

## Understanding the Relationship among Social Entrepreneurship, Management performance, and Social Performance: The Case of Nigeria\*

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### Abstract

The purpose of this study is to analyze the relationship between the entrepreneurship of social enterprises in Nigeria and their economic and social performance, and to suggest a plan for Nigerian social enterprises to be sustainable. In order to analyze the data collected in this study, frequency analysis, reliability analysis, exploratory factor analysis, correlation analysis were conducted using SPSS 21.0 and a structural equation model analysis were conducted using AMOS 21.0. The study verified whether the four variables such as social value orientation, innovativeness, risk-taking, and proactiveness of social entrepreneurship affected the business performance and social performance of social enterprises by conducting a survey on the overall perception of social enterprises in Nigeria. Moreover, it was confirmed whether the economic performance of social enterprises affected social performance. Social entrepreneurs have the purpose of social return to the business performance of social enterprises, but they seem less inclined to take risks because they prioritize stable corporate operations. Therefore, to secure corporate sustainability, entrepreneurship that can secure boldness in the market environment is needed, and social entrepreneurship education can be used as a resource for Korean exchange in social enterprises.

※ Key Words: Social enterprise, Social entrepreneurship, Management performance, Social performance

\* This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2021S1A5B8096026).

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## I. Introduction

Recently, as social problems such as the increase of the unemployment rate, widening the gap between the rich and the poor, and deterioration of environment through pollution are intensified, the international society is increasingly interested in the role of social enterprises to address social problems. A social enterprise that pursues both social and economic values is attracting attention as an alternative economic approach to solving the distortion of economic growth in the neoliberal era (Olaleye et al., 2001). Many studies on social enterprises are being conducted. There are some studies, dealing with primary notions, are the current trend analysis of social enterprises in Europe (Defourny and Nyssen, 2008), the institutional analysis of social enterprises in the international community (Galera and Borzaga, 2009), and the concept of social enterprises (Vidovic, 2023; Hynes, 2009), etc. In Korea, there are studies on the role and needs of social enterprises and sustainability of social enterprises (Baek, et al., 2015; Lee and Kim, 2023; Lee, 2022).

Moreover, research has been conducted on the role and necessity of social enterprises in developing countries, and Nigeria, which has the largest economy in Africa, also focuses on the role of social enterprise and declared social enterprises policies, resulting in rapid

quantitative growth. Industry and economy in Nigeria were concentrated on oil resources due to the development of the oil industry in the 1960s and the industrial structure was formed around the oil industry. In 1980, Nigeria was the eighth-largest oil producer in the world, and the growth of the oil industry had a positive impact on the economic environment, including economic growth and improving the standard of living. However, as a result of the decline in global oil prices in 2014, Nigeria faced with difficulties in securing national revenues. In particular, Nigeria experienced its economic recession which brought about political and social crises. The Nigerian government did not only need to revitalize the economy but also switched to an industrial structure. The government focused on the concept of the social economy to revitalize its economy and change the industrial structure. Social enterprise in Nigeria was given the responsibility to solve the problems in the political, social, and economic sectors. The government declared a new policy that could create an environment for sustainable growth of the social economy to change the government-led economic system and dependent structure on the oil industry. The policy also promoted civil society to participate the economic activity (Shido-Ikwu, 2017).

The institutional foundation for creating an environment of the social economy sector in Nigeria is based on the Standard Organization

of Nigeria Act in 2015. The Nigerian government established the Small and Medium Enterprise Development Agency of Nigeria (SMEDAN), SMEDAN announced policies to expand financial support and to reduce institutional restrictions for promoting the social economy. According to Nigeria's fostering policy, 443,000 social enterprises have played roles in Nigeria in 2022, of which 18% has worked in Lagos, and 13% has been in Abuja, with 31% of social enterprises in the two cities, moreover, 70% of impact investment, 81% of incubators and accelerators, and 89% of management support organizations have concentrated on the two cities.

The Nigerian government's policy to foster social enterprises has indeed led to rapid quantitative growth (443,000 social enterprises), but qualitative growth has not been sufficient. Many social enterprises are expected to be faced with difficulties due to rapid deterioration of profitability if financial support from the government and external institutions is suspended (Ogbo et al., 2019). In a situation like this, social enterprises need to strengthen their organizational performance to maintain sustainable management even if governmental and external institutional support or sponsorship are suspended. The qualitative improvement of social enterprises refers to growing economic and social performance to provide corporate profits to social services. For quality improvement, social entrepreneurship that can

contribute corporate interests to social services is important.

A number of studies have been published to analyze the current status and role of social enterprise in Nigeria. Research on social enterprises in Nigeria is actively underway, but these studies focus on analyzing social service types such as health service (Nwaozuru et al., 2020; Nwankwo et al., 2007), employment (Balogun et al., 2016; Adekunle et al., 2021; Worgwu et al., 2023), poverty alleviation (Maji and Adejoh, 2016; Olaleye et al., 2021), environment (Vickers and Fergus, 2014), and performance of the social enterprise (Molecke and Pinkse, 2017; Ademola et al., 2019; Bellostas et al., 2016). However, these studies heavily concentrate on the quantitative performance and needs of social enterprises, so studies on social entrepreneurs and sustainability are insufficient.

Therefore, this study not only analyzes social entrepreneurship but also examines the economic and social performance of social enterprises. Through this study, it is confirmed whether social entrepreneurship entailed the sustainability of social enterprises. This study first explains the definition of the concept of social entrepreneurship through theoretical analysis and investigates the relationship between the factors of social entrepreneurship and economic/social performance. Second, the study analyses a survey of Nigerian social entrepreneurship for lighting up the causal

relationship between factors for example social entrepreneurship, and economic/social performance. Third, by deriving implications based on the analysis results, a plan for Nigerian social enterprises to be sustainable is presented.

