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ENTREPRENEURIAL ORIENTATION AND POLYTECHNIC STUDENTS INTENTION TO ADOPT DIGITAL ENTREPRENEURSHIP: A STUDY OF SELECTED STUDENT ENTREPRENEURS IN NASSARAWA STATE, NIGERIA

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ABSTRACT

In today's technological era, digital entrepreneurship is critical in driving innovation and economic growth. This study examines the role of individual entrepreneurial orientation in predicting digital entrepreneurship among some selected polytechnic students and graduates with rural origin and entrepreneurs *in Nasarawa State, Nigeria. Using probability sampling the data was collected among 382* selected polytechnic students and graduates with rural origin and entrepreneurs *from 3 Senatorial Zones in the State. Individual entrepreneurial orientation (IEO) is measured using three dimensions; risk-taking, proactiveness and innovativeness. SPSS version 25 was employed to assess both measurement (reliability and validity) and structural (hypotheses testing) models and the result supports all the three hypothesized relationships. Specifically, the finding depicts that risk-taking; proactiveness and innovativeness significantly predict intention to adopt digital entrepreneurship. The finding support both Theory of Planned Behaviour and technology Acceptance models. By examining the intention to adopt digital entrepreneurship by* selected polytechnic students and graduates with rural origin and entrepreneurs*, this study fill the existing gap and contributes to the body of knowledge in the digital entrepreneurship literature. Overall, the study contributes to the landscape of e-business and digital trade literature and by improving our understanding of the factors driving individuals' intentions to engage in digital entrepreneurship. Furthermore, the results offer significant perspectives for decision-makers in government, academia, and businesses.*

Keywords: Adopt, Digital Entrepreneurship Orientation, Intention, Polytechnic Students

1.0 INTRODUCTION

A nation's economic and social development is greatly supported by its entrepreneurs, who are the "movers and shakers" of the economy. They contribute toward product and process innovation and invention and overall job creation. Thus, entrepreneurship has become a significant economic force in both developed and emerging economies as several new businesses are established each year, hence creating millions of new jobs and also offering many people the chance to pursue more fulfilling careers (Miller *et al*., 2009). Entrepreneurship is also seen as a means to alleviate chronic high unemployment among youths in both the West and emerging markets. However, Nigeria, like most of the emerging economies is facing high unemployment rate (about 4.2% in the second quarter of 2023) among youths (National Bureau of Statistics 2023). Hundreds of thousands of youth are graduated every year without jobs, thus causing social violence and overall adverse effect to the economy. This is because unemployed youths are disproportionately more likely to be perpetrators, as well as victims of crime and violence (Okafor, 2011, Krueger, 2000). Hence it is necessary to identify critical antecedents of entrepreneurial intention specifically digital entrepreneurship adoption.

Hence, there are limited number of studies regarding digital entrepreneurship and digital entrepreneurship intention (Sobaih, 2022). The limited emergent literature clearly shows that the topic of digital entrepreneurship is still in its infancy and requires further understanding and investigation (Badaruddin,&.Abduallah, 2019). In general, digital entrepreneurship has been considered as a subset of traditional entrepreneurship in which some or all of what is tangible in a typical business is digitalized (Hull *et al.,* 2007). Digital entrepreneurship is the result of a newly launched digital business on the market or creative concept in response to a change that is carried out using technology (Younis *et al*., 2020).

Even though waves of technological change, as well as disruptive phenomena such as information technology (IT), create an overabundance of new opportunities, they do not necessarily create economic value themselves; rather, they need to be leveraged and exploited. Accordingly, entrepreneurs are at the forefront as change agents, working on the discovery, evaluation, and exploitation of new opportunities brought about by evolving technologies such as blockchain, big data, artificial intelligence, virtual and augmented reality, 3D printing, or cloud computing (Beck *et al.,* 2017). This pushes some entrepreneurs across globe to adopt digitization in their business operations.

Entrepreneurial orientation is regarded as critical antecedent to entrepreneurial intention (Baba, 2014), hence will assume to predict intention to adopt digital entrepreneurship. However, do

entrepreneurs specifically those living in rural area possess entrepreneurial orientation and some qualities/characteristics of successful entrepreneurs to adopt emerging technology in their mode of operation?

In today's knowledge economy and technological era for business to succeed and achieve competitive advantage it must adopt technology. However, as mentioned earlier, the art of technology adoption in Nigerian business is low (Insider Africa, 2024) thereby slowing down business advancement. Even though, the level of awareness of the technology is relatively high in the cities the rural entrepreneurs find it difficult to adopt and use technology in their business operations thus leading to low performance in their operations compeered to their counterparts (Muktar *et al.*, 2024). Thus, there is need to examine factors that lead to digital entrepreneurship adoption among rural youths

To date several studies were conducted on the factors that lead to entrepreneurial intention among both polytechnic students and graduates youths (e.g Baba, 2014; Barba-Sánchez,et al.,2022; Sobaih & Elshaer, 2022; Tomy, & Pardede, 2020; Zhang,et al., 2015 etc.). More so, most of these studies were focused on the traditional entrepreneurship. Similarly Linan and Chen's (2004) Entrepreneurial Intention Model is arguably the most used model in past studies, proposed factors that could affect entrepreneurial intention, known as the motivational dimensions, which were based on the Theory of Planned Behaviour (Ajzen, 1991). These factors also known as antecedents to intention are largely known as personal attitude, subjective norm and perceived behavioural control (PBC) (Ajzen, 1991). Similarly those studies focused more on traditional entrepreneurship.

Consequently to fill these gaps this study aims to examine the impact of entrepreneurial orientation on intention to adopt digital entrepreneurship amongst polytechnic students and graduates entrepreneurs of rural origin in Nasarawa State, Nigeria. Specifically, the study uses three dimensions of entrepreneurial orientation which comprises Risk taking, Innovativeness and Proactiveness and their impact on digital entrepreneurship adoption

Based on the aforementioned discussions about need to conduct this study, the general objective of this study is to examine the role of individual entrepreneurial orientation on intention to adopt digital entrepreneurship among rural entrepreneurs. Precisely, this study intends to achieve the following specific objectives:

I. To examine the relationship between risks taking and intention to adopt digital entrepreneurship among selected polytechnic students and graduate and entrepreneurs with rural origin in Nasarawa State

II. To examine the relationship between innovativeness and intention to adopt digital entrepreneurship among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State
III. To examine the relationship between proactiveness and intention to adopt digital entrepreneurship among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State

This study intent to answer the following questions:

I. Does risk taking influence digital entrepreneurship adoption among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State?
II. To what extent does innovativeness predict digital entrepreneurship adoption among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State?
III. What is the relationship between proactiveness and digital entrepreneurship adoption among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State?

