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Social Networking and Women Entrepreneurial Participation in Sokoto State-North West Nigeria

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Abstract:

The study is a sectorial assessment of the influence of social networks on women entrepreneurial participation in Sokoto State. From five sectors (wholesale & retail, agriculture, education, manufacturing and processing, and hotel/restaurant/recreation) a sample of 343 women entrepreneurs were purposively selected and the multinomial logistic regression was utilized to test the study hypothesis. Findings indicate varying degrees of influence of social networks in predicting women entrepreneurial participation in the five sectors. Interestingly, social network variables i.e. Networking meeting format and whether individual attend social network meeting significantly account for women entrepreneurial participation in some key sectors, entrepreneurial capability was found to have negative influence in only one sector but other social network variables, perceived value, and free flow of social network information do not have influence on women entrepreneurial participation in all the sectors examined. It follows that to enhance entrepreneurial participation among women policy makers should redirect enterprise support to social networking associations to facilitate optimal production and economic development.

Keywords: Women, entrepreneurial participation, social networks, Sokoto state

1. Introduction

A sizeable amount of literature exists on the influence of socio-cultural factors on women entrepreneurial participation. Although prior studies, mostly in advanced economies, have established the relationship between social networks and women entrepreneurial participation, very few have particularly shown how these socio-cultural factors influence women entrepreneurial participation in developing countries such as Nigeria especially Sokoto State in particular. Minniti (2010) finds that a positive and significant correlation exist between knowledge of another entrepreneur through social network and a person's involvement in starting or even developing an existing enterprise. Considering, social networks as critical to entrepreneurship, details regarding the value gained by peer interaction and the structure and efficacy of social capital benefits in different business sectors remain relatively unexplored (Lonier & Matthews, 2005). Moreover, as observed by Petro, Annastazia and Robert (2014), prior studies focus on establishing how socio-cultural factors affect women entrepreneurial behaviour, without specifically investigating variations of the impact of social networks on women entrepreneurial participation in different sectors. It is against this background that the present study undertakes a sectorial analysis of the influence of social networks on women entrepreneurial participation in five sectors (wholesale & retail, agriculture, education, manufacturing & processing, and hotel/restaurant/recreation) in Sokoto State.

To achieve this, this article is structured into five sections. Section one is the foregoing brief introduction, followed by the literature review and hypotheses development in section two. in section three the methodology utilized is presented. Section four discusses the results and in section five the recommendations and conclusions are drawn.

2. Literature Review and Hypotheses Development

Social network is very important for women entrepreneurship activities as networks have a positive impact on the probability of being an entrepreneur. This is consistent with the submissions of Gatewood, Brush, Carter, Greene, and Hart, M. (2009). Sorenson, Folker, and Brigham, (2008), Rosa and Hamilton (1994) and Aldrich and Cliff (1989), Noguera (2012).

The empirical work of Zafar, Yasin & Ijaz (2015) was although not focused on women entrepreneurship the outcome of their analysis shows that social networks have a strong positive impact on entrepreneurship development. Justo, De Castro and Maydeu-Olivares (2008) also studied the indicators of entrepreneurship activity and the role of an entrepreneur's social networks. Their study provided an empirical test and validation of the general assertion that the incidence of entrepreneurial activity hinges on the structure of an individual's social network consistent with most

theoretical arguments, their results indicate that an individual's personal context significantly affects his odds of undertaking direct entrepreneurial activity and suggest that failing to consider such effect significantly understates the extent of entrepreneurship in a country. Their study was however not focused on women entrepreneurship. Dorcas (2013) found that there are significant relationships between business growth and social network. The empirical work of Ahmad and Naimat (2011) networking and women entrepreneurs found that networking is a significant determinant of women entrepreneurial participation in Pakistan.

Evidently, there is a consensus that, from entrepreneurial intention which is developed through social networks to provision of guidance and knowledge, to access to financial and moral assistance, social networks have fundamentally significant positive impact on entrepreneurship development (Ogunrinola 2011; Vossenber, 2013; Zafar, Yasin & Ijaz, 2015). Essentially, women social networks are very helpful for business growth or strong start-ups. However, Sorenson, Folker, and Brigham, (2008). submits that social networks are significantly more positively associated with success for male business owners than for female business owners. Therefore, we hypothesize that:
H₀: Social networks do not significantly influence women entrepreneurial participation.