## II. Theoretical Analysis

### 2.1 Definition of Social Enterprise and the Need for Social Entrepreneurship

A social enterprise is an organization that pursues social and economic values, and performs the role of a non-profit organization and a business company at the same time. According to the International Classification of Nonprofit Organizations, a non-profit organization needs to meet five conditions, (1) institutionalization, (2) independence from the government, (3) self-determination, (4) non-profit distribution, (5) voluntary organization. In summary, a non-profit organization is an independent organization that is voluntarily organized to pursue social/public interest. On the other hand, a business company is the subject of a production economy that produces resources goods and services to satisfy human needs, and is an economic organization that prioritizes profits through the creation of value-added. The social enterprise carries

out both the public interest of non-profit organizations and the profitability of business companies. In other words, the social enterprise can be defined as a company that not only generates profits through corporate activities, but also provides social public interest by returning profits to society. (Martin and Osberg, 2007; Choi and Kim 2014; Griffiths et al., 2013)

Early social enterprise policies aimed at growth based on quantitative stimulus, but recent policies have focused on corporate performance which is the basis for sustainability. Since social enterprises also have the characteristics of business companies, they need to create an economic profit structure through the provision of specific goods and services (Ogbo et al., 2019). This is a way to secure financial resources for providing social services by social enterprises and strengthen self-sufficiency. The economic performance of social enterprises is used as a financial resource to perform social purposes, and is a means of enhancing economic independence.

Social entrepreneurship is important to create a system of social goodness through the quantitative and qualitative growth of social enterprises. Commercial entrepreneurship works by the economic motivation to accumulate individual wealth with a focus on economic value creation, but social entrepreneurship focuses on social value creation and pursues the efficiency of social problem-solving (Martin

and Osberg, 2007). Furthermore, social entrepreneurship aims to raise funds necessary for economic survival, that is, providing social services, through the efficient operation of the companies. Just as the development and growth of entrepreneurship are in line with corporate success in business companies, the cultivation and development of social entrepreneurship are essential factors for the sustainability of the social enterprise. Social entrepreneurship is recognized as an important factor because it involves improving social enterprise profits and high productivity.

## 2.2 Definition and Components of Social Entrepreneurship

Unlike ordinary business entrepreneurs who pursue corporate profits first, social entrepreneurs aim to promote economic and social utility, such as preparing strategies to secure economic returns to fulfill social purposes (Martin and Osberg, 2007). The social enterprise aims to create economic value to fulfill social purposes and establish a virtuous cycle structure in which profits are reinvested in promoting social value. Thus, social entrepreneurship aims to sustainably operate social enterprises exposed to competitive and uncertain environments in the market by combining social tasks or social purposes with necessary principles and strategies of corporate management (Battilanan et al., 2015).

Social entrepreneurship is a convergence between economic and social values that properly harmonizes public interest and profit-seeking motivations, and this entrepreneurship has a positive effect on the sustainability of social enterprises (Peredo and McLean, 2006).

Previous studies on social entrepreneurship have concentrated on the economic performance of the social enterprise (Bae, Park and Lee, 2014; Kim 2021; Lee, 2008) and social performance (Kim and Kim, 2021; Lee, 2009), defined social entrepreneurship as factors that affect corporate economic and social performance, and conducted empirical research. Research on social performance is measured based on factors such as solving social problems, approaching social needs, providing welfare services to the vulnerable, and creating jobs for the vulnerable (Cho et al., 2008), furthermore, economic performance is defined as economic value creating (yield and operating profit), especially profit generation and reinvestment towards community, and job creation (McWade 2012; Dogherty et al., 2014; Sakarya et al., 2012; Cheah et al., 2019; Rahdari et al., 2016).

Various studies are being conducted on the detailed factors constituting social entrepreneurship. Morris and Jones (1999), Wart (1995), and Lee (2009) focuses on innovativeness, risk-taking, and proactiveness, while Bae (2011), Bae et al., (2014), Weerawardena and Mort

(2006), Lee (2011), and Kang and Yang (2015) defined the factors of social entrepreneurship such as innovation, initiative, and risk management of entrepreneurship, social purpose and social orientation. Social entrepreneurship combines factors such as innovation, initiative, and risk management of entrepreneurship (Weerawardena and Mort 2006; Lee 2011) and social purpose and social orientation (Bae, 2011; Moon and Kim, 2016), and social entrepreneurship actively needs entrepreneurial factors for creating social value (Peredo and McLean, 2006).

Therefore, this study constitutes the main elements of social entrepreneurship, such as “social value orientation,” “innovativeness,” which is a performance-creating activity using ideas necessary for new business and value creation, “risk-taking” that judge and manage risks to come to the organization, “proactiveness,” which pursues future-oriented change.

First, social value orientation refers to the tendency to recognize social problems and contribute to societies by creating desirable values (Murphy and Ackermann, 2014). This refers to the social purpose of social enterprises that prioritize corporate operations for the provision of social services. Social value orientation is the core value of social entrepreneurs who prioritize social values over economic benefits. In other words, it has responsibility for social purposes and profits can be seen as a tendency to pursue reinvest-

ment in the community for social purposes (Helm and Andersson, 2010).

Second, innovativeness is a company’s creative behavioral tendency to improve productivity by improving new ideas, products and services, technologies, and systems. The company introduces technological innovation, process innovation, and new management techniques for reform in order to strengthen competitiveness and efficiency (Shin, 2018). In social entrepreneurship, innovativeness is an entrepreneur’s attitude to reform their companies for increasing economic performance through innovation for the improvement of productivity (Zahra and Bogner, 2000).

Third, risk-taking is a tendency to boldly implement even though companies are aware of risks or uncertainties that may arise in the process of proceeding with a new plan or idea. Social entrepreneurs can take risks and pursue their business when the motivation for the social purpose or value to realize works strongly. When entering a new business with high uncertainty, risk-taking is a management attitude to take the challenge (Morris and Jones, 1999; Begley and Boyd, 1987).

Four, proactiveness can be defined as a company’s behavior to change its capabilities to respond to market changes. Companies that have explored the possibility of entering a new market and change in the perception of consumers can be seen as proactiveness in strengthening the companies’ capabilities, such

as developing and applying technologies for new products, securing expertise, and ensuring product quality (Lumpkin and Dees, 1996). Proactiveness is a strategic intention to lead the market, and has a tendency to offer opportunities before competitors (Becherer and Maurer, 1997; Lumpkin and Dees, 2001; Krauss et al., 2005).

Therefore, the element of social entrepreneurship is a mixtural notion between social values and the tendency to pursue economic performance, and these elements of social entrepreneurship will be significantly related to social performance and economic performance. In addition, it can be seen that the economic performance of social enterprises has a positive effect on social performance.

Therefore, this study established the following hypotheses.

- H1: Social entrepreneurship has a significant effect on the management performance of social enterprises.
- H1a: Social value orientation has a significant effect on the management performance of social enterprises.
- H1b: Innovativeness has a significant effect on the management performance of social enterprises.
- H1c: Risk-taking has a significant effect on the management performance of social enterprises.
- H1d: Proactiveness has a significant effect

on the management performance of social enterprises.