In line with above stated objective the following hypotheses were developed in null form subject to affirmation or otherwise:

I. HO1; There is a significant relationship between risks taking and digital entrepreneurship adoption among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State
II. HO2: There is a significant relationship between innovativeness and digital entrepreneurship adoption among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State
III. HO3: There is a significant relationship between proactiveness and digital entrepreneurship adoption among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State

The finding of this study is significant in both theory and practice. From practical perspective the finding is significant to selected polytechnic students and graduates with rural origin and entrepreneurs as it will aid them in adopting and using technology in their mode of business operation. Theoretically, the study will further extend intention models by incorporating individual entrepreneurial orientation. In addition, the finding will provide more insight to entrepreneurial intention literature by providing the role of individual entrepreneurial orientation on digital entrepreneurship adoption among selected polytechnic students and graduates with rural origin and entrepreneurs. Lastly, the study is significant to policy makers by providing the

role of digital entrepreneurship in achieving competitive advantage. Government should encourage rural entrepreneurship to adopt digitization in their business operations.

2.0 LITERATURE REVIEW

2.1 **Conceptual Framework**

This section presents the framework for the study. The independent variables comprise risk-taking, proactiveness and innovativeness while intention to adopt digital entrepreneurship stands as dependent variable.

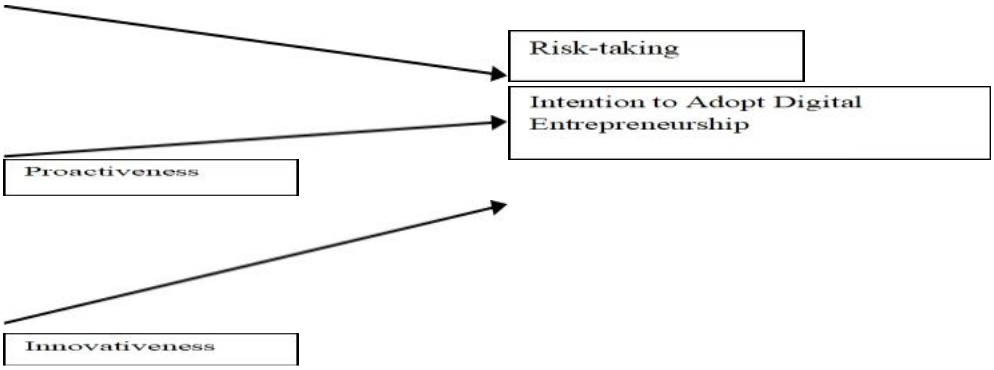


Figure 3.1

Technology Acceptance Model

2.1.1 The Technology Acceptance Model (TAM)

Developed by Davis in 1989, is a well-established theoretical framework that helps explain how users come to accept and use technology (Davis, 1989). It focuses on two primary factors: Perceived Usefulness (PU): The degree to which a person believes that using a particular technology will enhance their job performance. Perceived Ease of Use (PEOU): This is the extent to which a person believes that using a technology will be free from effort.

Accordingly, these two factors influence Attitude Toward Use**,** which in turn affects the Behavioral Intention to Use the technology, ultimately leading to actual usage. This theory is relevant to this study because studies show that entrepreneurs are more likely to adopt digital tools or platforms if they believe that doing so will improve their business outcomes (Perceived Usefulness in Entrepreneurship), such as increasing efficiency, market reach, or customer engagement (Venkatesh & Davis, 2000).. Similarly, Entrepreneurs will favor adopting digital technologies if they perceive these tools as easy to learn and implement (Perceived Ease of Use)

(Venkatesh *et al*., 2003 This is particularly relevant for small businesses and startups where simplicity in digital systems can significantly reduce operational burden.

TAM can be linked to entrepreneurial intention—the degree to which an entrepreneur is motivated to start and sustain a digital business. The more an entrepreneur perceives the digital technology as useful and easy to implement, the stronger their intention to adopt it in their business operations (Krueger, Reilly, & Carsrud, 2000). In sum, TAM's emphasis on perceived usefulness and ease of use can be directly applied to understanding why entrepreneurs choose to adopt or avoid digital tools and platforms when engaging in digital entrepreneurship.

2.2 Empirical Review

It is generally believed that intention is a predictor of actual behaviour and action. Thus, Several studies were conducted on the relationship between intention to act and enterprise's creation (Karimi *et al.*, 2016; Karimi, 2020; Kautonen *et al*., 2015; Maresch *et al*., 2016) hence this became the key in the entrepreneurial process (Zhao *et al.*, 2010). Similarly, individual entrepreneurial orientation is considered an entrepreneurial competency that can be developed through experiential learning (Sahoo & Panda, 2019). Accordingly, individual entrepreneurial orientation is found to have significant influence in predicting behaviour towards actual entrepreneurship (Suartha & Suprapti, 2016; Ekpe and Mat, 2012; Hassan *et al.*, 2021; Martins & Perez, 2020; Robinson & Stubberud, 2014; Zhang & Bruning, 2011), cyberpreneurship intentions (Falahat *et al*., 2024) and Artificial Intelligence (AI) (Upadhyay, *et al.*,2023).

Similarly, regarding firm performance, manager with stronger individual entrepreneurial orientation will have positive impact on organizational performance. In this study IEO dimensions is treated independently because of their propensity to have independent effects (cf. e.g., in firm-level studies, Hughes and Morgan, 2007; Lomberg *et al.*, 2017). Thus this study is interested in the relative impact of each dimension because to do otherwise would instil a potentially invalid assumption of equivalence that these dimensions are always equal and co-occur. Thus, the following sub-sections reviews empirical literature in a thematic way

2.2.1 Risk-Taking and Digital Entrepreneurial Intention

Risk-taking as defined by Covin *et al.* (2020) is the "willingness to undertake tasks with uncertain outcomes". Risk-taking represents an individual's propensity to take calculated risks. Higher risk-taking individuals are more likely to embrace uncertainty, which can translate into a greater willingness to engage in cyberpreneurship, an endeavor with inherent risks. The 'uncertain outcome' as professed by Covin *et al*. (2020) is echoed by Davis *et al*. (2016), where the authors noted that risk-taking is the ability of individuals to implement plans or goals, even though they are mindful of the minimal chance of succeeding.

Under unpredictable circumstances, entrepreneurial activities involve decision-making, which has resulted in a comparatively higher risk comparison to conventional salaried jobs (Kusmintarti *et al.*, 2016). Risk-taking is thus perceived to be one of the most prominent attributes of an entrepreneur, which forces them to make crucial business judgments and participate in risky entrepreneurial practices with little or no information (Elali and Al-Yacoub, 2016).