3. Methodology

This study is a cross sectional descriptive survey research design to evaluate the influence of social-network factors on women entrepreneurial participation in five sectors (wholesale and retail, agriculture, education, manufacturing & processing, hotel & restaurant, beauty treatment, health & social work) sectors in Sokoto state of Nigeria. A total of three thousand two hundred and twenty (3220) registered women-owned enterprises in five activity sectors, namely, wholesale & retail, agriculture, education, manufacturing & processing, and hotel/restaurant, beauty treatment, health & social work constitute the population of the study (SMEDAN). Of this number 1,169 operates in the wholesale and retail sector, while 1003 operate in the agriculture sector. The handicraft/services sector has a total of 584 women-owned enterprises, while the manufacturing/processing sector has a total of 444 women-owned enterprises. The education sector is the lowest with a total of 20 registered women-owned schools in Sokoto State (SMEDAN). The women-owned enterprises are spread across the 23 LGAs of the State (Sokoto East, Sokoto North and Sokoto South senatorial districts). To determine the number of firms to be selected (Krejcie and Morgan, 1970) sampling approach for calculating sample size for a finite (known) population was used to arrive at the total sample size required for the study. At 95% confidence level (with a Z-value of 1.96) and a 5% margin of error is assumed for the computation of the sample size which is a reliable statistical standardisation in consonance with the work of Krejcie and Morgan. The total sample size of the study therefore is 343 while the population size is 3220. Therefore, to arrive at the most representative sample of firms and elements to be approached with the research instrument, stratified, proportionate and purposive sampling procedure was adopted. This is justified by considering the heterogeneity of the population. Stratified random sampling technique was used to draw representative sample of firms from each of the five sectors and across all twenty-three (23) LGAs in the State.

A multinomial logistic regression was conducted to investigate whether social network (independent variable) predict women entrepreneurial participation (dependent variable), in five categorical levels. The overall model significance for the multinomial logistic regression was examined by the collective effect of the independent variable, presented with a Chi square (χ^2) coefficient. The Nagelkerke R² and Cox and Snell statistics were used to assess the variability accounted for on the dependent variable by the independent predictor variable. Individual predictors were assessed by the Wald coefficient. Predicted probabilities of an event occurring were determined by the Exp (B). For significant predictors, an Exp (B) greater than one indicates that given a one-unit increase in the independent variable, the dependent variable will be X times more likely to be coded 1 or fall into the comparison category. Significant predictors with an Exp (B) less than 1 will be evaluated by 1/Exp (B), meaning that a one-unit increase in the independent variable will be X times more likely to be coded 0 or fall into the reference category. A total of five multinomial logistic regression models were designed however, only 4 models (i.e.k-1) were estimated, using the agriculture sector as the reference category, to determine the extent to which social networks influence women entrepreneurial participation in the five different sectors, the following models are drawn:

$$\text{Ln Pr (WR/Ref. Agriculture.)} = a_0 + \beta_1\text{NMF}_i + \beta_2\text{PV} + \beta_3\text{EC} + \beta_4\text{ASNM} + \beta_5\text{FFS} + e \dots\dots\dots (1)$$

$$\text{Ln Pr (Edu/Ref. Agriculture.)} = a_0 + \beta_1\text{NMF}_i + \beta_2\text{PV} + \beta_3\text{EC} + \beta_4\text{ASNM} + \beta_5\text{FFS} + e \dots\dots\dots (2)$$

$$\text{Ln Pr (HRB/Ref. Agriculture.)} = a_0 + \beta_1\text{NMF}_i + \beta_2\text{PV} + \beta_3\text{EC} + \beta_4\text{ASNM} + \beta_5\text{FFS} + e \dots\dots\dots (3)$$

$$\text{Ln Pr (MP/Ref. Agriculture.)} = a_0 + \beta_1\text{NMF}_i + \beta_2\text{PV} + \beta_3\text{EC} + \beta_4\text{ASNM} + \beta_5\text{FFS} + e \dots\dots\dots (4)$$

$$\text{Ln Pr (Agric/Ref. Agriculture.)} = a_0 + \beta_1\text{NMF}_i + \beta_2\text{PV} + \beta_3\text{EC} + \beta_4\text{ASNM} + \beta_5\text{FFS} + e \dots\dots\dots (5)$$