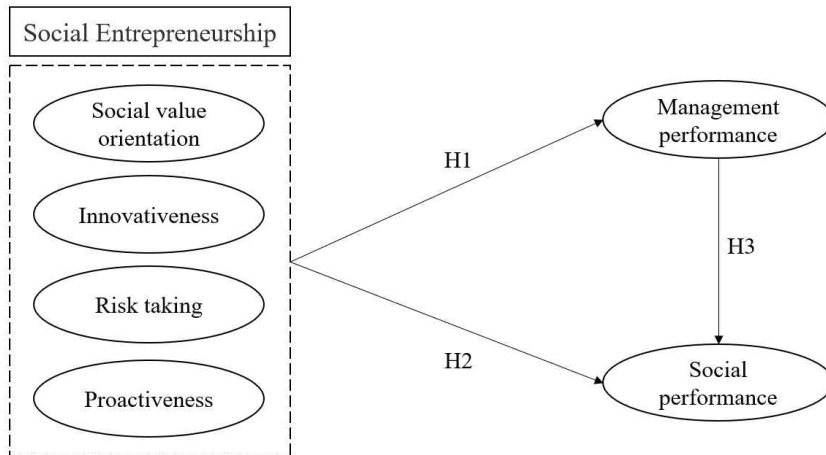
- H2: Social entrepreneurship has a significant impact on the social performance of social enterprises.
- H2a: Social value orientation has a significant effect on the social performance of social enterprises.
- H2b: Innovativeness has a significant effect on the social performance of social enterprises.
- H2c: Risk-taking has a significant effect on the social performance of social enterprises.
- H2d: Proactiveness has a significant effect on the social performance of social enterprises.
- H3: The management performance of social enterprises has a significant effect on the social performance of social enterprises.

### III. Methods

#### 3.1 The proposed model

To investigate the relationship between social entrepreneurship, management performance, and social performance in Nigeria, we suggested a model shown in <Figure 1>.

〈Figure 1〉 The Proposed Model



regarding the above-cited literature.

### 3.2 Operational definition and measurement of variables

This study identified the main elements of social entrepreneurship as social value orientation, innovativeness, risk-taking, and proactiveness. In terms of social value orientation, this study defined social value orientation as the tendency to recognize social problems and contribute to society by creating desirable values, according to previous studies (Murphy et al., 2014; Helm et al., 2010). The questions are composed of five items, such as: “Our company has a balance between public interest and profit,” “Our company has a sense of awareness towards social issues,” “Our company clearly states its goal of operating for

social purposes,” “Our company engages in social contribution activities,” and “Our company’s services and products contribute to solving social issues.” In addition, the questions were measured on a 7-point Likert scale.

Regarding innovativeness, this study defined innovativeness as the efforts of institutional and technological innovation by companies to strengthen competitiveness and efficiency, according to previous studies (Shin, 2018, Zahra et al., 2000). The questions are consisted of five items, such as: “Our company continuously strives for the development of new products and services,” “Our company continuously strives for the development of creative marketing/sales strategies,” “Our company supports employee education and self-development,” “Our company operates its organization flexibly according to the man-



agement situation,” and “Our company’s management transparency is carried out clearly.” In addition, they were measured on a 7-point Likert scale.

In terms of risk taking, this study defined risk-taking as a tendency to boldly implement even though companies are aware of risks or uncertainties that may arise in the process of proceeding with a new plan or idea, according to previous studies (Morris et al., 1999; Begley et al, 1987). The questions are consisted of five items, such as: “Our company takes on new business challenges despite the risks,” “Our company prefers high-profit businesses despite the risks,” “Our company prefers to pioneer new markets,” “Our company tends to establish strategies that take risks to respond to environmental changes in business planning,” and “Our company emphasizes exploration and experimentation in business planning.” In addition, they were measured on a 7-point Likert scale.

Regarding proactiveness, this study defined proactiveness as the perception of changes in the corporate environment and the tendency to introduce new products or services to strengthen the competitiveness of the company, according to previous studies (Lumpkin et al, 1996; Becherer et al, 1997, Lumpkin et al., 2001; Krauss et al., 2005). The questions are consisted of five items such as: “Our company makes efforts to quickly understand the movements of competitors and who they

are,” “Our company’s products/services are ahead of competitors,” “Our company searches for niche markets and makes efforts to respond quickly to market situations,” “Our company tends to overcome difficulties for growth,” and “Our company always hopes to grow more than other companies.” In addition, they were measured on a 7-point Likert scale. For corporate performance, in measuring the performance of social enterprises, management performance refers to the sustainability of achieving economic goals and realizing social value objectives (Kim, 2018; Lee, 2016). This study defined management performance as result that appears through corporate activities accompanied by qualitative growth along with quantitative growth, which is a visible financial performance. (Choi, 2018; Kim, Kim and Hyun, 2021). It can be also defined as providing a continuous increase in sales, the profitability increases through the improvement of customer satisfaction and management independence (Lee, 2015). Thus, the questions are consisted of five items that represent management performance, including ability to cover labor costs with operating income, continuous investment in facilities and equipment, high customer satisfaction with products and services and ever-increasing market share of goods. They were measured on a 7-point Likert scale.

Social performance was defined as as the extent to which social enterprises create social value through business (Park and Seol,

2022; Yoo and Jeong, 2022). The creation of social value is achieved miraculously and is difficult to measure directly, so many studies rely on subjective measurement methods rather than objective performance measurement (Pearce, Fritz, and Davis, 2010). Thus, the questions are consisted of five items that represent social performance over the past three years, including providing jobs for vulnerable groups in the region, improving the quality of life for workers, contributing to the welfare of vulnerable groups, reducing the poverty rate in the region, and promoting a sense of community in the area. The questions were measured on a 7-point Likert scale.

In terms of data collection, this study conducted a survey that considered a target of 230 social enterprises in Nigeria in December 2022. We reviewed the survey through local experts in Nigeria we had previously recruited, and provided incentives for each response through an online survey method, collecting a total of 230 responses. Ultimately, we used 221 responses for analysis after excluding 9 undependable responses. In order to analyze the data collected in this study, frequency analysis, reliability analysis, exploratory factor analysis, correlation analysis, and regression analysis were conducted using SPSS 21.0. In addition, the research hypothesis was verified by conducting a structural equation model analysis using AMOS 21.0.

## IV. Results

### 4.1 The characteristic of respondents

A survey was conducted on 221 social enterprises in Nigeria. Responses from 221 social enterprises were analyzed. The characteristics of the respondents are shown in <Table 1>.

