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AN EMPIRICAL INVESTIGATION ON EFFECT OF INTERNET ADOPTION ON ENTREPRENEURIAL ORIENTATION AND SMES' PERFORMANCE IN KANO STATE

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Abstract

The effect of internet adoption and entrepreneurial orientation on performance of SMEs has been widely studied. However, moderating effect of internet adoption on the relationship between dimensions of entrepreneurial orientation and performance has not been empirically investigated. Thus, this study is aimed to empirically test effect of internet adoption on entrepreneurial orientation and SMEs' performance relationship. To achieve this objective, 7 Hypotheses were postulated, and data collected from 187 owners/managers of SMEs in Kano State, Nigeria, was analyzed using structural equation modelling. The outcome showed that the effect of entrepreneurial orientation dimensions on SMEs' performance, as well as effect of internet adoption on the relationship is mixed and inconclusive. Suggesting that though, the SMEs pursue innovation as key driver of performance and have adopted internet technology; however, the SMEs are averse to risk and lack proactive approach, in terms of customer oriented new product development to enhance competitiveness in the market scene. Consequently, policy recommendations are provided.

Keywords: Internet Adoption, Entrepreneurial Orientation and Performance

1. Introduction

Entrepreneurship literature showed that small and medium enterprises (SMEs) are vital for economic growth, and therefore, entrepreneurs must find ways to improve performance of SMEs. In improving SMEs' performance, having entrepreneurial orientation (EO) is key (Covin & Slevin, 1990). On the other hand, Lumpkin and Dess (1996) emphasized on entrepreneurial orientation such as risk-taking, innovativeness and proactiveness as key drivers of SMEs' performance. Likewise, many scholars like Diaz and Sensini (2020) found that entrepreneurial orientation enhances performance of SMEs in different context. However, repeatedly relationship between entrepreneurial orientation and performance may not be significant, as findings were mixed (Mahmood & Hanafi, 2013), and inconclusive (Kosa, Mohammad & Ajibie, 2018).

Accordingly, Basco, Hernández-Perlines and Rodríguez-García (2020) asserted that other variables may have an impact on entrepreneurial orientation and performance relationship. Also, Cui, Fan, Guo and Fan (2018) have reported underlying mechanism that affects entrepreneurial orientation and performance of SMEs. As such, Gupta and Batra (2016) empirically established that contextual factors are important in entrepreneurial orientation and performance. On the other hand, Zehir, Can and Karaboga (2015) found that both innovation performance and differential strategy play a role on entrepreneurial orientation and performance relationship. In another argument, Aliyu, Rogo, and Mahmood (2015) established that organizational culture may influence entrepreneurial orientation and performance connection. Hence, testing effect of moderator is important in entrepreneurial orientation and SMEs' performance relationship.

Scholars such as Arzubiaga, Iturralde, Maseda and Kotlar (2018), Jiang, Liu, Fey and Jiang (2018) and Filser, Eggers, Kraus and Málovics (2014) have examined the effect of strategic involvement and financial and network resources on entrepreneurial orientation and performance. However, effect of internet adoption on entrepreneurial orientation and performance of SMEs is not evident in entrepreneurship literature. Neglecting fact that in modern businesses, companies are operating in a virtual world (Suriyapperuma, Ab Yajid, Khatibi & Premarathne,

2015), and business activities are done electronically through system integration (Lee et al., 2022), or other platforms such as e-commerce (Achiando, 2019) and e-marketing (Erum, Rafique & Ali, 2017; Sheikh, Shahzad & Ishak, 2016). Therefore, this research empirically investigates the effect of internet adoption on the relationship between entrepreneurial orientation and SMEs' performance in Kano, Nigeria.

2. Literature Review

SMEs' Performance: According to Zehir et al. (2015), performance of SMEs, in today's business world is used to reflect operational wellbeing of enterprises using subjective measurements that depend on judgmental assessment and objective measurements that depend on quantified financial indicators. Hence, performance is determined based on economic factors and financial indicators such as new product development and quality, market effectiveness, market share, as well as growth in sales and profitability.