Where;

WR; EDU; HRB; MP; AGRIC = The Five Sectors/Dependent Variable

NMF =Networking meeting format

PV = Perceived value

FFS= free flow of social network information

EC = Entrepreneurial capability

ASNM =Attend Social network meeting

B_i (i=1,2,3,4,5) =Coefficients of Independent variables

e = Error term

Ln Pr =Probability of dependent variable

The above equations explain the extent to which social networks motivate women to participate in entrepreneurial activities in the five different sectors.

3.1. Measurement of Variables

3.1.1. Dependent Variable (Women Entrepreneurship Participation)

The dependent variable is women entrepreneurship in five different sectors, namely wholesale and retail, agriculture, education, manufacturing & processing, hotel, restaurant, beauty treatment, health & social work sectors. Following the Global Entrepreneurship Monitor (GEM) (2010) project, women entrepreneurship in the different sectors was measured by the number of women-owned businesses in the various sectors in Sokoto State. The registered number of women entrepreneurs for each sector was obtained from records available at the Small Medium Enterprises Development Agency of Nigeria (SMEDAN) reports in Sokoto State. With 343 women entrepreneurs selected for the survey, women entrepreneurship is dummy-coded into the five categorical sectors examined in this work. This allows for women entrepreneurship and demographic characteristics to be measured across all the sectors. This is in consonance with Urbano, Ferri and Noguera (2014).

3.2. Independent Variables

Carnegie defined social network as an "alliance of two or more minds blended in spirit of perfect harmony and co-operating for the attainment of a definite purpose. Following the work of Lonier and Charles (2005) and using a 5-point Likert scale of 1-5, social networks will be measured based on the following variables, viz. networking meeting formats, perceived value of business networking, entrepreneurial capability, free flow of social network information and participation level.

4. Results and Discussion

Table 1 returns a chi square value, $\chi^2 (20) = 61.307$, $p=0.013 < 0.05$ confirming that the overall model was tested and goodness of fit of the model is high. Impliedly, NMF= Networking meeting format, PV= Perceived value, FFS= free flow of social network information, ASNM =Attend Social network meeting, EC= Entrepreneurial capability) have a combined significant effect on the likelihood of influencing women entrepreneurship participation in the five sectoral categories of wholesale & retail, agriculture, education, manufacturing/processing, as well as hotel/restaurant & beauty treatment. Therefore, a positive relationship between the independent and the dependent variables is supported and the results found are valid. Table 2 also reports that there is an above 40% pooled effect of the independent variables (NMF=Networking meeting format, PV= Perceived value, FFS= free flow of social network information, ASNM =Attend Social network meeting, EC= Entrepreneurial capability) as predictors in the model for prediction of women entrepreneurial participation.

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	659.367			
Final	561.007	98.360	20	.000

Table 1: Model Fitting Information of Relationship between the Dependent Variable and Independent Variable

Cox and Snell	.249
Nagelkerke	.267
McFadden	.106

Table 2: Results of Pseudo R-Square

The chi-square results (d. f=4, N=342) =98.360, Nagelkerke $R^2=0.267$, $P<0.05$ revealed that the predictors have significantly improved the fit between the model and data.

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	581.046	20.038	4	.000
ASNM	584.812	23.805	4	.000*
PV	562.104	1.096	4	.895
FFS	564.050	3.042	4	.551
NMF	568.306	7.299	4	.121
EC	574.411	13.404	4	.009*

Table 3: Likelihood Ratio Tests

Note: * $P<0.05$, Nmf=Networking Meeting Format, Pv=Perceived Value, Ec=Entrepreneurial Capability Ffs= Free Flow of Social Network Information, Asnm =Attend Social Network Meeting

Table 3 shows the result of goodness of fit of the model and statistical significance of each predictor's contribution in the multinomial logistic regression model. The chi-square results 20.038 (P value of $0.000 < 0.05$), 23.805 (P value of $0.000 < 0.05$) and 13.404 (P $0.009 < 0.05$) for intercept, ASNM and EC respectively revealed that the predictors (Attend

Social network meeting, entrepreneurial capability) are significant in the prediction of women entrepreneurial participation in, whole sale and retail, agriculture, education, services and manufacturing and processing sectors, while NMF, PV and FFS have less or non-significant impact.