Looking at the area where an enterprise works, Abuja accounted for the largest portion with 122 enterprises (55.2%), followed by Others with 59 enterprises (26.7%), and Lagos with 40 enterprises (18.1%). According to the institution that awarded social accreditation, the central government accounted for the largest ratio with 168 enterprises (76.0%), followed by domestic support organization with 22 enterprises (10.0%), international support organization with 20 enterprises (9.0%), and local government with 11 enterprises (5.0%). According to the reasons why an enterprise was awarded social accreditation as a multiple-answer question, obligations occupied the largest portion with 165 enterprises (54.1%), followed by educational support with 48 enterprises (15.7%), financial support with 43 enterprises (14.1%), networks between social enterprises with 41 enterprises (13.4%), and other reasons with 8 enterprises (2.6%).

According to the social objectives of an enterprise as a multiple-choice question, job

<Table 1> The Characteristics of Repondents

	Category	Frequency	Ratio(%)
<b>The area where an enterprise works</b>	Lagos	40	18.1
	Abuja	122	55.2
	Others	59	26.7
<b>The institution where awarded social accreditation</b>	Central government	168	76.0
	Local government	11	5.0
	International support organization	20	9.0s
	Domestic support organization	22	10.0
<b>The reasons why an enterprise was awarded a social accreditation</b>	Obligations	165	54.1
	Financial support	43	14.1
	Educational support	48	15.7
	A network between social enterprises	41	13.4
	Other reasons	8	2.6
<b>Social objectives of an enterprise</b>	Job creation	81	28.7
	Increase in income	24	8.5
	Self-support or self-reliance of the vulnerable	63	22.3
	Providing social services to the vulnerable	61	21.6
	Environmental protection and resource recycling	24	8.5
	Other objectives	29	10.3
<b>Major external institution that an enterprise are currently supported from</b>	Central government	29	13.1
	Local government	20	8.6
	International organization or overseas support organization	35	15.8
	A civic group	50	22.6
	Individual	87	39.4
	Financial institution	1	0.5
<b>Main type of support from external institution currently</b>	Management support	30	13.6
	Technical support	17	7.7
	Sales support such as promotion and distribution	24	10.9
	Networking	49	22.2
	Educational support	27	12.2
	Product development support	28	12.7
	Financial support	46	20.8
<b>Type of support needed from Korean institution</b>	Management support	16	5.9
	Technical support	37	13.6
	Sales support such as promotion and distribution	24	8.8
	Networking	26	9.5
	Educational support	56	20.5
	Product development support	27	9.9
	Financial support	87	31.9

creation accounted for the largest ratio with 81 enterprises (28.7%), followed by self-support or self-reliance of the vulnerable with 63 enterprises (22.3%), providing social services to the vulnerable with 61 enterprises (21.6%), other objectives with 29 enterprises (10.3%), environmental increase in income with 24 enterprises (8.5%), and protection and resource recycling with 24 enterprises (8.5%). In the major external institution that an enterprise is currently supported from, individual accounted for the largest portion with 87 enterprises (39.4%), followed by civic group with 50 enterprises (22.6%), international organization with 35 enterprises (15.8%), central government with 29 enterprises (13.1%), local government with 20 enterprises (8.6%), and financial institution with 1 enterprise (0.5%).

In main type of support from external institution currently, networking occupied the largest ratio with 49 enterprises (22.2%), followed by financial support with 46 enterprises (20.8%), product development support with 28 enterprises (12.7%), educational support with 27 enterprises (12.2%), sales support such as promotion and distribution with 24 enterprises (10.9%), and technical support with 17 enterprises (7.7%).

Finally, according to the type of support needed from Korean institutions as a multiple-choice question, financial support accounted for the largest portion with 87 enterprises (31.9%), followed by educational support with

56 enterprises (20.5%), technical support with 37 enterprises (13.6%), product development support with 27 enterprises (9.9%), networking with 26 enterprises (9.5%), sales support such as promotion and distribution with 24 enterprises (8.8%), and management support with 16 enterprises (5.9%).

#### 4.2 Reliability and validity of measurements

In this study, factor analysis and reliability analysis were conducted to analyze the reliability and validity of the measurement items. As a result of exploratory factor analysis, two items related to proactiveness and two items related to innovativeness were removed out of a total of 20 questions because they did not fit the theoretical structure. Finally, 16 items were used for analysis. As a result of reliability analysis, one item of social performance and one item of the management performance that hindered reliability were removed, and the final analysis was conducted with a total of 8 items related to performance.

The 16 items were extracted with 4 factors with an eigenvalue over 1. These factors were named “risk-taking,” “social value orientation,” “proactiveness,” and “innovativeness,” respectively. The coefficient of KMO was .851, Bartlett’s sphericity test was 2322.057 with a significance level of 0.000. Therefore, the factor analysis model was verified to be suitable. In addition, the factor loading value exceeded .5 and the

Cronbach's alpha value exceeded .4, which indicates that they are suitable as factors for explaining social entrepreneurship. Furthermore, in social performance and the management performance, the factor loading value also exceeded .5 and the Cronbach's alpha value exceeded 0.4. Therefore, it was analyzed to be suitable to explain each variable.

Prior to analyzing the structural model, confirmatory factor analysis (CFA) was conducted to determine whether the research model was suitable for analysis, and the results are shown in (Table 2). Generally, the fit of the model is evaluated as good if the chi-square value ( $\chi^2$ )/freedom (df) is below 3.0, the root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR) are below .06, and the comparative fit index (CFI) and Tucker-Lewis index (TLI) are more than .90 (Hu and Bentler, 1999). As a result of the analysis, the suitability of the measurement model was found to be satisfactory, with  $\chi^2=287.348$  ( $p < .05$ ,  $df = 237$ ), RMSEA = .031, CFI = .980, TLI = .977, and SRMR = .053. In addition, it can be said that it has been verified for convergent validity and reliability that the range of factor loading for each variable is between .45 to .96, the range of average variance extracted (AVE) values is between .50 to .86, and the range of composite reliability (CR) values is between .80 to .97. The highest correlation coefficient between latent varia-

bles is .270 (innovativeness and social value orientation), and the coefficient of determination is .073 ( $0.270 \times 0.270$ ). Discriminant validity was also verified as the minimum AVE value (.497) was found to be greater than the maximum of the square of the correlation coefficient (.073). Therefore, the measurement model of this study has been verified to be suitable for analysis.