Similarly, risk-oriented entrepreneurs tend to act despite the absence of structure or certainty (Elia & Margherita, 2018), seeking out high-stakes activity full of risk. As both sets of behaviors favor action when faced with uncertainty, they are appropriate in the context of digitalization (Weill & Woerner, 2018). However, high risk-taking favors the exchange of unusual knowledge and ideas (Jiang *et al*., 2019), delaying uncertainty reduction when pathways to achieving digital strategy goals are ambiguous

In their study on the determinants of entrepreneurial intention among university students in Indonesia, Hidayati *et al.* (2022**)** found that risk-taking propensity is significantly associated with the intention to pursue digital entrepreneurship. The study highlights that individuals who are more willing to take risks are more likely to venture into digital business due to the dynamic and evolving nature of the digital landscape. Similarly, Shamsudin *et al.* (2018**)** examined the factors influencing digital entrepreneurial intention among Malaysian students. The authors found that risk-taking behavior is a significant predictor of digital entrepreneurial intention. Those with higher risk tolerance were more inclined to adopt digital entrepreneurship due to the perception that the rewards outweighed the risks.

Sahut *et al*. (2021) explored the drivers of digital entrepreneurship adoption among small and medium enterprises (SMEs). The findings indicated that risk-taking is a significant factor influencing the intention to adopt digital platforms for entrepreneurial ventures. Entrepreneurs who exhibited a higher propensity for risk-taking were more willing to integrate digital technologies into their business models

The connection between risk-taking propensity and digital entrepreneurship intentions is a nuanced and critical aspect of contemporary entrepreneurial research.. This literature review delves into the intricate relationship between risk-taking behavior and the intentions of individuals to embark on digital entrepreneurial ventures. Nikitina *et al.* (2022) found that risk-taking and proactiveness seem to influence the inclination toward establishing an international entrepreneurial business venture. According to a study by Shepherd (2016), risk-taking propensity is a key factor in entrepreneurial decision-making, influencing the identification and pursuit of opportunities.

In the context of digital entrepreneurship, where the virtual terrain is rife with uncertainties, individuals with a higher tolerance for risk are more likely to perceive the dynamic digital environment as a fertile ground for innovation and venture creation. The study emphasises that risk-taking is not merely a trait but a dynamic process influenced by the interaction between individual characteristics and environmental factors. Moreover, recent work by Hasbolah *et al.* (2020) underscores the role of risk perception in shaping cyberpreneurship intentions. The study highlights that individuals who accurately assess and manage the risks associated with online ventures are more likely to exhibit a positive intention to engage in cyberpreneurial activities. This aligns with the notion that successful cyberpreneurs are not risk-averse but rather possess the ability to evaluate and navigate risks strategically in the digital landscape. The study by Hasbolah *et al*. (2020) also draw attention to the contextual nature of risk-taking in cyberpreneurship. Regional variations and cultural attitudes toward risk play a significant role in shaping individuals' perceptions and responses to the uncertainties inherent in online business endeavors.

In a study among 473 final-year university students in the Klang Valley region of Malaysia, Falahat *et al*., (2024) found that risk-taking is significantly related to cyberpreneurial intention. Similarly, Rico Baldegger *et at.*, (2021) conducted a study among 357 SMEs, and risk-taking found to be significantly closely associated with an SME's degree of digitization as well as with its overall performance. These studies collectively demonstrate the positive link between risk-taking propensity and the intention to adopt digital entrepreneurship, supporting the idea that entrepreneurs willing to take risks are more likely to explore digital opportunities.

In conclusion, the latest research emphasises the continued relevance of risk-taking in shaping digital entrepreneurship intentions, offering insights into the complex interplay of individual traits, environmental factors, and cultural influences in the digital entrepreneurial landscape. However, based on the aforementioned studies it is clear that studies on digital entrepreneurship intention among rural dwellers is scarce in the literature. And again, there is scarce literature on digital entrepreneurship in Nigeria, leaving the gap in the existing knowledge.

2.2.2 Proactiveness and Digital Entrepreneurship Intention

Proactiveness indicates an individual's tendency to take initiative and act ahead of time. Such individuals are likely to actively seek out opportunities, making them more predisposed to engage in digital entrepreneurship. Proactivity at the personal level corresponds to their desire to predict the future by looking at potential business opportunities and launching new goods or brands in advance of their rivals (Alam *et al.,* 2015). Proactive characteristics are linked to the rivals of entrepreneurs, they are driven to be the first mover on the market and have a predominant role in being competitive in the sector. Park (2017) has stated that proactive

entrepreneurs are active in combating their rivals and are aggressive in delivering new goods or services to the market. According to Linton (2019), and Jin *et al.* (2017), proactivity can be described as the first breakthrough in the industry, and the main purpose of a proactive entrepreneur is to overtake its rivals by introducing innovations, forecasting the future market, and generating prospects for progress that will shape the market.

Proactive individuals are more likely to recognise and seize digital entrepreneurial opportunities, leading to higher cyberpreneurial intentions. Using the sample of 323 university students in Aligarh Muslim University, India Hussain (2021) found that proactivevess significantly influence entrepreneurial education and intention. As the landscape of entrepreneurship continues to evolve in the digital era, the role of proactiveness in shaping cyberpreneurship intentions has garnered increased attention.

Furthermore, proactiveness is closely linked to the ability to adapt to technological advancements. The study by Wang and Altinay (2012) suggests that individuals with a proactive stance are better equipped to navigate the ever-changing landscape of digital technologies, allowing them to stay ahead of the curve in terms of online business trends and opportunities. This aligns with the notion that cyberpreneurs, by nature, need to be forward-thinking and adaptive to success in the competitive digital environment.

Nambisan (2017) explored the relationship between entrepreneurial orientation and digital entrepreneurship. The findings showed that proactiveness significantly influenced the intention to adopt digital entrepreneurship, as proactive individuals were more likely to foresee and seize emerging opportunities in the digital economy. Proactive entrepreneurs were found to anticipate market needs and technological advances, thereby increasing their intention to pursue digital ventures.

Similarly, in their study on entrepreneurial orientation and small business performance, Bolton & Lane 2012) found that proactiveness was a significant determinant of entrepreneurial intention, especially in the digital domain. Entrepreneurs who exhibited proactive behavior were more likely to explore and adopt digital business models to stay competitive, reinforcing the positive relationship between proactiveness and digital entrepreneurship.

Bouncken *et al*. (2016) investigated entrepreneurial orientation and its effect on digital innovation. The authors found that proactiveness played a key role in determining the intention to adopt digital platforms for entrepreneurial ventures. Entrepreneurs who took a proactive approach were more likely to integrate digital tools, technologies, and strategies into their businesses, driven by the anticipation of market changes and emerging opportunities.