Observed	Predicted					
	W/R	AGRIC	EDU	HRB	M/P	Percent Correct
W/R	90	31	0	0	0	74.4%
AGRIC	23	85	0	0	0	78.7%
EDU	1	1	0	0	0	0.0%
HRB	44	12	0	0	0	0.0%
M/P	40	16	0	0	0	0.0%
Overall Percentage	57.7	42.3	0.0	0.0	0.0	51.0

Table 4: Classification Table

Table 4 shows the percentage of correct classification of women entrepreneurial participation in wholesale and retail, education, services and manufacturing and processing sectors. The result revealed that the model obtained has 51.0% of correct classification. This implies that the NMF (Networking meeting format), PV (Perceived value), FFS (free flow of social network information), ASNM (Attend Social network meeting) and EC (Entrepreneurial capability) are strongly related to women entrepreneurial preference of whole sale and retail, education, Manufacturing/Processing and Services sectors relative to agriculture sector and the model has higher goodness of fit.

SECTOR ^a		B	Std. Error	Wald	df	Sig.	Exp(B)
W/R	Intercept	-1.320	.667	3.913	1	.048*	
	ASNM	.925	.233	15.746	1	.000*	2.523
	PV	-.014	.256	.003	1	.957	.986
	FFS	-.014	.189	.005	1	.941	.986
	NMF	.283	.125	5.108	1	.024*	1.327
	EC	-.395	.133	8.785	1	.003*	.674
EDU	Intercept	-8.991	4.854	3.432	1	.064**	
	ASNM	1.590	.848	3.519	1	.061**	4.904
	PV	-.008	.803	.000	1	.992	.992
	FFS	-1.122	1.180	.906	1	.341	.325
	NMF	-.166	.741	.050	1	.822	.847
	EC	1.226	.889	1.899	1	.168	3.406
HRB	Intercept	-2.725	.815	11.177	1	.001*	
	ASNM	1.025	.289	12.547	1	.000*	2.787
	PV	.185	.311	.353	1	.553	1.203
	FFS	-.250	.244	1.055	1	.304	.779
	NMF	.300	.150	3.989	1	.046*	1.350
	EC	-.243	.159	2.339	1	.126	.784
M/P	Intercept	-2.629	.808	10.590	1	.001*	
	ASNM	.836	.284	8.673	1	.003*	2.308
	PV	.224	.305	.538	1	.463	1.250
	FFS	-.261	.235	1.241	1	.265	.770
	NMF	.320	.148	4.679	1	.031*	1.378
	EC	-.143	.152	.892	1	.345	.867

Table 5: Multinomial Logistic Regression of Social Network Factors on Women Entrepreneurial Participation

Note: *P<0.05, **P<0.10, NMF=Networking Meeting Format, PV= Perceived Value, FFS= Free Flow of Social Network Information, ASNM =Attend Social Network Meeting EC= Entrepreneurial Capability

Table 5 shows the coefficients of multinomial logistic regression of NMF=Networking meeting format, PV= Perceived value, FFS= free flow of social network information, ASNM =Attend Social network meeting, EC= Entrepreneurial capability of women entrepreneurial participation in whole sale and retail, education, Manufacturing/Processing and Services sectors using agriculture sector as reference categories. These results are reported as follows;