#### 4.3 Correlation analysis

Pearson's correlation analysis was conducted to confirm the correlation between social entrepreneurship, social performance, and the management performance, which are the main variables of this study. The results are shown in (Table 3). Among social entrepreneurship, risk-taking showed a significant negative correlation with the social performance of social enterprises ( $r = -.164$ ,  $p < .05$ ). In addition, it was found that there was a positive correlation between social value orientation and innovativeness of social entrepreneurship ( $r = .141$ ,  $p < .05$ ). It can also be seen that the management performance of social enterprises has a positive correlation with social performance ( $r = .207$ ,  $p < .01$ ).

#### 4.4 Hypothesis testing

This study verified the hypothesis through a structural equation model. As a result of

〈Table 2〉 The result of confirmatory factor analysis

Variables	Items	Standardized Loading	AVE	Composite Reliability
<b>Risk-taking</b>	Preference for new markets	.960	.860	.968
	Prefer high-yield businesses, even if there are risks	.953		
	Establishing a risk-taking strategy for environmental changes	.944		
	Emphasis on exploration and experimentation in business	.914		
	New business challenges, even at risk	.861		
<b>Social value orientation</b>	Social contribution activities	.888	.569	.865
	Balance between public interest and profit	.848		
	Present clear objectives of the enterprise for social purpose	.797		
	Awareness of social problems	.650		
	Products and services that contribute to solving social problems	.540		
<b>Proactiveness</b>	Understanding competitors' movements quickly	.934	.625	.829
	Hopes of growth compared to any other enterprise, at all times	.792		
	Products and services that are ahead of their competitors	.612		
<b>Innovativeness</b>	Continuous efforts to develop creative marketing strategies	.825	.575	.801
	Transparent enterprise management disclosure	.741		
	Educational training and self-improvement support for employees	.703		
<b>Social performance</b>	Providing jobs to the vulnerable over the past three years	.831	.575	.843
	Contribution to the welfare of the vulnerable over the past three years	.753		
	Contribution to the reduction of local poverty rates over the past three years	.747		
	Contribution to the revitalization of community consciousness over the past three years	.695		
<b>Management performance</b>	Ability to cover labor costs with operating income	.896	.497	.790
	Continuous investment in facilities and equipment	.719		
	High customer satisfaction with products and services	.683		
	Ever-increasing market share of goods	.451		

(Table 3) The result of correlation analysis

Variable	Risk-taking	Social value orientation	Proactiveness	Innovativeness	Social performance	Management performance
Risk-taking	1					
Social value orientatation	.103	1				
Proactiveness	.130	.011	1			
Innovativeness	.081	.141*	.042	1		
Social performance	-.164*	-.016	.021	.005	1	
Management performance	-.107	-.105	-.011	.059	.207**	1

Notes: \* $p < .05$ , \*\* $p < .01$

the analysis, the model's goodness of fit was at a satisfactory level, with  $\chi^2 = 287.348$  ( $df = 237$ ,  $p < .05$ ), RMSEA = .031, CFI = .980, TLI = .977, SRMR = .053.

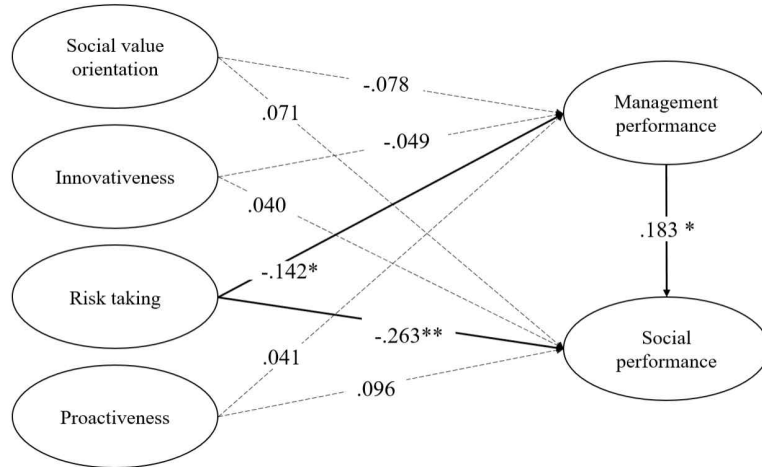
The path coefficients of this research model are presented in (Figure 2) and (Table 4). First, as a result of verifying the relationship between social entrepreneurship and management performance of Nigerian social enterprises, it was found that risk-taking among social entrepreneurship factors has a significant negative effect on management performance ( $\gamma = -.142$ ,  $p < .1$ ). It can be seen that the higher the risk-taking of Nigerian social enterprises, the lower the management performance. On the other hand, it was found that social value orientation, innovativeness, and proactiveness of social entrepreneurship had no significant influence on management performance.

Therefore, H1 has been partially adopted.

Secondly, as a result of verifying the relationship between social entrepreneurship and the social performance of Nigerian social enterprises, risk-taking among social entrepreneurship factors has a significant negative effect on social performance ( $\gamma = -.263$ ,  $p < .05$ ). Therefore, H2c was adopted. It can be seen that the higher the risk-taking of Nigerian social enterprises, the lower their social performance. On the other hand, it was found that social value orientation, innovativeness, and proactiveness of social entrepreneurship had no significant influence on social performance. Thus, H2 has been partially adopted.

Finally, the relationship between the management performance and social performance of Nigerian social enterprises was verified. Management performance has been shown to

〈Figure 2〉 The result of structural equation model analysis



〈Table 4〉 The result of hypothesis testing

	Path	Estimate	Standardized Estimate	S.E.	C.R.
H1a	Social value orientation → Management performance	-.062	-.078	.066	-.937
H1b	Innovativeness → Management performance	-.084	-.049	.198	-.423
H1c	Risk-taking → Management performance	-.070	-.142	.037	-1.875*
H1d	Proactiveness → Management performance	.023	.041	.043	.530
H2a	Social value orientation → Social performance	.060	.071	.091	.563
H2b	Innovativeness → Social performance	.073	.040	.272	.267
H2c	Risk-taking → Social performance	-.138	-.263	.056	-2.469**
H2d	Proactiveness → Social performance	.057	.096	.060	.953
H3	Management performance → Social performance	.196	.183	.116	1.687*

Notes: \* $p < .1$ , \*\* $p < .05$

have a significant positive effect on social performance ( $\beta = .183, p < .1$ ). H3 was therefore adopted. It can be seen that the higher the management performance of Nigerian social enterprises, the higher their social performance.

