

Demographic Factor, Adoption of Technology and Competitive Advantage in Nigeria

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Abstract

Purpose: The general objective of the study is to examine factors influencing adoption of technology and competitive advantage in Nigeria. The specific objective is so ascertain the influence of demographic factors on firm's innovativeness. **Design/Methodology/Approach:** The study adopted correlational survey approach and questionnaire as instrument for data collection. Primary data were sourced from a sample of 257 people. The population of the study is made up of postgraduate (Postgraduate Diploma, Master's and Doctorate) students in eight faculties at Federal University of Technology Owerri, FUTO for 2018/2019 academic session. Simple random probability sampling method was adopted in the distribution of the questionnaire. Data were analyzed using Pearson Correlation to test the relationship between the variables. **Findings/Originality:** Findings revealed that demographic factors (educational level, income and internet experience) were found to have significant positive influence on organizational innovativeness. The authors recommend the followings; Federal Ministry of Education is advised to create a technology-enriched curriculum to provide equal learning opportunities to working citizen to enable them to enrol in schooling. Government should prioritize investment in classroom technology as well as teachers training in tertiary institutions in the country. Previous studies did not investigate the influence of demographic factors on firms competitiveness in Federal University of Technology. This study contributes to existing knowledge by identifying research gap in the literature and recommends area for further studies.

Keywords: Technology Adoption, Demographic Factor, Innovativeness, Competitive Advantage, Technology Acceptance Theory, Nigeria.

1. INTRODUCTION

Presently, the majority of tertiary institution in Nigeria has embraced the digital platforms in teaching and learning to increase operational efficiency. At the Federal University of Technology Owerri (FUTO), digital technology is used in electronic learning, teleconferencing, virtual meetings, electronic payment, electronic procurement, information communication, information sharing, data storing among others. Organizational interest has shifted from a traditional to digital approach in order to save time, cost and achieve quality learning in the 21st century.

Apart from the education industry, the adoption of information technology has equally spread across other sectors of the economy and the media industry is not left out. The introduction of technology into the media industry has revolutionized the industry thus giving it a new rebirth compared to what is previously known before. This new media is integrated with internet applications compared to the traditional media which has metamorphosed into online newspapers, internet radio and webcasting (Ayotunde, 2012). However, before the advent of digital technology in the media industry, communication has been in the form of paper print of; newspaper, magazines, books among others. Similarly, broadcasting is available on a limited number of television and radio stations but today the new media has been rebranded with multiple stations which can be easily accessed from anywhere in the world. With the latest development information can easily flow and goes viral in seconds using the new media platform such as electronic newspapers, internet radio, webcasting and blogs. Other industries such as the banking industry in Nigeria has equally followed suit in the adoption of technology in electronic banking to achieve the firm objective.

However, marketing firms have recognized the importance of technology adoption in the electronic business of firm products and services from local to a global market to achieve high sale volume and profitability and cost reduction. In both developed and developing economies, technology adoption is often used to create strategically an advantage in doing business across geographic borders (Apulu & Lathan, 2009). In addition, Park and Choi (2019) affirm that the rapid advancement of technologies and their adoption makes organizations actively expand their business globally in terms of the production network.

Presently, technology adoption spurs innovation and firms that are innovative usually take the lead in the global market and reap high profitability, market share and sales volume compared to rivals (Park & Choi, 2019). The authors observed that advancement of digital technologies and their adoption affects the socio the economic growth of nations. The authors argued that the adoption of digital technology globally has its own pros and cons which are broadly categorized as cyber safety, cybercrime and cybersecurity. Business managers, researchers and scientists in the global community have shown great enthusiasm in embracing and adopting innovative products or services in business transformation to achieve competitive advantages for both organizations and nations at large (Bhatt & Grover, 2005).