4.1. Social Networks and Women Entrepreneurial Participation

Based on the result of analysis shown in Table 5 for women entrepreneurship participation in the wholesale and retail relative to women entrepreneurship participation in agriculture sector, the Wald test statistic for the predictor, if individual attend social network meeting (ASNM) is 15.746 with an associated P value of 0.001 < 0.05. At 5% level of

significance. Additionally, the regression coefficient was found to be statistically different from zero, given that all other variables are in the model, with a B value of 0.925. This is consistent with the strong argument put forward by Zafar, Yasin & Ijaz (2015) on how social network connections and structure facilitate the flow of information and create the mutual trust and cooperation needed for entrepreneurship development. Thus, the findings of this study provide sufficient empirical evidence to confirm that ASN significantly influence women entrepreneurial participation in the wholesale and retail sub-sector in Sokoto State. On another note, as evidenced by the value of $\text{Exp}(B) = 2.523 > 1$, with a unit increase in the ASN, a female entrepreneur increases her desire for entrepreneurship in wholesale and retail-business than agriculture. In other words, an increase in ASN; women will prefer to participate in wholesale and retail-business rather than agriculture. In this sense, Buttner and Moore (1997) in Kyalo & Kiganane (2014), established that social networks have an influence on the choice of sectors enterprises are started.

The results in table 5 reveal the extent to which social network (SN) variables affects women entrepreneurial participation in the Wholesale/Retail, Services, Education, Manufacturing and processing sectors in Sokoto State. The Wald test statistic for the predictor perceived value (PV) are 0.003 with an associated P-value of $0.957 > 0.05$, and 0.000 with an associated P-value of $0.992 > 0.05$, for HRB is 0.353 also with an associated P-value of $0.553 > 0.05$ and for manufacturing and processing is 0.538 with an associated P-value of $0.463 > 0.05$. At 5% level of significance. The regression coefficient has not been found to be statistically different from zero. This provide sufficient evidence to infer that PV has no significance influence on women entrepreneurial participation in all the sectors examined in Sokoto State.

Based on the results in Table 5, the extent to which social network (SN) variables affects women entrepreneurial participation in the Wholesale/Retail, Services, Education, Manufacturing and Processing sector in Sokoto State was determined. The Wald test statistic for the predictor free flow of social network information (FFS) are 0.005 with an associated P-Value of $0.941 > 0.05$, and for Education is 0.906 with an associated P-Value of $0.341 > 0.05$, for HRB is 1.005 with an associated P-Value of $0.304 > 0.05$, then for manufacturing and processing the Wald test statistic is 1.241 with an associated P-Value of $0.265 > 0.05$. At 5% level of significance. The regression coefficient has not been found to be statistically different from zero. This provide sufficient evidence to say that FFS has no significance influence on women entrepreneurial participation in all the sectors examined in Sokoto State.

The results in table 5 reveal the extent to which SN variables affects women entrepreneurial participation in the wholesale and retail subsectors in Sokoto State. The Wald test statistic for the predictor networking meeting format (NMF) is 5.108 with an associated P value of $0.024 < 0.05$. At 5% level of significance. The regression coefficient has been found to be statistically different from zero given that all other variables are in the model. Additionally, with a B value of 0.283. This means there is sufficient evidence to say that networking meeting format (NMF) has a significant influence on women entrepreneurial participation (WEP) in the wholesale and retail subsector. The result is in conformity with the findings of Ahmad and Naimat (2011). Who posited that networking is a significant determinant of women entrepreneurial participation in Pakistan. Therefore, if a woman entrepreneur increases her networking meeting format (NMF) influence score by one point the multinomial log odd of preferring entrepreneurship in the wholesale and retail subsector would be expected to increase by 0.283 unit while holding all other variables in the model constant. Based on $\text{EXP}(B)$ value of $1.327 > 1$ women entrepreneur will prefer to participate in wholesale and retail -business rather than in the Agric sector. The results in table 5 further show the extent to which social network (SN) variables affect women entrepreneurial participation in the wholesale and retail subsector. The Wald test statistic for the predictor entrepreneurial participation (EC) is 8.785 with an associated P value of $0.003 < 0.05$. The regression coefficient has been found to be statistically different from zero. This provide sufficient evidence to say that EC has significant influence on women entrepreneurial participation in wholesale and retail sector. This is in line with the findings of Tafadzwa & Olawale (2013) who conducted an extensive empirical investigation on the relationship between entrepreneurial development (SMEs) in South Africa using regression analysis and found that that there is a statistically significant association between entrepreneurship and networking. Additionally, with a B value of -0.395 if a woman entrepreneur increases her EC influence score by one point, she would prefer entrepreneurship in Agric rather than wholesale and retail sector. Based on the $\text{EXP}(B)$ value of $0.674 < 1$, the relative risk of being in wholesale and retail sector would be 0.674 less likely when other variables in the model are held constant. In other words, an increase in EC score; women entrepreneurship will prefer to participate in Agric-business rather than in wholesale and retail sector.