#### 4.5 Conclusion

The study verified whether the four variables such as social value orientation, innovativeness, risk-taking, and proactiveness of social entrepreneurship affected the business per-



formance and social performance of social enterprises through the perception of social entrepreneurs. And it was confirmed whether the economic performance of social enterprises affected social performance.

According to theoretical analysis, social entrepreneurship refers to the public interest orientation of social entrepreneurs who create economic value to perform social purposes and return profits to society, and social entrepreneurs strive to create economic results for sustainable social enterprise operation. Therefore, social entrepreneurship consists of a social value orientation that creates social value, innovativeness, risk-taking, and proactiveness, which have a positive impact on the social and economic performance of social enterprises, and economic performance is a factor that creates social performance.

The hypothesis test results show a significant relationship only in risk-taking and business performance, risk-taking and social performance, and business performance and social performance. Risk-taking, among the factors of social entrepreneurship, can be defined as entrepreneurship that is boldly promoted, despite predicting risk or uncertainties when corporate social purposes and economic motivation work. According to the empirical perception survey of Nigerian social entrepreneurs, Nigerian social enterprises have negative economic and social performance when they are highly risk-taking. In other words, Nigerian

social entrepreneurs emphasize stable corporate management rather than economic and social purposes when risk-taking is high. In addition, as economic performance and social performance show a relationship between a significant positive effect, Nigerian social enterprises can be seen as returning economic performance to solve social problems according to the social purpose of the company.

Accordingly, the following implications can be derived based on the results of this study. Social entrepreneurs have the purpose of social return to the business performance of social enterprises, but they seem less inclined to take risks because they prioritize stable corporate operations. Therefore, to secure corporate sustainability, entrepreneurship that can secure boldness in the market environment is needed. Among the factors of social entrepreneurship, particularly innovativeness and proactiveness have no meaning in relation to management performance and social performance. This would mean that Nigerian social enterprises are not very interested in innovation, productivity improvement, response to market changes, and new market development. From the consumer's point of view, they will be dissatisfied with social enterprises' business services. This can be seen as social responsibility being passed on by social enterprises to consumers, so consumers visit and purchase social enterprises according to social responsibilities. Therefore, in order for social

enterprises to develop, it is necessary to first improve economic performance through corporate innovation.

〈투 고 일: 2023. 05. 28〉

〈심 사 일: 2023. 06. 12〉

〈게재확정일: 2023. 06. 18〉

## References

- Adekunle, O. A. and O. O. Timothy (2021), "Social Enterprise Challenges in Nigeria: Multiple Cases Approach Nigeria," *Journal of International Business and Management*, 4(7), 1-12.
- Ademola, A. H., O. P. Olajide, A. Y. Ayodele and A. J. Olusola (2019), "An Examination of Financing Practices of Social Entrepreneurs in Nigeria: A Study of Selected Non-governmental Organizations," *Academy of Entrepreneurship Journal*, 25(2), 1-17.
- Bae, K. W. (2011), "A Study on the Concept of Social Entrepreneurship: Using Structural Equation Modeling," *Korean Policy Sciences Review*, 15(2), 199-227.
- Bae, K. W., S. N. Park and Y. J. Lee (2014), "The Impact of Social Entrepreneurship on Organizational Performance: Focusing upon Mediating Role of Organizational Commitment and Job Satisfaction," *The Korean Society for Public Personnel Administration Review*, 13(3), 251-276.
- Baek, Hannah., J. Hong., J. Lee., J. Choi. B. Sim., T. Kim., I. Lee. and J. Kim (2015), "A study on the Diffusion of Social Innovation: Focused on Beautifulstore," *Journal of Social Value and Enterprise*, 8(2), 95-136.
- Balogun, U. O., U. S. A. Bustamam and F. B. Johari (2016), "Determinant Factors Affecting Women Social Enterprise Performances in Sokota State, Nigeria: A Pilot Study," *Asian Journal of Social Sciences and Humanities*, 5(2), 47-53.
- Battilanan, J., M. Sengul, A. C. Pache and J. Model (2015), "Harnessing Productive Tensions in Hybrid Organizations: The Case of Work Integration Social Enterprises," *Academy of Management Journal*, 58(6), 1658-1685.
- Becherer, R. C. and J. G. Maurer (1997), "The Moderating Effect of Environmental Variables on the Entrepreneurial and Marketing Orientation of Entrepreneur-led Firms," *Entrepreneurship Theory & Practice*, 22 (1), 47-58.
- Begley, T. M. and D. P. Boyd (1987), "Psychological Characteristics Associated with Performance in Entrepreneurial Firms and Smaller Businesses," *Journal of Business Venturing*, 2(1), 79-93.
- Bellostas, A. J., F. J. López-Arceiz and L. Mateos (2016), "Social Value and Economic Value in Social Enterprises: Value Creation Model of Spanish Sheltered Workshops," *International Journal of Voluntary and Nonprofit Organizations*, 27(1), 367-391.
- British Council (n.d.), Global Social Enterprise: The State of Social Enterprise in Nigeria from [https://www.britishcouncil.org/sites/default/files/state\\_of\\_social\\_enterprise\\_in\\_nigeria.pdf](https://www.britishcouncil.org/sites/default/files/state_of_social_enterprise_in_nigeria.pdf) (accessed April 5, 2023)
- Cheah, J., A. Amran. and S. Yahya (2019), "Internal