Entrepreneurial Orientation: The term entrepreneurial orientation is used universally by scholars and practicing entrepreneurs to reflect firms' strategic posture in the form of risk-taking, innovativeness, and proactiveness (Lumpkin & Dess, 1996; Miller, 1983). Accordingly, Cui et al. (2018) defined strategic posture as predisposition of a firm to take risk and involve in innovative and proactive behavior, in trying to improve competitiveness and achieve superior performance. Therefore, in this study, entrepreneurial orientation is conceptualized in terms of risk-taking, innovativeness and proactiveness.

Risk-Taking: Risk-taking in business parlance is used to describe activities that assist entrepreneurs to seize opportunities in marketplace through large resources commitment (Covin & Slevin, 1990), investment in high returns ventures and incurring heavy debt (Lumpkin & Dess, 1996). Accordingly, Diaz and Sensini (2020) defined risk-taking in terms of courage of entrepreneurs to take bold actions, even when surrounded by conditions of uncertainty. In the same vein, Ibrahim and Martins (2020) posited that risk-taking reflects firm's willingness to under a condition of uncertainty, venture into new projects and commit high level of resources. Hence, risk-taking involves search of uncertain returns through tap and commitment of resources, in exchange for development of new possible innovative solution and competencies (Cui et al., 2018). Thus, risk-taking is a key component of entrepreneurship (Lumpkin & Dess, 1996).

Innovativeness: The term innovativeness reflects entrepreneur's level of research and development (R&D), experimentation, creativity, development of new processes, as well as introduction of new products, and novelty (Lumpkin & Dess, 1996). Whereas, Schumpeter (1947) defined innovativeness as modification of existing things, doing things in new ways and introduction of new things. Yet, Diaz and Sensini (2020) defined innovativeness in terms of creative path that promote business success and survival, through development and testing of new ideas. Hence, innovativeness entails propensity of firms to generate/experiment new ideas, create new product and amend the existing process (Ibrahim & Martins, 2020). Thus, innovativeness is a key component of entrepreneurship (Lumpkin & Dess, 1996).

Proactiveness: Proactiveness is used to reflect opportunistic behavior of an entrepreneur in finding opportunities and becoming leader, before rivals who compete in the industry (Lumpkin & Dess, 1996). According to Ibrahim and Martins (2020), proactiveness entails responding quickly to anticipated opportunities and taking advantage of evolving trend, through introducing new product and enhancing brand image in marketplace. Yet, Diaz and Sensini (2020) defined proactiveness in terms of proactivity which is the ability to challenge competition by predicting customer demand, launching new product and stimulating customer needs. Hence, proactiveness is synonymous with responding to market changes better than rivals, participation in emerging markets, new product development in anticipation of future demands, and introduction of new brand to reshape the environment (Hughes & Morgan, 2007). Thus, proactiveness is a key component of entrepreneurship (Lumpkin & Dess, 1996).

Internet Adoption: Internet, according to Suriyapperuma et al. (2015), is an integral component of information and communication technology (ICT), which seeks to connect people and businesses, or promote adoption of global economic system, through electronic (digital) platforms. According to Susanty, Sari and Anastasia (2016), adoption of Internet technology can make SMEs gain several advantages and overcome difficulties. Similarly, other scholars maintained that adoption of internet solution can make SMEs compete with larger firms (Alberto & Fernando, 2007), reach diverse segments of customers, penetrate local and international market, and as well, improve profitability, competitiveness and operational efficiency (Erum et al., 2017; Suriyapperuma et al., 2015).

Consequently, the effect of internet technology and internet based solutions such as e-commerce (Achiando, 2019), m-commerce (Nabhani, Daryanto, Yassin & Rifin, 2015), e-marketing (Sheikh et al., 2016), e-procurement (Masudin, Aprilia, Nugraha & Restuputri, 2021), and supply chain integration (Lee et al., 2022), on performance of SMEs have been investigated. However, research on moderating effect of internet

adoption on entrepreneurial orientation and SMEs' performance is lacking. Thus, this study intends to fill this gap, as a way for SMEs to improve performance level and remain competitive the marketplace.