Urban and Govender (2017) focused on the role of entrepreneurial orientation, including proactiveness, in shaping the digital entrepreneurial intentions of students in South Africa. The results demonstrated a significant positive relationship between proactiveness and digital

entrepreneurial intention, indicating that individuals with a proactive mind-set are more likely to pursue entrepreneurial opportunities in the digital space

The study by Saeed *et al*. (2021) examines the impact of proactive personality on entrepreneurial intention, using the Theory of Planned Behavior (TPB) as a framework. The findings suggest a significant positive relationship between proactiveness and entrepreneurial intention, indicating that proactive individuals are more likely to have a strong intention to start a business. Proactive individuals anticipate future opportunities and are motivated to take action toward entrepreneurial activities.

In the study on Malaysian university students, Yusoff *et al*. (2021) examined the relationship between proactive personality, risk-taking, and entrepreneurial intention. The study found a significant positive relationship between proactiveness and entrepreneurial intention. Proactive individuals are more inclined to identify opportunities and take the initiative, driving entrepreneurial pursuits.

Rusu and Roman (2021) explored entrepreneurial intention among youths in the European Union. Their research found a significant relationship between proactive personality traits and entrepreneurial intention, particularly emphasizing how proactiveness enables young individuals to anticipate market needs and seize entrepreneurial opportunities.

2.2.3 Innovativeness and Digital entrepreneurship

According to Kraus *et al*. (2019), innovativeness in entrepreneurial orientation context refers to efforts indulged with something new and unknown. Abubakar *et al.* (2020) defines innovativeness in information technology as a person's willingness to engage with digital technological innovations for their entrepreneurial projects. One can derive that innovativeness may bring about positive intentions from the author's argument that higher personal innovativeness in information technology is more likely to bear favorable perceptions about new IT leading to having positive intentions. However, Abubakar *et al*. (2020) studied personal innovation as a moderator for the relationship between IT culture and successful digital entrepreneurship. In this study, innovativeness is treated as a predictor of intention to adopt digital entrepreneurship. The intersection of innovativeness and digital entrepreneurship intentions represents a compelling area of study in the contemporary entrepreneurial landscape.

As the digital realm continues to evolve, individuals and businesses are increasingly drawn to the opportunities presented by cyberpreneurship, where innovative ideas find expression in the online space. Jia *et al*. (2022) studied institutional environment in the digital context affect technology entrepreneurship and found that innovative culture is associated with technology entrepreneurship. Alshebami and Seraj (2022) examined the factors influencing digital

entrepreneurship intentions among Saudi Arabian university students. The results indicated that innovativeness was a significant predictor of students' intentions to pursue digital entrepreneurship. The more innovative the students were, the more likely they were to embrace digital tools and platforms to create entrepreneurial ventures.

In a study of entrepreneurial orientation and digital entrepreneurship in small and medium-sized enterprises (SMEs), Kraus *et al.* (2019) found that innovativeness significantly influenced the intention to adopt digital entrepreneurship. SMEs with higher levels of innovativeness were more likely to adopt digital technologies and integrate them into their business models.

Elia, *et al* (2020) focused on the role of digital innovation in fostering entrepreneurial intentions. The study found that innovativeness was a key driver of individuals' intention to pursue digital entrepreneurship, as innovative entrepreneurs were more inclined to explore digital opportunities, resulting in new business models and market approaches.

Wang, *et al.,* (2015) conducted a study on entrepreneurial orientation and business performance in the context of Chinese firms highlighted the significant role of innovativeness in shaping the intention to adopt digital strategies. Innovativeness was found to be a strong predictor of digital entrepreneurship, as firms that were more innovative were more likely to leverage digital tools and platforms to gain competitive advantages. Ryu and Lee (2020) investigated the relationship between innovativeness and digital entrepreneurship among young entrepreneurs in South Korea. The results demonstrated that individuals with higher levels of innovativeness were more likely to engage in digital entrepreneurship, driven by the potential to create new solutions and disrupt traditional business models using digital technologies.

3.0 METHODOLOGY

3.1 Research Design

This study employs a survey research design which examines the response to the role of Individual Entrepreneurial Orientations on Digital entrepreneurship adoption among some selected rural entrepreneurs in Nasarawa state Nigeria.. Survey research means collecting information about a group of people by asking questions and analyzing the results

3.2 Population

Population refers to the "entire group of people, events or things of interest that the researcher wishes to investigate" (Sekaran & Bougie, 2010). Moreover, according to Cavana *et al* (2001) population is a collection of subject of interest to be studied. The population of present study is 7,600 which comprise selected polytechnic students and graduates with rural origin and entrepreneurs from 3 senatorial districts in Nasarawa State. These entrepreneurs are registered with their respective associations (cattle sellers, famers association, and grain sellers association).

3.3 Sample and Sampling Technique

A sample according to Salant and Dillman (1994) refers to a set of participants or element selected from a bigger population with aim of conducting a survey. Based on Krejcie and Morgan (1970) the sample size of this study is 382. Furthermore, Simple random sampling technique is employed in this study.

3.4 Unit of Analysis

The term unit of analysis signifies who or what is under studied in a given research. Accordingly, in social science research there are different types of unit of analysis, these comprise; individual, group and organization (Creswell, 2012; Kumar, AbduI *et al* 2013). Because the respondents of the current study are the selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State, the unit of analysis is individual.

3.5 Measurement of Variables

Digital entrepreneurship intention was measured by four items derived from Lee *et al.* (Spence *et al*., 2012) the items were modified to fit the study context, sample items include" "I can stand the inconvenience caused by digital projects," and "I will continue to invest in digital projects". The scale items demonstrated high consistent reliability. The scale for Individual Entrepreneurial Orientation was adopted from Bolton and Lane (2012). Similarly, all the scale was measured using 5 point Likert scale.

3.6 Data Collection Procedures

Using a cross-sectional study design, this study employed a field study design. Accordingly, a cross-sectional study encompasses collecting the data only once for a precise study to attain the purpose of the study (Cavana *et al.*, 2001). Accordingly the present study selected cross-sectional survey technique to evade wasting much time that symbolizes longitudinal study (Sekaran & Bougie, 2010). Importantly, there is no effort to influence any of the constructs in the questionnaire. Moreover, two research assistants, were employed to assist in the distribution of the questionnaires to the designated respondents (i.e selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State). In addition, to ensure the respondents filled and return the questionnaires, the researcher visited the respondents.

3.7 Method of Data Analysis

This study uses both descriptive and influential statistics for the analysis. Accordingly, SPSS version 25 is employed for the analysis.