- oriented resources and social enterprises' performance: How can social enterprises help themselves before helping others?" *Journal of Cleaner Production*, 211, 607-619.
- Cho, Y. B., Y. H. Yang. and H. Kim (2008), "A Policy Direction for Creating and Fostering Social Enterprise," *Journal of Social Value and Enterprise*, 1(2), 61-89.
- Choi, J. W. and J. K. Kim (2014), "A Study on Social Entrepreneurship," *The Korean Association for Local Government Studies*, 18 (1), 33-56.
- Choi, S. H. (2018), "The Effects of Characteristics of Social Enterprise on the Performance of Social Enterprise," *Social Economy & Policy Studies*, 8(1), 1-25.
- Defourny, J. and M. Nyssens (2008), "Social enterprise in Europe: recent trends and developments," *Social Enterprise Journal*, 4(3), 202-228.
- Doherty, B., H. Haugh. and F. Lyon (2014), "Social Enterprises as Hybrid Organizations: A Review and Research Agenda," *International Journal of Management Reviews*, 16(4), 417-436.
- Galera, G. and C. Borzaga (2009), "Social enterprise: An international overview of its conceptual evolution and legal implementation," *Social Enterprise Journal*, 5(3), 210-228.
- Griffiths, M. D., L. K. Gunday and J. R. Kickul (2013), "The Socio-Political, Economic, and Cultural Determinants of Social Entrepreneurship Activity: An Empirical Examination," *Journal of Small Business and Enterprise Development*, 20(2), 341-357.
- Harding, R. (2004), "Social Enterprise: The New Economic Engine?" *Business Strategy Review*, 15(4), 39-43.
- Helm, S. T. and F. O. Anderson (2010), "Beyond Taxonomy: AN Empirical Validation of Social Entrepreneurship in the Nonprofit Sector," *Nonprofit Management and Leadership*, 20 (3), 250-276.
- Hu, L. T. and P. M. Bentler (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives," *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55.
- Hynes, B. (2009), "Growing the social enterprise-issues and challenges," *Social Enterprise Journal*, 5(2), 114-125.
- Kang, M. S. and S. K. Yang (2015), "The Effects of Social Entrepreneurship on Organizational Performance of JeJu Social Enterprise: Focused on the Moderating Effects of Trust," *The Journal of Korean Island*, 27(3), 17-35.
- Kim, E. H., G. J. Kim and B. H. Hyun (2021), "The Effects of Social Entrepreneurship and Market Orientation on Performance in Social Enterprise," *Journal of Digital Convergence*, 19(9), 18-93.
- Kim, M. J., M. J. Kim. (2018). "The Effect of Social Entrepreneurship and Self-efficacy on the Performance of Social Enterprises," *Korean Review of Corporation Management*, 9(3), 209-232.
- Lee, J. H. (2016), "The Effects of Entrepreneurship and Social Capital on Social Enterprise Performance," Chungbuk National University Graduate School.
- Kim, S. J. and N. S. Kim (2021), "The Mediating Effect of Social Contribution Activities on the Relationship between Social Entrepreneurship and Organizational Performance," *The*

- Journal of the Korea Contents Association* 21(3), 771-782.
- Kim, T. Y. (2021), "Social Economy Organization's Identity, Legitimacy and Sustainability," *Social Economy & Policy Studies*, 11(3), 1-35.
- Kim, Tae-Wan. (2023), "Corporate Innovation and Corporate Value based on Management Strategy," *Korean Computers and Accounting Review*, 21(1) 57-89.
- Krauss, S., M. Frese., C. Friedrich and J. Unger (2005), "Entrepreneurial Orientation: A Psychological Model of Success among Southern African Small Business Owners," *European Journal of Work and Organizational Psychology*, 14(3), 315-344.
- Lee, I. H. (2022), "A Study on Social Enterprise Research Trends and Research Methodology: Focusing on Social Enterprise Studies(from 2008 to 2020)," *Journal of Social Value and Enterprise*, 15(1), 237-263.
- Lee, I. J. (2009), "Discourse and Prospects of Social Enterprises in Korea," *Journal of Korean Social Trend and Perspective*, (75), 109-141.
- Lee, J. H. (2016), "The Effects of Entrepreneurship and Social Capital on Social Enterprise Performance," Chungbuk National University Graduate School.
- Lee, J. M. (2015), "A Study on the Antecedent Factors of Performance and Sustainability of Social Enterprises," Kyungsoong University Graduate School.
- Lee, S. H (2013), "Financial Focus: Improvement Plan for Funding Support for Social Enterprises," *Weekly Financial Brief*, 22(31), 12-13.
- Lee, Y. D. and I. T. Kim (2023), "The Effect of Social Performance Incentive(SPC) on the Performance of Social Enterprises: By Type of Social Enterprise," *Journal of Social Value and Enterprise*, 16(1), 43-70.
- Lee, Y. T. (2008), "A Study on the ESC Model Development of Social Enterprise," *Journal of Social Value and Enterprise*, 1(1), 65-92.
- Lee, Y. T. (2009), "A Theoretical Study on the Social Entrepreneurship," *Journal of Social Value and Enterprise*, 2(2), 5-28.
- Lee, Y. T. (2011), "A Study on The Relationship Social Entrepreneurship And Performance In Social Enterprise," *Korean Academy of Human Resource Management*, 18(3), 129-150.
- Lumpkin, G. T. and G. G. Dess (1996), "Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance," *Academy of Management Review*, 27(1), 135-172.
- Lumpkin, G. T. and G. G. Dess (2001), "Linking Two Dimensions of Entrepreneurial Orientation to Firm Performance: The Moderating Role of Environment and Industry Life Cycle," *Journal of Business Venturing*, 16(5), 429-451.
- Maji, A. and D. Adejoh (2016), "Exploring the potentials of social enterprises for poverty alleviation in Nigeria and Cameroon in the 21st century," *European Journal of Business and Management*, 8(28), 10-14.
- Martin, R. L. and I. Marti (2006), "Social Entrepreneurship Research: A Source of Explanation, Prediction, and Delight," *Journal of World Business*, 41(1), 36-44.
- Martin, R. L. and S. Osberg (2007), "Social Entrepreneurship: The Case for Definition," *Stanford*