The results in table 5 reveal the extent to which social network (SN) variables affects women entrepreneurial participation (WEP) in the 5 selected subsectors in Sokoto State in the Education sector. The Wald test statistic for whether individual attend social network meeting (ASN) is 3.519 with an associated P-Value of $0.061 > 0.05$. At 10% level of significance. The regression coefficient has been found to be statistically different from zero. This provides sufficient evidence to infer that ASN has significance influence on women entrepreneurial participation in the education sector. This is in consonance with the work of Dorcas (2013) who found that there are significant relationships between business growth and social network. Additionally, with a B value of 1.590 the multinomial log odds of preferring entrepreneurship in the education sector would be expected to increase by 1.590 (15%) unit while holding all other variables in the model constant. As evidenced by $\text{EXP}(B)$ value of $4.904 > 1$, the relative risk of being in the education sector would be 4.904 times more likely keeping other variables constant. Therefore, if a woman entrepreneur increases her ASN influence score by one point she would prefer entrepreneurship in education rather than Agriculture sector. In other words, an increase in ASN, women entrepreneurship will prefer to participate in Education rather than Agricultural sector.

On the contrary, the Wald test statistic for the predictor networking meeting format (NMF) is 0.050 with an associated P value of $0.822 > 0.05$. At the 5% level of significance. The regression coefficient has not been found to be

statistically different from zero. The table also reports that, NMF returned no significant influence on women entrepreneurial participation in the education sector. Impliedly, there is no sufficient evidence to say that NMF has a significant influence on women entrepreneurial participation in the education sub-sector.

Based on the results of analysis shown in Table 5 for women entrepreneurial participation in Education relative to Agriculture sector. The Wald test statistic for entrepreneurial capability (EC) is 1.899 with an associated P-Value of 0.168 > 0.05. At 5% level of significance. The regression coefficient has not been found to be statistically different from zero. This provide sufficient evidence to infer that EC has no significance influence on women entrepreneurial participation in education sector.

The results in table 5 reveal the extent to which social network (SN) variables affects women entrepreneurial participation in the 5 selected subsectors in Sokoto State in the HRB sector. The Wald test statistic for whether individual attend social network meeting (ASNM) is 12.547 with an associated P-Value of 0.001 < 0.05. At 5% level of significance. The regression coefficient has been found to be statistically different from zero. This provides sufficient evidence to infer that ASNM has a significance influence on women entrepreneurial participation in HRB sector. This is in consonance with Justo, De Castro and Maydeu-Olivares (2008) who studied the indicators of entrepreneurship activity and the role of an entrepreneur's social networks, their study provided an empirical test and validation of the general assertion that the incidence of entrepreneurial activity hinges on the structure of an individual's social network consistent with most theoretical arguments, their results indicate that an individual's personal context significantly affects his odds of undertaking direct entrepreneurial activity and suggest that failing to consider such effect significantly understates the extent of entrepreneurship in a country. Their study was however not focused on women entrepreneurship. Additionally, with a B value of 1.025 the multinomial log odds of preferring entrepreneurship in the HRB sector would be expected to increase by 1.025 (10%) unit while holding all other variables in the model constant. As evidenced by EXP(B) value of 2.787 >1, the relative risk of being in the HRB sector would be 2.787 times more likely keeping other variables constant. Hence, if a woman entrepreneur increases her ASNM influence score by one point she would prefer entrepreneurship in HRB rather than Agriculture sector. In other words, an increase in ASNM, women entrepreneurship will prefer to participate in HRB rather than Agricultural sector.