Previous studies have identified a strong link between technology adoption and organizational competitiveness with different findings. A study of 16,906 education professionals (teachers and administrators) in the USA revealed that that digital learning positively impacts students and teacher's performance (Burkholder, 2012). A recent study on Technology Acceptance Model (TAM) revealed that factors such as Information Technology (IT) skills and experiences promote the ease of use of Technology; while institutional rules and policies influence technology acceptance (Ajibade, 2018). Another study by Monika, Omkar, Nurhizam and Zainudin (2020) on the impact of technology adoption on organizational productivity in Malaysia using a sample of 300 IT managers and senior executives in leading Information Technology (IT) companies found both positive and negative result. It was revealed that technological change and IT infrastructure had a significant positive impact on organizational productivity, while IT knowledge management had a significant negative impact on organizational productivity. Finally, none of these studies identified the influence of demographic factor on organizational innovativeness using the case study of Federal University of Technology Owerri, Imo State, Nigeria. The researchers have identified a knowledge gap and it is against this background that the study is necessitated to achieve its objectives.

Technology adoption poses a great challenge when desired expectations are not met. Adaptability struggle is one of the major challenges associated with switching from traditional to digital learning in tertiary institutions especially developing nations. Individual factors associated with perceived ease of use, reliability, usability, personal innovativeness, educational level, internet experience and user compatibility can affect the rate of technology adoption. Not all

learners can afford the latest technology gadgets nor can be technically competent. Most predominantly, young, educated and rich people are more likely to embrace new technology more than other demographic groups. The inability of other demographic groups (old, poor and uneducated people) to embrace the new technology due to its sophisticated nature as a result of high cost can affect the rate of adoption. Introduction of new systems, equipment and tools during earlier period requires training; individuals who are not proficient in information communication technology (ICT) may find it difficult to embrace the latest digital technology in learning.

The general objective of the study is to examine the factors influencing the adoption of technology and the firm's competitiveness. Therefore, the specific objective of this study is to ascertain the influence of demographic factors on a firm's innovativeness. The geographic coverage of this study is limited to the Federal University of Technology Owerri Imo State, Nigeria.

2. REVIEW OF RELATED LITERATURE

2.1 The Concept of Adoption of Technology

It is defined as the choice that an individual or organization makes to acquire or use a new innovation (IGI Global, 2020). In other words, it refers to a stage at which technology is psychologically accepted by an individual or an organization. It is a decision made by someone to utilize and implement new technology. It is the extent to which a given technology becomes accepted and incorporated into approved social practices. Technology acceptance is synonymous with technology adoption. The first step involved in embracing the new novel innovation is called technology acceptance. It does not mean that the user of technology is going to use it. On the other hand, technology adoption implies the ability to use and retain new product or services. Obviously, both technology acceptance and adoption are interrelated and can be used interchangeably in the literature.

In addition, Technology Adoption also refers to the acceptance, integration, and use of new technology in society (WalkMe, 2020). According to Burton-Jones and Hubona (2006) organizations adopt new technologies to improve the efficiency and effectiveness of various

work processes. In the light of the above, Venkatesh and Davis (2000) argued that technology users are more likely to adopt new products or services with high-quality design to improve job performance. This implies that the higher the level of technological advancement or innovation the greater the level of customer adoption. The scholars also noted that new technological social attribute (such as usability, usefulness, desirability and reliability) attract users to use and adoption. However, Burton-Jones and Hubona (2006) point that many technology-based products and services with low-quality design are likely to be rejected. According to the authors, failed investments in technology may not only cause financial losses but also lead to dissatisfaction among employees. Henceforth, explaining and predicting user adoption of new technology is important.

Venkatesh and Davis (2000) noted that Technology Acceptance Model (TAM) is an information system used in predicting user adoption or ease of use of a new product or services. It came into existence in 1989 and is often applied to digital technology. For instance, the model is very useful in explaining the adoption of cell phones, smartphones, the internet, and other forms of digital technology. For businesses that develop software or digital technology, this model can be used to discover appropriate customers for a product. It can also be used by any business seeking a better understanding of the impact of digital technology in its industry. Technology adoption stimulates competitiveness in a business environment. For instance, firms that identify technology trends can adopt it earlier than their competitors to achieve a competitive advantage in their industry.