4.0 RESULTS AND DISCUSSION

4.1.1 Response Rate

A total of 382 questionaiares were distributed to some selected polytechnic students and graduates with rural origin and entrepreneurs in three senatorial districts in Nasarawa State, Nigeria. However, as shown in Table 1a, out of 382 distributed questionnaires, a total of 301 were returned for the analysis which represents the response rate of 79%. Furthermore, from the 301 returned questionnaires, 10 were rejected due to incomplete information given by the participants.

Table 1a: Response Rate

Items	Frequency	Percentage
Distributed Questionnaire	382	100
Returned Questionnaire	301	79
Invalid Questionnaire	10	5
Valid Questionnaire	291	76

Hence the valid questionnaires are 291 representing 76% of total questionnaire distributed. This rate is considered appropriate based on the Sekaran's (2003) argument that 30% response rate is acceptable for surveys. Likewise, the present response rate is considered sufficient based on the recommendation that a sample size in a given study should be between 5 and 10 times the number of study variables (Bartlett, Kotrlik, & Higgins, 2001; Hair *et al.,* 2010). Since the present study has 4 variables; a sample of 40 is appropriate for analysis.

4.1.2 Non response Bias Test

Non-response bias is a form of selection bias that happens when the characteristics of individuals who do not participate in a study differ significantly from those who do, resulting in findings that may not accurately represent the entire population. This bias is particularly problematic in survey research, where certain demographic groups, attitudes, or behaviors are systematically underrepresented due to non-participation. It affects the validity of conclusions drawn from the research, as it can distort the estimated relationships between variables or the measurement of outcomes (Groves & Peytcheva, 2008);

Though, "there is no minimum response rate below which a survey estimate is necessarily biased and, conversely, no response rate above which it is never biased" (Singer, 2006, p. 641), but if the difference exists, then there is element of under-representation (Cooper & Schindler, 2006). Therefore, there is need to conduct non-bias analysis for this study. This study divides the respondents in to early and late respondent. Accordingly, all late respondents were tag as non-

respondents. From the 291 valid questionnaires received, 227 (i.e. 78%) responded within 20 days while, remaining 64 (i.e. 22%) responded after 20 days. The early and late response groups were coded 1 and 2 respectively.

Table 1b: Result of Independent-Sample T-test for Non-Response Bias

Variables	**Group**	**N**	**Mean**	**SD**	**Levene's Test for Equality of Variances**	
					F	**Sig.**
Digital Adoption	1	227	4.91	.69	.56	.30
	2	64	5.0	.44		
Risk-taking	1	227	4.35	.91	.83	.48
	2	64	4.14	69		
Innovativeness	1	227	4.65	.67	.99	.40
	2	64	4.17	.47		
Proactiveness	1	227	4.11	.62	.42	.58
	2	64	4.41	.39		

Then independent-samples t-test was conducted to determine whether there was a non-response bias on study variables. Table 1b demonstrates the result of non-response bias in this study. The result shows that, each of the four (4) variables' significanct values of equal variance exceeds 0.05 significance level of "Levene's test for equality of variance". This signifies the absence of non-response bias (Field 2009; Pallant 2010). Therefore, this study does not violate the assumptions of "equal variances between early and late respondents". Consequently, the non-response bias does not exist in this study.

4.1.3 Data Screening

Data screening is critical in conducting any multivariate analysis. This is because the qualities as well as meaningfulness result of the analysis "depend on the data screening and editing" (Pallant, 2011). In the same view, Hair et al., (2007) argued that initial data screening helps researchers identify any possible violations of the main assumptions regarding the use of multivariate analysis. As a result, the following preliminary data analyses were conducted: (i) analysis of

missing data, (ii) assessment of outlier, (iii) normality test, and (iv) multicollinearity test (Hair, Black, Babin, & Anderson, 2010; Tabachnick & Fidell, 2007).

4.1.4 Checking of Missing Data

Checking for missing data is one of the steps taken to ensure data collected is clean for analysis. This became necessary because conducting analysis with missing data could lead to inaccurate findings (Hair *et al.,* 2010). Missing data refers to "absence of appropriate value on one or more variables in observation" (Hair *et al*., 2010). Missing data normally happen during collection of data when the respondents either mistakenly or deliberately fails to respond to one or more questions. Therefore, proper screening was done in the original SPSS data set to check for possible missing values. The result shows that out of 8,730 data points 9 (0.10%) were missing.

Table 2: Total and Percentage of Missing Values

Latent Variables	**Number of Missing Values**
Digital Adoption	3
Risk-taking	1
Innovativeness	2
Proactiveness	3
Total	9
Percentage	0.10%

While there is no general standard regarding the percentage of missing value in data making a valid statistical inference, some researchers (e.g. Tabachnick & Fidell, 2007) argued that a rate of 5% or less missing values in a given data is non-significant. Thus the missing values in this study is refered to as non-significant and all the values were replaced using mean (Tabachnick & Fidell, 2007)

4.1.5 Checking of Outlier

In any regression based analysis, the existence of outliers can alter the estimates of regression coefficient which lead to untrustworthy findings (Verardi & Croux, 2009). Against this background, the present study used frequencyTable in SPSS for all variables using minimum and maximum statistics. This was done in order to detect any wrong entry of data. Accordingly, in the frequency ables no value appeared to be outside the expected range.

4.1.6 Demographic Characteristics of Respondents

The demographic characteristics comprise; gender, working experience, status/post and department Table 3 shows all the demographic information of the respondents.

Table 3: Demographic Characteristics of Respondents

Demographic Variables	Frequency	Percentage
Gender:		
Male	238	82%
Female	53	18%
Nature of Business:		
Farming and Grain Business	189	65%
Cattle Business (Rearing, buying &Selling)	47.	16.15%
Other Business Activities	55	19%
Qualification:		
Primary Certificate	67	32%
Secondary Certificate	134	46%
Tertiary Education Cert**.**	64	22%
Business Experience:		
1-5 years	37	13%
6-10 years	99	34%
11-15 years	102	35%
16-20 years	41	14%
21 years and above	12	4%

From Table 3 above the result shows that majority of the respondents 238 representing 82% are male while 53(18%) are females. This is not surprising because in Northern Nigeria most of the rural entrepreneurs are men. This might be as a result of the region's culture. Regarding nature of business activities, the result show that 65% (1.e. 189) of the respondents are either farmers or their business falls within the agricultural value chain. This is also a clear picture of the rural or agrarian society, where majority of the people are farmers. The next demographic characteristic in this study is business experience. The finding shows that, secondary school qualification is the highest qualification obtained by majority of the sample. To be specific the result shows that 134 representing 46% possess secondary school certificates while only 64 (22%) obtained tertiary certificates. This also is in line with the expectation that most of the people living or doing their businesses in rural areas did not further their education beyond secondary schools. Lastly, the result presented in Table 4.4 above depicts that majority of the sample in this study 102 (35%) have 11-15 years business experience.