Hypotheses Development: Prior studies have investigated relationship between entrepreneurial orientation and performance of small, medium and large business enterprises in different contexts, and such relationship is reported as positive and significant (Basco et al., 2020). Also, Gupta and Batra (2016) established that the linkage between entrepreneurial orientation and performance is strongly positive and significant. Accordingly, Jeong, Ali, Zacca and Park (2019) found that entrepreneurial orientation has positive influence on firm performance. In addition, Ibrahim and Martins (2020) found that entrepreneurial orientation dimensions like risk-taking, innovativeness and proactiveness have positive and significant relationship with the performance of SMEs.

Same result was also reported by Diaz and Sensini (2020), who established that both risk-taking, innovativeness and proactiveness have positive and significant influence on performance of the surveyed companies. Nonetheless, the linkage between entrepreneurial orientation and performance is not always positive and significant (Ojewumi & Fagbenro, 2019; Mahmood & Hanafi, 2013). Equally, Kosa et al. (2018) reported that the connection between entrepreneurial orientation and performance is inconclusive. Likewise, there is assertion that other variables may have impact entrepreneurial orientation and performance (Basco et al., 2020; Arshad et al., 2014). Similarly, Gupta and Batra (2016) claimed that other contextual factors can affect entrepreneurial orientation and SMEs' performance relationship.

In line with this, Suriyapperuma et al. (2015) internet adoption has created an entirely new platform in which business enterprises successfully operate in the virtual world. Yet, Xu, Fan and Hu (2022) asserted that with internet of things, SMEs can improve performance level. Empirically, Susanty et al. (2016) established that internet technology adoption enables SMEs to achieve better performance level. In addition, Karlsson, Rickardsson and Wincent (2019) confirmed the assertion that adoption of technological advancement heightens entrepreneurial orientation of firms, in spite of competitive pressure to take risk, create novelty, and pursue new market opportunities through pooling of resources to achieve superior performance. Hence, adoption of internet is critical in enhancing SMEs' performance in terms of increase in sales, market share and profitability level (Suriyapperuma et al., 2015). Therefore, this study hypothesizes that:

H1: Risk-Taking has significant effect on SMEs' Performance

H2: Innovativeness has significant effect on SMEs' Performance

H3: Proactiveness has significant effect on SMEs' Performance

H4: Internet Adoption has significant effect on SMEs' Performance

H5: Significant effect of Risk-Taking on SMEs' Performance is moderated by Internet Adoption

H6: Significant effect of Innovativeness on SMEs' Performance is moderated by Internet Adoption

H7: Significant effect of Proactiveness on SMEs' Performance is moderated by Internet Adoption