The results in table 5 further shows the extent to which social network (SN) variables affects women entrepreneurial participation in the 5 selected subsectors in Sokoto State in the HRB sector. The Wald test statistic for social networking meeting format (NMF) is 3.989 with an associated P-Value of 0.046 < 0.05. At 5% level of significance. The regression coefficient has been found to be statistically different from zero. This provides sufficient evidence to infer that NMF has significance influence on women entrepreneurial participation in HRB sector. This is in consonance with the work of Minniti (2010) who found that a positive and significant correlation exist between knowledge of another entrepreneur through social network and a person's involvement in starting or even developing an existing enterprise. Also, with a B Value of 0.300 if a woman entrepreneur increases her NMF influence score by one point she would prefer entrepreneurship in the HRB rather than Agric sector. Based on the EXP(B) value of 1.350 >1, the relative risk of being in HRB would be more likely when other variables in the model are held constant. In other words, an increase in NMF score, women entrepreneurship will prefer to participate in HRB business rather than Agricultural sector.

For women entrepreneurial participation in HRB relative to women entrepreneurial participation in agriculture as displayed in table 5. The Wald test statistic for the predictor entrepreneurial capability (EC) is 2.339 with an associated P-value of 0.126 > 0.05. At 5% level of significance. The regression coefficient has not been found to be statistically different from zero. This provide sufficient evidence to infer that EC has no significance influence on women entrepreneurial participation in the HRB sector.

The results in table 5 reveal the extent to which social network (SN) variable affects women entrepreneurial participation in the Manufacturing and processing sector in Sokoto State. The Wald test statistic for the predictor ASNM if individual attend social network meeting is 8.673 with an associated P-value of 0.003 < 0.05. At 5% level of significance. Additionally, the regression coefficient has been found to be statistically different from zero, given that all other variables are in the model. Additionally, with a B value of 0.836. This is consistent with the submissions of Gatewood, Brush, Carter, Greene, and Hart, M. (2009). Sorenson, Folker, and Brigham, (2008), Rosa and Hamilton (1994) and Aldrich and Cliff (1989), Noguera (2012). Who found that social network has a positive impact on the probability of being an entrepreneur. This provide sufficient evidence to infer that ASNM has significance influence on women entrepreneurial participation in Manufacturing and processing sector. On another note, as evidenced by the value of EXP(B) =2.308>1, with a unit increase in the ASNM factor, a female entrepreneur increases her desire for entrepreneurship in the Manufacturing and processing business rather than Agriculture. Therefore, an increase in ASNM, women will prefer entrepreneurship in Manufacturing and processing rather than Agriculture sector.

The extent of the relationship between social network (SN) variables and women entrepreneurial participation in the Manufacturing and processing relative to agriculture sector was determined from the results of multinomial logistic regression analysis presented in table 5. The Wald test statistic for networking meeting format (NMF) is 4.679 with an associated P-value of 0.031 < 0.05. At 5% level of significance. The regression coefficient has been found to be statistically different from zero given that all other variables are in the model. Additionally, with a B value of 0.320. This provide sufficient evidence to infer that networking meeting format (NMF) has a significant influence on women entrepreneurial participation in the Manufacturing and processing sector. The result is in conformity with the findings of Ahmad and Naimat (2011) who posited that networking is a significant determinant of women entrepreneurial participation in Pakistan. Therefore, if a woman entrepreneur increases her NMF influence score by one point the log odd of preferring entrepreneurship in the Manufacturing and processing sector would be expected to increase by 0.320 while holding all

other variables in the model constant. Based on EXP(B) value of 1.378 >1 women entrepreneur will prefer entrepreneurship in the Manufacturing and processing rather than Agriculture sector.

The results in table 5 further shows the extent to which social network (SN) variables affects women entrepreneurial participation in the Manufacturing and processing sector in Sokoto State. The Wald test statistic for entrepreneurial capability (EC) is 0.892 with an associated P-value of 0.345 > 0.05. At 5% level of significance. The regression coefficient has not been found to be statistically different from zero. Impliedly EC has no significance influence on women entrepreneurial participation in Manufacturing and processing sector. This provides sufficient evidence to infer that EC has no significance influence on women entrepreneurial participation in the Manufacturing and processing sector.