4.1.7 Descriptive Statistics of the Variables

This section examines the general statistical description of the variables used in the present study. The mean and standard deviation were computed for each variable. Furthermore, this study used five point Likert scale

Table 4: Descriptive Statistics of the Variables

S/N	Variable	Mean	SD	Minimum	Maximum
1	**Digital Adoption**	3.86	0.571	1.00	5.00
2	**Risk-taking**	4.00	0.846	1.00	5.00
3	**Innovativeness**	4.26	0.564	1.00	5.00
4	**Proactiveness**	4.04	.0.696	1.00	5.00

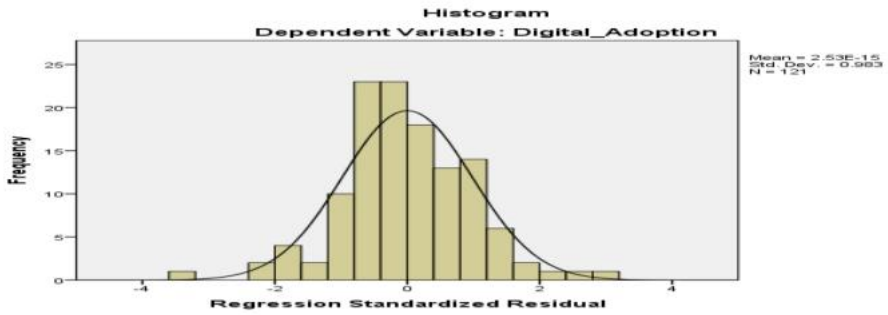
The result presented in Table 4 above shows the mean score for digital entrepreneurship adoption is 3.86. This indicates that on average the sample agreed with statement on the issue on intention to adopt digital entrepreneurship. Similarly, the mean score of risk-taking is 4.00. This suggests that on average the sample agree with risk-taking behaviour. Likewise innovativeness and procactiveness mean score shows a mean score of 4.26 and 4, 04 respectively and a standard deviation of 0.564 and 0.696.

4.1.8 Assumption of Multiple Regressions

Normality Test

One of the primary assumptions of multiple regression analysis is that all linear grouping of the variables must be normally distributed. According to Hair *et al*., (2012) normality test is

necessary before any multivariate. This is because a set of data which is high skewed and or kurtosis can inflate the bootstrapped standard error estimates (Chernick, 2008). Normality of the data is mostly assessed through either graphical or statistical method. Accordingly, skewness and kurtosis are the basic method of statistical normality. The value of the skewness and kurtosis should be close to zero if a data is distributed normally. In contrast, histogram as well as residual plots were used to determine normality under graphical method (Tabachnich & Fidell, 2007). Consequently, the present study applied graphical method in checking normality of the data.



Multicollinearity Test

Sekaran and Bougie (2010) views multicollinearity as a statistical phenomenon that occurs when two or more predictor variables in a multiple regression model are highly correlated, meaning that one can be linearly predicted from the others with a substantial degree of accuracy. This high intercorrelation among predictors makes it difficult to determine the individual contribution of each predictor to the variance in the dependent variable.

In simpler terms, multicollinearity arises when the independent variables in a regression model overlap in the information they provide about the dependent variable. This can lead to unreliable coefficient estimates, inflated standard errors, and reduced statistical power. To check for multicollinearity this study uses both correlation matrix (*Hair et al., 2010*) and Variance Inflation Factor (VIF) (Pallant, 2007).

Table 5: Correlation Matrix of the exogenous Latent Constructs

Correlations				
		Risk_taking	Proactiveness	Innovativeness
Risk-taking	Pearson Correlation	1	*	
	Sig. (2-tailed)			
	N	121		
Proactiveness	Pearson Correlation	.655**	1	.*
	Sig. (2-tailed)	.000		
	N	121	121	
Innovativeness	Pearson Correlation	.414**	.487**	1
	Sig. (2-tailed)	.000	.000	
	N	121	121	121

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5 demonstrates the correlation among the exogenous latent constructs and the result shows that no multicollinearity exist as all the independent variables scores are less than the cut-off values of 0.9 (Hair *et al.*, 2010). In addition, test of VIF and tolerance were conducted to check multicollinearity. According to Kline (2005) the data would be free of multicollinearity when the value VIF is less than 10 and tolerance value is more than 0.10.

Table 6 below shows the values of VIF and tolerance of the present study.

Table 6: Tolerance and Variance Inflation Factor (VIF)

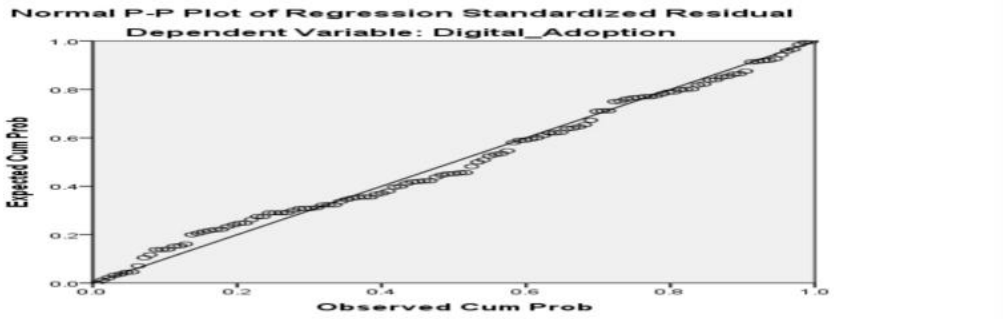
Independent Variables	**Collinearity Statistics**	
	Tolerance	**VIF**
Risk-taking	0.50	1.99
Training	0.43	2.31
Reimbursement	0.47	2.12

Table 6 shows the absence of multicollinearity between the independent variables as all VIF values were less than 5 and tolerance values exceeded .20, as recommended by Hair *et al.* (2011). Therefore, it can be concluded that there is no multicollinearity in the present study.

Linearity Test

Testing linearity is vital before conducting multivariate analysis. This is because the fundamental assumption of the method is that there must be a linear relationship between independent and dependent variables. To check the linearity, this study performed linear regression analysis and

the residual plot (Hair *et al.*, 2006). Figure 4.2 depicts the results of linearity assumption. It shows that all the assumptions of linearity were not violated.



4.1.9 Assessment of Path Model Results

Conducting validation provide important information about the model. Validation refers to "building the right model, i.e. determining whether the model is a sufficiently accurate representation of the real system of interest from the perspective of the intended use of the model" (Calsson, 2013). Accordingly, a two-stage process was adopted in this study as suggested by Hair *et al* (2014) these stages are; (1) the assessment of a measurement model, which include reliability and validity of the model and (2) the assessment of a structural model which comprises R –square and hypotheses testing and effect size.