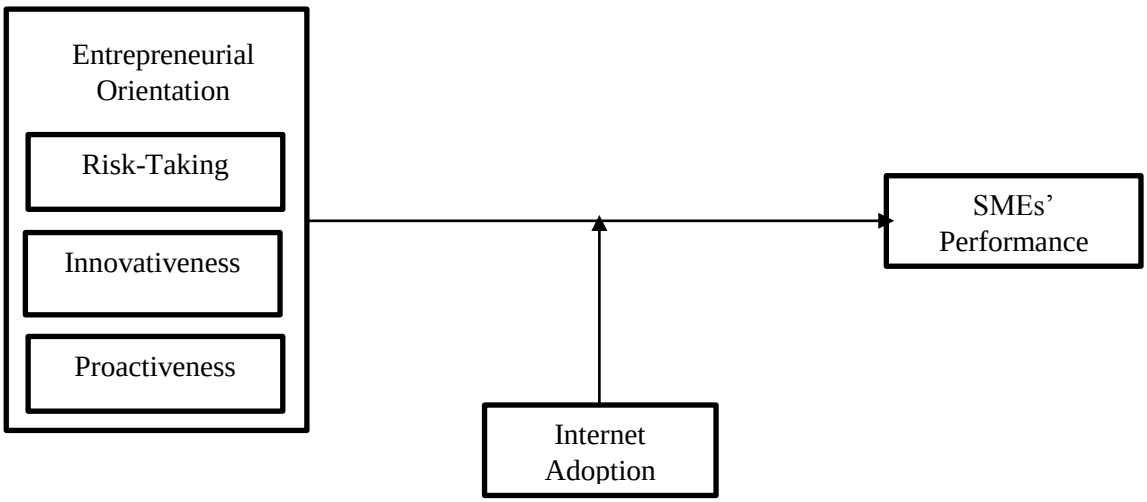

Figure 1: Conceptual Framework

3. Methodology

The methodology adopted in this study is quantitative and cross sectional design. While, the population are the entire 8,286 total SMEs in Kano State (SMEDAN, 2013), the sample size is 368 SMEs, according to Krejcie and Morgan (1970). Accordingly, items that measure the variables were adopted from prior scholars such as Cui et al. (2018) for Performance scale (4 items). Whereas, scales for EO consist of Risk-Taking (4 items), Innovativeness (5 items) and Proactiveness (4 items) adopted from Zehir et al. (2015). On the other hand, the scale for Internet adoption consists of 5 items adopted from Erum et al. (2017). Thus, research questionnaire was used in collecting responses of owners/managers of the SMEs, as they are involved in day-to-day running of the business. All data collected was analyzed by statistical package for social sciences and structural equation modelling for preliminary analysis and testing of research hypotheses.

4. Data Analysis and Findings

For this study, the analysis is done in phases. Firstly, preliminary analysis and descriptive statistics were conducted, giving the response rate of 50.8%, as out of 368 distributed questionnaires, and only 187 were used for the analysis. The descriptive statistics showed that 123 SMEs were owned by males; on the other hand, 64 SMEs were owned by females. Also, the result showed 98 SMEs are managed by the owners themselves; while, 89 SMEs are managed by managers. In addition, the result showed that out of the 187 surveyed SMEs 115 operates in the service industry; on the other hand, 72 operate in the manufacturing industry. And, secondly, the structural equation modelling technique was adopted, which was evaluated with the assessment of measurement and structural models (Hair et al., 2014). According to the outcome in figure 4.1, the model is assessed as reflective model, showing the adequacy of validity and reliability of the adopted instruments in this study. Hence, in the course of analysis both the endogenous and exogenous variables – namely: performance, risk-taking, innovativeness, proactiveness and internet adoption have average variance extract (AVE) and item-indicator reliability above 0.5, which ranges from 0.526 to 0.858 for AVE and 0.541 to 0.947 for weight loadings.

