) as depicted in Table 1. The results indicated and confirmed that all the reliability was met. As regards the validity, item-level of discriminant which is also referred to as the cross loadings (Henseler, Ringle, & Sarstedt, 2016), indicated that item loading on the construct measurement is bigger than it loadings on other constructs in the model (Chin, 1998). The average variance extracted (AVE) for all the constructs exceeded recommended values of 0.50 as shown in Table 1, thus convergent validity was attained for this study (Fornell & Larcker, 1981; Hair et al., 2014). However, for the discriminant validity and squared root of AVEs on each variable is greater than inter-construct correlation estimates (Hair, Hult, Ringle, & Sarstedt, 2017). This is revealed in Table 2. Further confirmation of the mediation test and direct relationship after minimum values was achieved as indicated in Table 4 and 5. These indicated that all the constructs of the study attain acceptable level of (Hair, Hult, M., Ringle, & Sarstedt 2016).

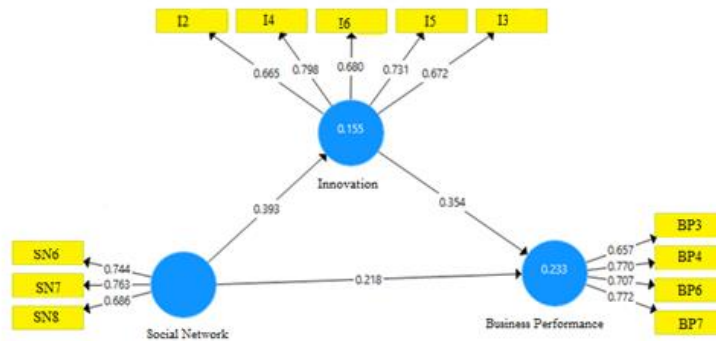


Fig. 2 PLS Algorithm

Table 1: Indicator Loadings and Internal Consistency Reliability

Variables	Indicator s	Standardized Loadings	Composite Reliability	AVE	Item(s) deleted
Business Perf.	BP3	0.657	0.818	0.530	BP1, BP2, BP5
	BP4	0.770			
	BP6	0.707			
	BP7	0.772			
Innovation .	I2	0.665	0.836	0.506	I1
	I3	0.672			
	I4	0.798			
	I5	0.731			
	I6	0.680			
Social Network	SN6	0.744	0.775	0.536	
	SN7	0.763			
	SN8	0.686			

Table 2: Discriminant Validity Fornell-Larcker Criterion

Latent Variables	BP	I	SN
BP	<b>0.728</b>		
I	0.440	<b>0.711</b>	
SN	0.357	0.393	<b>0.732</b>

Table 3 Cross Loadings

Latent Variables	Business Performance	Innovation	Social Network
BP3	<b>0.657</b>	0.218	0.194
BP4	<b>0.770</b>	0.394	0.293
BP6	<b>0.707</b>	0.238	0.265
BP7	<b>0.772</b>	0.379	0.273
I2	0.192	<b>0.665</b>	0.230
I3	0.269	<b>0.672</b>	0.299
I4	0.422	<b>0.798</b>	0.301
I5	0.364	<b>0.731</b>	0.267
I6	0.261	<b>0.680</b>	0.297
SN6	0.268	0.314	<b>0.744</b>
SN7	0.298	0.304	<b>0.763</b>
SN8	0.208	0.236	<b>0.686</b>

The result of the data analysis using Smart-PLS SEM software is shown in figure 2 and 3. This paper measured the level of the R-squared values and the PLS-SEM was based on predictive relevance of the model with the result of 23.3% and 15.5% of the total variance as explained on independent variable to dependent construct and independent variable to mediator respectively. This suggests that the SN explained 23.3% of the variance in SMEs performance. Cohen (1988) Classified three categories of R-square, 0.02 weak, 0.13 moderate and 0.26, substantial thus based on the R-squared of this study it moderate.

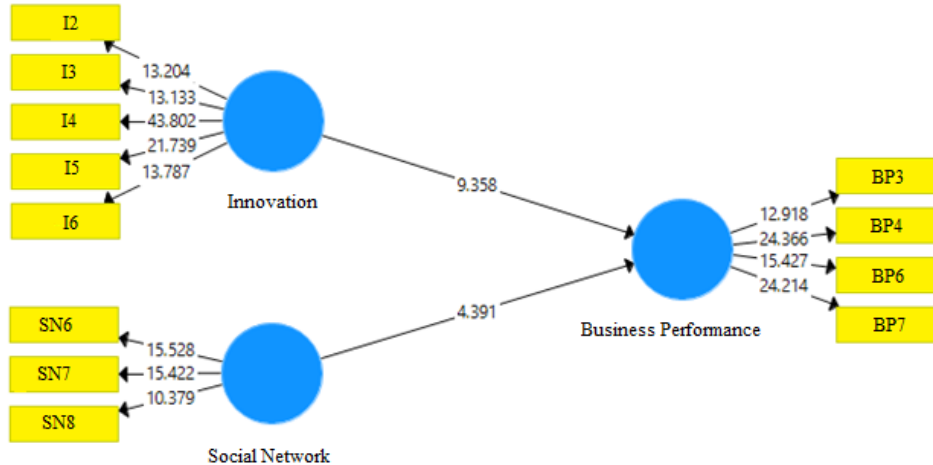


Figure 3: Direct Relationship between the variables.