4.1.10 Assessment of a measurement model

Generally, the measurement model "define how each block of indicators relates to its latent variables" (Chin *et al.,* 1998). It contains the unidirectional predictive association between each latent construct and its associated observed indicators (Hair *et al*., 2011). Accordingly, if the construct's indicators are extremely correlated and interchangeable are often regarded as reflective in nature (Jarvis *et al*., 2003), hence, their reliability and validity should be carefully examined (Haenlein & Kaplan, 2004; Hair *et al.*, 2013; Petter *et al*., 2007). Specifically the measurement model consists of determining "individual item reliability, internal consistency, content validity, convergent validity, and discriminant validity (Hair *et al.*, 2011; Henseler *et al*., 2009).

4.1.11 Internal Consistency Reliability

Internal consistency reliability is a measure of how well the items on the test measure the same construct or idea. According to Henson (2001) "internal consistency estimates relate to item homogeneity or the degree to which the items on a test jointly measure the same construct". Traditionally, Cronbach Alpha and composite reliability are the two most frequently used on

reliability valuation of a construct (e.g. McCrae, Kurtz,Yamagata, & Terracciano, 2011; Peterson & Kim, 2013). However, to test indicators reliability this study used Cronbach Alpha (Sekeran, 2003).

Table 7: Reliability Analysis

S/N	Variables	No. of Items	Cronbach Alpha
1	Intention to Adopt Digital	6	0.74
2	Risk-taking	7	0.79
3	Proactiveness	8	0.82
4	Innovativeness	6	0.93

From the table above, the result shows that all the measures reached high reliability coefficient ranged between .74 and .93. Expert in research suggested that reliability of .60 can be considered as average coefficient, whereas 0.70 could be regarded as high reliability coefficient (Hair *et al*., 2006; Nunnally, 1978; Sekaran & Bougie, 2010; Sekeran 2003). Hence the measures of this study achieve high reliability

4.1.12 Assessment of Significance of Structural Model (Hypotheses Testing)

The measurement model (i.e. reliability of the measures) has been discussed, in the foregoing section thus, this section evaluates the structural model of the study. The main assessing criteria for structural model are R square (R^2) measure and the level of significance of the path coefficient (Hair *et al.,* 2011). Accordingly, Table 8 below presents the estimates for the study's hypotheses testing.

Table 8: Structural Model Assessment/ Hypotheses Testing

Hypotheses	Relation	Beta	SE	T	P-value	Decision
1	Risk-taking> Intention to adopt Digital Ent.	0.216	0.034	6.352	0.000	Rejected
2	Proactiveness> Intention to adopt Digital Ent.	0.320	0.061	5.245	0.000	Rejected
3	Innovativeness> Intention to adopt Digital Ent	0.206	0.104	1.988	0.049	Rejected

Hypothesis 1 proposed that there is a significant relationship between risk-taking and intention to adopt digital entrepreneurship. As anticipated, the finding (β=0.216 t=6.352 P<.000) shows that risk-taking is significantly related to intention to adopt digital entrepreneurship in Nasarawa State. This suggests that those who take risk have the higher chances of adopting new technology in their business operation. Statistically, a change of risk-taking ability by 1 will lead to a significant change in intention to adopt digital entrepreneurship by 22% hence, this result supports hypothesis 1.

Similarly, **Hypothesis 2** proposes a significant relationship between proactiveness and intention to adopt digital entrepreneurship among some selected rural entrepreneurs in Nasarawa State. As expected, the finding (β=0.320 t=5.245 P<.000) depicts that proactiveness significantly predict intention to adopt digital entrepreneurship among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State. This result depicts that a change in proactiveness by 1 will lead to a significant change in intention to adopt digital entrepreneurship by 32% hence supporting hypothesis 2. Lastly **Hypothesis 3** proposes a significant relationship between innovativeness and intention to adopt digital entrepreneurship. The result accepted the hypothesis with a positive and significant relationship between individual level of innovativeness and their intention to adopt digital entrepreneurship (β=0.206 t=1.988 P<.000). This indicates that a change in proactiveness by 1 will lead to a change in intention to adopt digital entrepreneurship by 20%. Therefore this result also support hypothesis 3.

4.1.13 Evaluation of Variance Explained in the Endogenous Latent Constructs

As mentioned earlier R-Square is one of the primary assessment criteria for a structural model (Hair et al., *2011)*. The R^2 value represent the proportion of variation in the dependent variable (s) that can be explained by one or more predictor variables (Elliot & Woodwand, 2007; Hair *et al.,* 2010; Hair *et al,* 2006). While the judgement of the acceptable rate of R^2 depend upon research area (Hair et al., *2011*), a value 0.75, 0.50 and 0.25 for endogenous latent construct can as a rule of thumb be described as "substantial, moderate, and weak respectively (Hair et al., 2011). In **Table 9** below the R^2 value of endogenous latent variable is presented.

Table 9: Variance Explained in the Endogenous Latent Variables

Latent Variable	Variance Explained (R^2)
Intention to Adopt Digital Entrepreneurship	0.540

a. Predictors: (Constant), Risk-taking, Proactiveness, Innovativeness
b. Dependent Variable: Intention to Adopt Digital Entrepreneurship

As demonstrated in **Table 9** above, the present research model explain about 54% of the total variance in intention. This advocates that the 3 sets of exogenous latent variable (Risk-taking, Proactiveness and Innovativeness) jointly explained 54% of the variance of intention to adopt digital entrepreneurship. Thus, this result is consistent with the recommendation given by Hair *et al.,* (2011) as the criterion for judging R-Square. Moreover, the endogenous latent variable for this study demonstrates an acceptable R^2 value which is considered as moderate.

4.2 Discussion of Findings

4.2.1 Risk-taking on Intention to Adopt Digital Entrepreneurship

Risk taking refers to the willingness of an individual to engage in bold actions, such as venturing into uncertain markets or making significant investments in new projects with a high probability of failure. It involves committing resources to opportunities with uncertain outcomes, which can range from moderate to high levels of risk. Research question 1 asked whether risk-taking has a significant relationship with intention to adopt digital entrepreneurship. To answer the research question first hypothesis were developed and tested and the result shows that risk-taking has a positive and significant relationship with intention. This suggests that individuals with high risk-taking attitude tend to try something new such as digital entrepreneurship adoption. This result is not surprising because practically, by nature people especially those living in rural area resist change, meaning they prefer their traditional ways of doing business. Therefore only those risk-takers among them will have the tendency or intention to adopt digital entrepreneurship. This result shows that intention to adopt digital entrepreneurship among rural entrepreneurs is significantly related to risk-taking. Thus it can be concluded that the finding is consistent with the reality of the attitudes of entrepreneurs living in rural area that a person has to be a risk-taker to accept something new.