2.1.1 Demographic Factors

This is one of the determinants of the adoption of technology. It is the collection and study of broad characteristics of a population and group of people (Chappelow, 2019). These factors include gender, age, income, educational level, income level and internet experience. They are used to define the characteristics of a person or a population. Demographic factors are the socio-economic the distinctiveness of a population expressed statistically (Payrol-Heaven, 2020). Demographic information is extremely important for businesses to predict the market trends and to understand how to market to consumers and plan strategically for future trends in consumer demand. However, demographic factors influence the user adoption of an innovation. The advent

of technology such as the internet, big data, and artificial intelligence is greatly amplifying the usefulness and application of demographics as a tool for marketing and business strategy. Sheehan (2002) observed that individual with a high level of education is more concerned with technology adoption than persons with less education. According to the author, younger people also show more concern in the use of digital products than an older person.

2.1.2 The Concept of Competitive Advantage

Competitive Advantage is what makes a company's products or services more attractive to customers than that of their rivals or competitors in the industry (Twin, 2019). It is a company's ability to produce superior goods or services more efficiently than a rival that leads to a large market and high profitability. Competitive advantages are attributed to a variety of factors including price (cost structure), location, branding, quality of product offerings, turnaround, distribution network, intellectual property and customer service. A firm can gain a differential advantage when its products or services are seen as both unique and of higher quality, relative to those of competitors. It generates greater value for firm shareholders. The more sustainable the competitive advantage is the greater access to the market and high-profit margin.

Pahwa (2019) defined competitive advantage as a favourable position a business holds in the market which results in more customers and profit. It is what makes the brand, product or services to be perceived as superior to rivalry (competitors). Three determinants of competitive advantage include location (target market), quality and speed of delivery (unique selling proposition). The perfect knowledge of who buys from the brand and what they desire from the brand give the firm a competitive advantage over rivals. The competition enables firms to know their present and target customers and develop the market for the products in order to create customer satisfaction. Unique selling products should be clear for both the business and customers in order to create a competitive advantage.

Porter (1980) have identified three types of competitive advantage: cost leadership, differentiation and focus (segmentation). Cost leadership is a strategy adopted by a business to produce the same quality of a product similar to that of a competitor and sells at a cheaper price. It is achieved through continuous improvement of a product and through the economics of scale. A differential advantage is when a product or service offered by a business deliver different

benefits than the products offered by the competitor. The unique position can refer to the high quality, better delivery, more features or other specific attributes of a product or service. Focus is known as a segmentation strategy. It involves targeting a predefined segment rather than everyone. It involves understanding the target market better than everyone and uses the information to create products that satisfy customers' expectations.

2.1.3 The Concept of Innovativeness

Innovation is a change process that results in a new process or product. It is the ability to alter or modify an existing product or process spurs innovativeness. Rogers (2003) defines innovativeness in respect of the time of adoption of the novel idea (innovation) relative to others. Innovativeness refers to the ability or capacity of a firm to renew or reconfigure something that is into existence relative to others. It is the extent an individual develops and adopts new ideas than other members of a social system.

Davila, Epstein and Shelton (2006) observed that innovation gives the organization the ability to change the market conditions in order to meet customer expectation. This implies that innovation is considered a major driver or indicator of productivity success in conjunction with a human being (people), process and product.

On the other hand, Wang and Ahmed (2004) recognize numerous features of innovativeness. Innovativeness means an organization's potential of establishing new products to the market by way of planned direction with new behaviour and process. Foxall (1988) postulated that innovativeness is the "Innovativeness is the capacity or tendency to purchase new products or services" It considers organizational ability to discover new ideas, novelty, experimentation, and creative processes that may upshot new products, services, or technological processes.

Gebert, Boerner and Lanwehr (2003) define innovativeness as "the capacity of an organization to improve the existing products and/or processes, and the capacity to utilize the creative resources of the organization to the fullest". They considered small improvements or incremental innovation, as part of firm innovativeness.