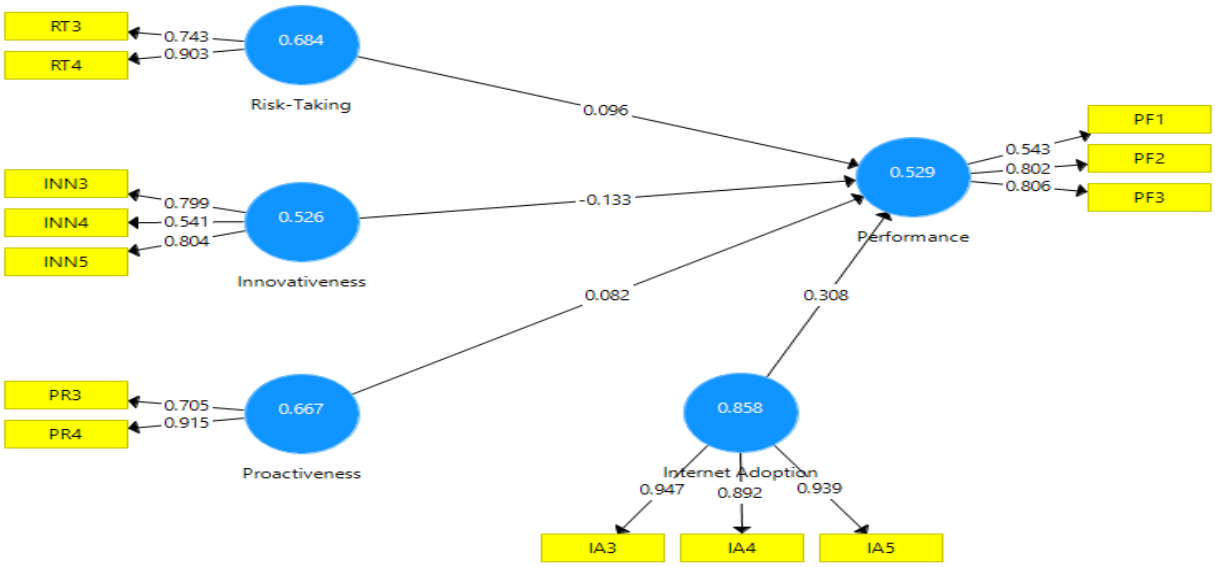

Figure 2: Measurement Model Assessment

Similarly, Table 2 showed that performance, risk-taking, innovativeness, proactiveness and internet adoption have adequate reliability value above 0.7, and ranges from 0.764 to 0.948. However, the validity and reliability values were satisfactory after deletion of PF4, for performance construct, RT1 and RT2 for risk-taking construct, INN1 and INN2 for innovativeness construct, PR1 and PR2 for proactiveness construct, and IA1 and IA2 for internet adoption construct. Hence, the latent variables for this study have achieved satisfactory level of validity and reliability.

Table 1: Validity and Reliability of Instruments

	Composite Reliability	Average Variance Extracted (AVE)
Innovativeness	**0.764**	**0.526**
Internet Adoption	**0.948**	**0.858**
Performance	**0.766**	**0.529**
Proactiveness	**0.797**	**0.667**
Risk-Taking	**0.811**	**0.684**

Still, the outcome of the assessment showed that the exogenous variables explained 14.4% of the endogenous variable. Likewise, the results indicated that internet adoption has the greatest effect on SMEs' performance (0.106), followed by innovativeness (0.020), risk-taking (0.011) and proactiveness (0.008). Thus, suggesting that risk-taking, innovativeness, proactiveness and internet adoption are important predictors of SMEs' performance.

Furthermore, the structural model in figure 3 showed that all the seven (7) hypotheses in this study were tested, and from the results, innovativeness has significant effect on SMEs' performance (β = -0.162, t = 2.431, p< 0.00). Also, internet adoption has significant effect on SMEs' performance (β = 0.272, t = 3.822, p< 0.00). However, the results showed further that risk-taking (β = 0.116, t = 1.192, p> 0.00) and proactiveness (β = 0.069, t = 1.002, p> 0.00) have no significant effect on SMEs' performance.