Similarly, this finding is in line with the Theory of Planned Behavior (TPB) (Adjen, 1991) which argued that, human behavior is guided by three factors: attitudes toward the behavior, subjective norms, and perceived behavioral control. In the context of digital entrepreneurship, individuals are more likely to adopt entrepreneurial behavior if; (i) they perceive risk-taking (Attitude toward risk-taking) as a positive or necessary action for success, especially in the fast-evolving digital landscape, (ii) Social influences, (i.e. Subjective norms) such as norms or expectations from peers and mentors, can shape the intention to take risks and engage in digital entrepreneurship. (iii) Confidence in their ability to manage risks (Perceived behavioral control) and succeed in a digital venture affects their intention to pursue it. In summary, in digital entrepreneurship, where uncertainty is high due to rapidly changing technology and markets, risk-taking becomes a key component of the entrepreneur's attitude and willingness to engage in new ventures.

Lastly, the significant relationship between risk-taking and intention to adopt digital entrepreneurship is in line with some previous empirical studies. These studies are: Al Mamun *et al*. (2018); Hidayati *et al*. (2020); Sahut *et al*. (2021) etc. These studies collectively demonstrate the positive link between risk-taking propensity and the intention to adopt digital entrepreneurship, supporting the idea that entrepreneurs willing to take risks are more likely to explore digital opportunities.

4.2.2 The Effect of Proactiveness on Intention to Adopt Digital Entrepreneurship

Proactiveness in this study refers to an individual's forward-looking perspective and his/her ability to anticipate and act on future opportunities rather than reacting to events as they occur. It involves taking initiative, leading rather than following in the market, and introducing new products or services ahead of the competition. Literature shows that proactiveness significantly influences entrepreneurial intention. Therefore, this study asked whether proactiveness has a significant relationship with intention to adopt digital entrepreneurship among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State. To answer the research question, a hypothesis was developed (i.e Hypothesis 2); which proposes a significant relationship between proactiveness and intention to adopt digital entrepreneurship. As anticipated the finding supports the hypothesis. In other word, the result shows that person with high proactive behaviour is has intention to adopt digital entrepreneurship.

This result is not surprising because Proactive entrepreneurs often shape the environment by anticipating trends and creating opportunities, rather than simply responding to market changes. Thus, entrepreneurs with high proactive attribute have high tendency to adopt digital entrepreneurship.

Furthermore, the significant relationship between proactiveness and intention to adopt digital entrepreneurship is in line with the Resource-Based View (Barney, 1991) which argued that firm's resources, including intangible assets such as proactiveness, create a competitive advantage. In the context of digital entrepreneurship, proactiveness, as a strategic capability, allows entrepreneurs to anticipate market trends, identify opportunities in the digital space, and develop innovative business models. Entrepreneurs with proactive capabilities are better equipped to leverage digital tools and technologies to create value and sustain a competitive edge in dynamic markets. Accordingly, being proactive, entrepreneurs can act ahead of competitors in adopting emerging digital trends, which enhances their intention to engage in digital entrepreneurship. The RBV framework highlights how these proactive behaviors and forward-thinking approaches are valuable resources that foster successful entrepreneurial ventures in the digital domain.

Lastly, this finding is consistent with some prior empirical studies (e.g. Bolton and Lane 2012; Bouncken *et al.* 2016; Nambisan 2017; Urban & Govender (2017. These studies highlight the importance of proactiveness as a key factor that drives individuals and firms to engage in digital entrepreneurship, where the ability to anticipate market changes and capitalize on digital trends is crucial for success.

4.2.3 The Effect of Innovativeness on Intention to Adopt Digital Entrepreneurship

Innovativeness refers to an entrepreneurs' tendency to engage in and support new ideas, experimentation, and creative processes that may result in new products, services, or technological processes. It reflects the willingness to depart from existing technologies or practices and venture beyond the current state of knowledge to explore new opportunities. Innovativeness is a critical dimension of entrepreneurial orientation, emphasizing the pursuit of novel solutions and the fostering of a culture that promotes innovation within an organization. Consequently, this study proposes that innovativeness has a significant relationship with intention to adopt digital entrepreneurship among selected polytechnic students and graduates with rural origin and entrepreneurs in Nasarawa State. As anticipated the result show the significant relationship between innovativeness and intention to adopt digital entrepreneurship, hence supporting hypothesis 3.

Theoretically, this finding is in line with the Innovation Diffusion Theory (Rogers, 2003) which suggests that the adoption of new technologies or innovations occurs over time through a process that involves awareness, interest, evaluation, trial, and adoption. Innovators and early adopters are more likely to embrace new ideas, technologies, and opportunities, such as digital entrepreneurship. Those with high innovativeness are typically among the early adopters in this process. In the context of digital entrepreneurship, individuals or firms that exhibit a high degree of innovativeness are more inclined to experiment with new digital technologies, platforms, and business models (Rogers, 2003). Their openness to innovation drives their intention to adopt digital entrepreneurship as they are more likely to perceive the benefits of digital solutions and implement them in their ventures.
Similarly, the significant relationship innovativeness and intention to adopt digital entrepreneurship is in line with some previous empirical findings; Alshebami and Seraj (2022); Kraus *et al*. (2019); Elia, *et al.*, (2020); Ryu and Lee (2020). These studies consistently show that innovativeness plays a significant role in shaping the intention to adopt digital entrepreneurship, as innovative individuals and firms are more likely to explore and capitalize on digital opportunities.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The conclusion of this study is based on the study's major findings that rural entrepreneurial intention to adopt digital entrepreneurship significantly depends on their attitudes towards risk-taking, proactiveness and innovativeness. This suggest that people with high level of these attitudes are more likely to adopt new technology than those with lower attitudes.

5.2 Recommendations

This study offers the following recommendations:

Rural Entrepreneurs

i. Polytechnic/Rural entrepreneurs need to change their mind-set regarding from being risk-averse to calculated risk-takers. This will certainly open their mind in accepting new challenge in their business mode of operation

ii. The world is becoming a technological world where most of the businesses are moving from traditional method of business to digital approach. Thus for business to survive the entrepreneurs have to be proactive, meaning they have to think ahead. In other words this study recommends that entrepreneurs are encouraged to anticipate changes in the market place anytime hence they need to be proactive.

iii. Entrepreneurs should also be innovative in their mode of business operations. This will push them in adopting new technology.

Government/Policy makers

i. This study recommends that government should be organizing trainings for entrepreneurs

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