- Social Innovation Review*, 5(2), 28-39.
- McWade, W. (2012), "The Role for Social Enterprises and Social Investors in the Development Struggle," *Journal of Social Entrepreneurship*, 3(1), 96-112.
- Mohiuddin, M. F. and I. Yasin (2023), "The impact of social capital on scaling social impact: a systematic literature review," *Social Enterprise Journal*, 19(3), 277-307.
- Molecke, G. and J. Pinkse (2017), "Accountability for social impact: A bricolage perspective on impact measurement in social enterprises," *Journal of Business Venturing*, 32(5), 550-568.
- Moon, N. H. and M. J. Kim (2016), "Development and Validation of the Social Entrepreneurship Scale: An Exploration of Prosociality," *Journal of Social Value and Enterprise*, 9(2), 3-30.
- Morris, M. H. and F. F. Jones (1999), "The Pursuit of Managerial Entrepreneurship: Does Organization Matter?" *Public Administration Review*, 59(1), 31-43.
- Murphy, R. O. and K. A. Ackermann (2014), "Social Value Orientation: Theoretical and Measurement Issues in the Study of Social Preferences," *Personality and Social Psychology Review*, 18(1), 13-41.
- Nwankwo, E., N. Phillips and P. Tracey (2007), "Social Investment through Community Enterprise: The Case of Multinational Corporations Involvement in the Development of Nigerian Water Resources," *Journal of Business Ethics*, 73(1), 91-101.
- Nwaozuru, U., T. Gbajabiamila, C. Obiezu-Umeh, S. Mason, K. Tahlil, D. Oladele et al. (2020), "An innovation Bootcamp Model to Develop HIV Self-testing Social Enterprise among Young People in Nigeria: A Youth Participatory Design Approach," *The Lancet Global Health*, 8(1), 1-12.
- Nwaozuru, U., T. Gbajabiamila, C. Obiezu-Umeh, S. Mason, K. Tahlil, D. Oladele et al. (2020), "An innovation Bootcamp Model to Develop HIV Self-testing Social Enterprise among Young People in Nigeria: A Youth Participatory Design Approach," *The Lancet Global Health*, 8(1), 1-12.
- Ogbo, A., A. Igwe, J. Ezeobi, N. Modebe and K. E. Ume (2019), "The Impact of Social Entrepreneurship on the Sustainability of Selected Small and Medium Enterprises in Nigeria," *Advances in Research*, 19(2), 1-15.
- Olaleye, S. A., I. T. Sanusi and O. A. Dada (2021), "Nigeria Social Enterprise Perception on Social Issues, Profit Maximization, Innovation, and Knowledge Sharing for Poverty Eradication," *International Journal of Business and Administrative Studies*, 7(2), 107-116.
- Park, R. Y. and Y. D. Seol (2022), "The Impact of Social Entrepreneurship on Organizational Performance: Mediation Effects of Relational Resources and Resource Mobilization Capacity," *Korean Journal of Business Administration (KJBA)*, 35(11), 2013-2047.
- Pearce, J. A., D. A. Fritz and P. S. Davis (2010), "Entrepreneurial orientation and the performance of religious congregations as predicted by rational choice theory," *Entrepreneurship Theory and Practice*, 34(1), 219-248.
- Peredo, A. M. and M. McLean (2006), "Social Entrepreneurship: A Critical Review of the Concept," *Journal of World Business*, 41(1), 56-65.
- Rahdari, A., S. Sepasi. and M. Moradi (2016), "Achieving sustainability through Schumpere-

- terian social entrepreneurship: The role of social enterprises,” *Journal of Cleaner Production*, 137, 347-360.
- Sakarya, S., M. Bodur., Ö. Yildirim-Öktem, and N. Selekler-Göksen (2012), “Social alliances: Business and social enterprise collaboration for social transformation,” *Journal of Business Research*, 65(12), 1710-1720.
- Shido-Ikwu, B. S. (2017), “Economic Recession in Nigeria: A case for Government Intervention,” *SSRG International Journal of Economics and Management Studies*, 4(6), 48-51.
- Shin, C. W. (2018), “How Social Entrepreneurs Affect Performance of Social Enterprises in Korea: The Mediating Effect of Innovativeness,” *Sustainability*, 10(2), 1-14.
- Small & Medium Enterprises Development Agency of Nigeria (e.d.), <https://smedan.gov.ng/> (accessed April 9, 2023)
- United Nations (e.d.), <https://unstats.un.org/unsd/classifications/unsdclassifications> (accessed April 13, 2023)
- Vickers, I. and F. Lyon (2014), “Beyond green niches? Growth strategies of environmentally-motivated social enterprises,” *International Small Business Journal*, 32(4), 449-470.
- Vidovic D. (2023), “The meaning of being a social entrepreneur in the society of multiple transitions,” *Social Enterprise Journal*, 19 (3), 237-255.
- Wart, M. V. (1995), “The first Step in the Reinvention Process: Assessment,” *Public Administration Review*, 55(5), 429-438.
- Weerarwardena, J. and M. G. Sullivan (2006), “Investigating Social Entrepreneurship: A Multidimensional Model,” *Journal of World Business*, 41(1), 21-35.
- Worgwu, H., R. Osabohien, M. A. S. Al-Faryan and O. I. Precious (2023), “ICT-social Entrepreneurship Nexus and Job Creation in Nigeria,” *International Journal of Management, Economics and Social Sciences*, 12(1), 79-103.
- World Bank Blogs (n.d.), What triggered the oil price plunge of 2014~2016 and why it failed to deliver an economic impetus in eight charts from <https://blogs.worldbank.org/developmenttalk/what-triggered-oil-price-plunge-2014-2016-and-why-it-failed-deliver-economic-impetus-eight-charts> (accessed April 13, 2023)
- Yoo, H. N. and E. B. Jeong (2022), “The Effects of Social Entrepreneurship and Blended Value Orientation on Performance of Social Enterprises,” *Asia-Pacific Journal of Business Venturing and Entrepreneurship (APJBVE)*, 17(1), 213-227.
- Zahra, S. A. and J. G. Bogner (2000), “Technology Strategy and Software New Ventures’ Performance: Exploring the Moderating Effect of the Competitive Environment,” *Journal of Business Venturing*, 15(2), 135-173.

## 사회적 기업가정신이 경영성과 및 사회적 성과에 미치는 영향: 나이지리아의 사례를 중심으로

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### 요 약

본 연구의 목적은 나이지리아의 사례를 중심으로 사회적 기업의 기업가정신과 그들의 경제 및 사회적 성과 간의 영향 관계를 분석하고, 나이지리아 사회적 기업이 지속 가능한 방안을 제안하는 데 있다. 본 연구는 수집한 데이터를 분석하기 위하여 SPSS 21.0을 통한 빈도 분석, 신뢰도 분석, 탐색적 요인 분석, 상관 분석을 실시하였으며 AMOS 21.0을 이용하여 구조 방정식 모형 분석을 수행하였다. 본 연구는 나이지리아 사회적 기업의 전반적인 인식 조사를 실시하여 사회적 목적 추구, 혁신성, 진취성, 위험감수성의 네 가지 변수가 사회적 기업의 경영성과와 사회적 성과에 미치는 영향을 검증하였다. 또한, 사회적 기업의 경제적인 성과가 사회적 성과에 영향을 미치는지를 확인하였다. 사회적 기업가들은 사회 환원을 추구하면서 사회적 기업의 경영 성과를 추구하지만, 안정적인 기업의 운영을 우선시하기 때문에 위험을 덜 감수하려는 경향이 있는 것으로 나타났다. 따라서, 기업의 지속 가능성을 보장하기 위해서는 시장 환경에서 과감성을 확보할 수 있는 기업가 정신이 필요하며, 사회적 기업 내에서 한국교류의 자원으로서 사회적 기업가정신 교육이 활용될 수 있다.

※ 주제어: 사회적 기업, 사회적 기업가정신, 경영성과, 사회적 성과

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