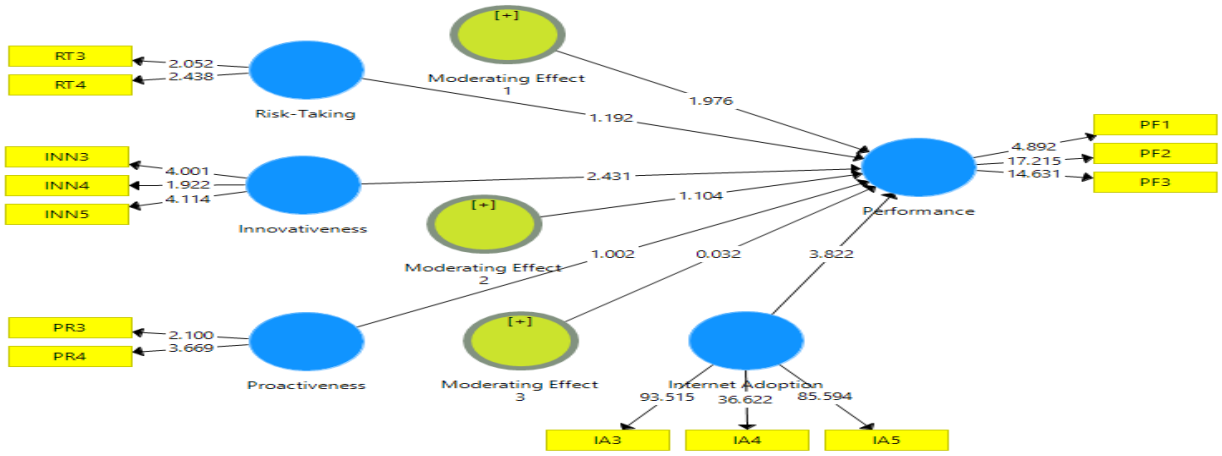

Figure 3: Structural Model Assessment

In addition, Table 2 showed that the moderating effect of internet adoption on the relationship between entrepreneurial orientation and performance is partially established, as it only succeeded in moderating the relationship between risk-taking and SMEs' performance (β = 0.169, t = 1.976, p< 0.05). On the other hand, internet adoption failed to moderate the relationship between innovativeness and SMEs' performance (β = -0.121, t = 1.104, p> 0.00), as well as relationship between proactiveness and SMEs performance (β = -0.003, t = 0.032, p> 0.00). From the analysis, therefore, H2, H4 and H5 were statistically supported at less than 1% and 5% significance level respectively. While, H1, H3, H6 and H7 were not statistically significant. Suggesting that the innovativeness and internet adoption are the most important predictors of SMEs' performance.

Table 2: Hypotheses Testing

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Innovativeness -> Performance	-0.162	0.066	2.431	0.008

Internet Adoption -> Performance	0.272	0.071	3.822	0.000
Moderating Effect 1 -> Performance	0.169	0.085	1.976	0.024
Moderating Effect 2 -> Performance	-0.121	0.109	1.104	0.135
Moderating Effect 3 -> Performance	-0.003	0.082	0.032	0.487
Proactiveness -> Performance	0.069	0.069	1.002	0.158
Risk-Taking -> Performance	0.116	0.098	1.192	0.117

5. Discussion and Recommendations

This study is aimed to empirically test effect of internet adoption on entrepreneurial orientation and SMEs' performance relationship in the context of Kano State, Nigeria. To achieve this objective, 7 Hypotheses were postulated and tested. According to the outcome, the effect on entrepreneurial orientation and its dimensions on SMEs' performance is mixed; because when innovativeness exerts significant effect on SMEs' performance, on the other hand, risk-taking and proactiveness lack significant effect on SMEs' performance. Similarly, while, this study has established significant effect of internet adoption on SMEs' performance. On the other hand, moderating effect of internet adoption is also mixed; because when it significantly affects the relationship between risk-taking and SMEs' performance, the same effect is not established on the relationship between innovativeness and SMEs' performance, as well as relationship between proactiveness and SMEs' performance.

The current findings concur with prior studies on the mixed effect of entrepreneurial orientation on performance (Basco et al., 2020; Kosa et al., 2018), significant effect of innovativeness and SMEs' performance (Ibrahim & Martins, 2020), and internet adoption and SMEs' performance (Susanty et al., 2016). However, the findings did not concur with that of Diaz and Sensini (2020) on significant effect of risk-taking on SMEs' performance and proactiveness on SMEs' performance. Therefore, the current findings suggest that to a greater extant the managers of SMEs pursue innovation as key driver of performance; even though, most of them are averse to risk-taking and do not adopt proactive approach, in terms of production and launching of new product to market ahead of competitors.

It is recommended that government policies should emphasize more on educating managers of SMEs and provision of adequate finances to SMEs, in order to help managers, take risky and proactive initiatives that can make their highly competitive in both domestic and international market scenes.

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