The testing of hypotheses was conducted using Smart-PLS SEM software to determine the direct relationship and the interaction effect (H1 – H3). Statistical model for direct relationship displays the links between SN, I independent latent variables and Business Performance of women



dependent latent variable as shown in figure 3. Table 4 illustrates the outcomes of the direct relationship between independent variable and dependent variable.

Table 4: Hypotheses Testing of Direct Relationship

Hypothesis	Path	Beta	STDEV	t-value	p-value	Remarks
H <sub>1</sub>	<b>SN -&gt; BP</b>	0.362	0.039	9.358	0.000	Accepted
H <sub>2</sub>	<b>I -&gt; BP</b>	0.216	0.049	4.391	0.000	Accepted

The findings as shown in Table 4 revealed that the influence of SN on business performance which is positive and significant with beta value ( $\beta = 0.362$ ) and t value ( $t = 9.358$ ), thus in support of H<sub>1</sub> as hypothesized in the study. The finding confirms the results of the research of the previous studies such as (Ogunnaiké & Kehinde, 2013; Surin & Wahab, 2013; Zaglia, 2015). Similarly, the direct link between innovation and business performance was also tested and the findings shows a positive significant effect between Innovation and Business performance as hypothesized with H<sub>3</sub> ( $\beta = 0.216$ ) and t value ( $t = 4.391$ ). SN assists an organisation or those entrepreneurs facing problem regarding shortage of resources to seek and obtain resources through the networks being established with other contacts. These contacts consist of suppliers, banks, government agencies, competitors, creditors, relatives and friends.

The result shows majority of the respondents are from the micro and small organisations. Women owner/managers are not investing high because of the financial constraint. The findings show that entrepreneurs network with family, friends, relatives, government and business associate are more likely to perform better. This is not suppressing by looking at the way people of Nigeria most especially in Kaduna, Kano and Sokoto State in the North-Western use their networks in achieving their objectives.

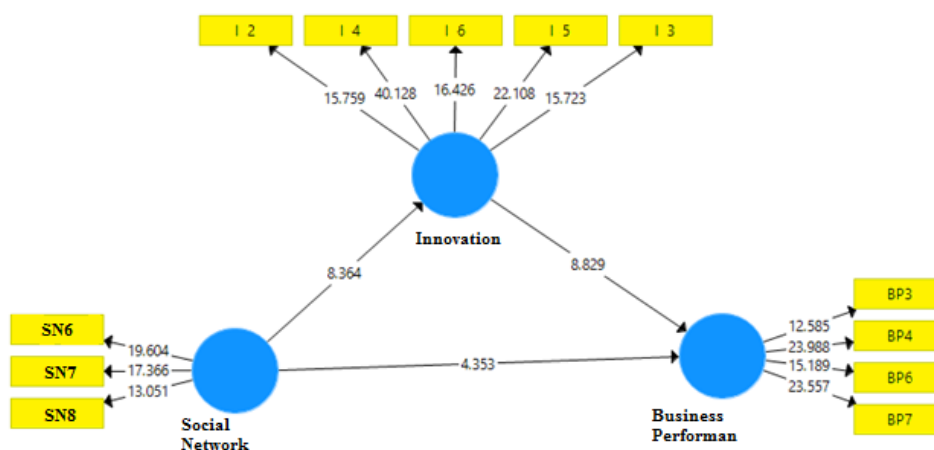


Fig. 3: Mediating effect

Table 5: illustrate Summary of the Mediating relationship

Hypothesis	Path	Beta	STDEV	t-value	p-value	Remarks
H <sub>3</sub>	SN -> I -> BP	0.139	0.143	5.881	0.000	Accepted

The structural model showing the mediating effects of innovation on the relationship between SN and BP of women was illustrated in figure 3. Table 5 explain the indirect relationship between SN and Innovation with a significant positive influence ( $\beta = 0.139$ ) and t value ( $t = 5.881$ ).

The effect is assumed to be mediated if independent/predictor variable has effects on the outcome variable or dependent variable through the mediating variable (Baron & Kenny, 1986). Therefore, the results show that SN has an effect on the mediating variable of innovation, and this in turn influences the dependent variable of business performance (Hair et al., 2016).

## CONCLUSIONS

In conclusion, issues of women MSMEs performance will continue to remain a significant agenda for, managers, employees of, academicians, political leaders, researchers and the community at large. It is believed that the women MSMEs performance of owner-managers, and entrepreneurs provide rich backdrop against which women business can still have room for improvement on the GDP as regards to Women MSMEs and their owner-managers, this research may contributed to the understanding of owner/managers of women MSMEs. Women MSME should emphasizes on the relations between people, instead of their characteristics. However, the strengths of relationships amongst the owner-managers comprise of the suppliers, group of friends, some customers, some government agencies, trade organizations as well as social organisations, to determine the accessible of resources. The need to enhance the business participation of women in developing countries in order to promote and maximize their contribution to economic development becomes obvious. Whether women engage in micro, small or medium production, formal or informal sectors, women entrepreneurial activities are not only a catalyst for economic growth but it play a significant and positive role within the immediate social environment. Recommend other researcher to expand the study by employee more variable.

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