5. Conclusion

Based on the findings, the research concludes that social network variables, (ASNM), Attend social networking meeting, perceived value (PV), free flow of social network information (FFS), networking meeting format (NMF), and entrepreneurial capability (EC) jointly predict women entrepreneurial participation, only ASNM and NMF are significant determinants of women entrepreneurial participation in all the sectors examined in Sokoto State. The research concludes that ASNM, NMF, and EC are significant determinant of women entrepreneurial participation in the wholesale and retail sector. ASNM and NMF were found to be positive for women entrepreneurship participation in the wholesale and retail relative to Agriculture, but EC was found to be negative for women entrepreneurial participation in the wholesale and retail relative to Agriculture. FFS and PV have no significant influence on women entrepreneurial participation in the same sector. It was found that only ASNM is a significant determinants of women entrepreneurial participation in the Education relative to Agric sector. ASNM was found to be positive for women entrepreneurial participation in the Education sector, but PV, FFS, NMF and EC have no significant influence on women entrepreneurial participation in the Education relative to Agric sector.

Investigating how social network factors affect women entrepreneurial participation in the HRB sector. ASNM and NMF were found to be positive for women entrepreneurial participation in the HRB sector, but FFS, PV, and EC have no significant influence on women entrepreneurial participation in the HRB relative to Agric sector. Evaluating the extent to which social network factors influence women entrepreneurial participation in the manufacturing and processing sector ASNM and NMF were found to be positive for women entrepreneurial participation in the manufacturing and processing, but FFS, PV, and EC have no significant influence on women entrepreneurial participation in the manufacturing and processing sector.

The findings demonstrated sufficient evidence to infer that ASNM and NMF with exception of other factors are significant determinant of women entrepreneurial participation in all the sectors examined. The study further confirms that all the significant predictors have positive relationship with women entrepreneurial participation except EC that has negative influence on women entrepreneurial participation in the Wholesale and retail Sector in Sokoto State. The study concludes that women entrepreneurial participation is greater among those women who attend social networking meeting. The present study reveals that ASNM and NMF have been accepted as a distinguishing factor among women entrepreneurs.

6. Recommendations

Based on the findings of this research, the following recommendations are presented.

- Since ASNM has been found to significantly predict women entrepreneurial participation in all the sectors examined. (wholesale and retail, services, manufacturing and processing and Services relative to agriculture). Hence, government should encourage women entrepreneurs to put more effort to attend social networking meeting, which will enable them to get adequate information about new business opportunities and to achieve the stability and growth potential, for the development of Sokoto State economy.
- Additionally, NMF (networking meeting format) was found to significantly influence women entrepreneurial participation in some key sectors. Therefore, policy maker and all stakeholders should foster and support social networking associations to facilitate entrepreneurial activities of women in these sectors for the development of Sokoto State economy. Social network does not only facilitate exchange of ideas, information and contacts, but also through social networks, women are more likely to recognise and pursue better entrepreneurial opportunities that will enhance economic development in Sokoto State.
- Entrepreneurial capability EC was found to have a negative influence on women entrepreneurial participation in the wholesale and retail sector, women entrepreneurs should be sensitised about the importance of social networking association as this will enhance the capacities or skills they lack.

7. Limitations of the Study

Survey research design was employed in the work. The outcome of the study is therefore limited by the degree to which the respondents were honest and without bias in completing the questionnaire. Secondly, this research also focused on women entrepreneurship participation in Sokoto State. It therefore failed to examine or compare the male entrepreneurial conditions even though the male entrepreneurs might face more or less or just about the same constraints.

8. Suggestions for Further Research

The study used cross-sectional data which does not give room for measurement of changes in the significance of determinants of women entrepreneurship. It is therefore suggested that a longitudinal study on women entrepreneurship in northern Nigeria be carried out so that information on women entrepreneurship over a longer period of time will be collected in order to examine the significance and effect of changes in determinants. A regional study should be conducted to provide a better understanding of urban and rural peculiarities in the study of social network and women entrepreneurship participation in Sokoto State, as determinants of women entrepreneurship might differ between urban and rural regions.

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