2.2 Theoretical Review

The study adopted Technology Acceptance Theory (TAT) propounded by Fred Davis in 1993. The theory explains how individuals accept new technology which leads to the economic growth of a nation (David, 1989). It further explains how a user of a proposed technology welcomes an innovative product and adopts it to improve performance. This theory states that the determinants of acceptance of new technology are the perceived usefulness and the perceived ease of use. Perceived Usefulness explains the individual's ability to use the new technology to achieve job efficiency. However, the easiness to learn and get used to any new technology or information system by an individual or organization is what is termed as perceived ease of use.

The theory is connected to study on "Technology Adoption and Organizational Competitive Advantage. The reason is that the theory places emphasis on how easy and quicker an individual will use any new technology to enhance performance and achieve competitiveness in an organization. Technology Acceptance Theory (TAT) is widely used in any research institution. The applicability of Technology Acceptance Theory in research-based institution like the Federal University of Technology (FUTO) is supportive in all department and units, such as in, electronic learning, electronic voting, zoom meeting, electronic library, electronic procurement and electronic payment. Generally speaking, the application of TAT is very essential to any institution or organization that wants to be relevant to achieve business objective.

Despite its usefulness in organizations, the theory has been criticized by some scholars in this field of study. One of the arguments and criticisms of this theory is on the ground that it is not robust enough to explain users' behaviour towards buying, rejecting or accepting to use the new technology (Hai & Alam-Kazmi, 2015). The theory cannot provide comprehensive precursors to mobile use, or social influence and conditions that facilitate behaviour (Napitupulu, 2017).

2.3 Empirical Review

Several researchers have conducted a study on the adoption of technology and organizational competitiveness in both Nigeria and the rest of the world. This has generated both positive and negative findings in the literature. Some of these studies were reviewed below.

On the other hand, El-Haddadeh (2019) carried out a study on the influence of digital innovation dynamics on organizational adoption of cloud computing services for small and medium enterprise (SMEs). The study adopted a descriptive survey approach and questionnaire as an instrument of data collection. Primary data were sourced from a population of 238 people. The hypothesis was statistically tested and analyzed using Structural Equation Modelling (SEM) and Analysis of Moment Structures (AMOS) to generate data for the analysis. The findings revealed that digital innovative variables (such as IT capabilities, organizational innovativeness, perceived innovation risk, perceived innovation barriers) influence positively the organizational adoption of cloud computing services for SMEs.

Conversely, Chen and Tsou (2007) empirically analyzed the Influence of Information Technology Adoption for Service Innovation Practice on Competitive Advantage in Financial Firms in Taiwan. Primary data were obtained from a population of 558 firms using electronic emails. Data were analyzed statistically using a simple regression method to produce the study result. Findings revealed that information technology adoption exerts a significant positive influence on service innovation practices and competitive advantage for financial firms.

On the other hand, Kosgei, Waiganjo and Ragama (2019) examined Technology Adoption Strategy and Firm Innovativeness in Tea Processing Firms in Kenya. The study employed a descriptive survey approach and questionnaire as instrument for data collection. The study population comprised 12 factory unit managers, 12 production managers, 36 supervisors, 36 store clerks and 96 leaf collection clerks. The total population of the study comprised 192. The sample size was determined using the Taro Yamane formula and was calculated as 130. A stratified random sampling technique was used to select respondents to participate in the study. Primary data was collected using questionnaires. The hypotheses were tested and analyzed using both descriptive and inferential statistical methods with the aid of SPSS. The findings revealed that technology adoption strategy variable (Automated Weighted Solution, AWBS) exerts significant influence on the competitiveness of the KTDA tea firms.

Turan, Tunc and Zehir (2015) carried out a study on Technology Acceptance Model and Personal Innovativeness and User Involvement by means of integrating these concepts to explain the technology usage behaviour. The study adopted a theoretical review approach to achieve the

study objective. The authors proposed a framework to explain technology acceptance behaviour and system implementation success.

Talukder (2012) conducted study on Factors Affecting the Adoption of Technological Innovation by Individual Employees in Australia. The study adopted a descriptive correlational survey approach and questionnaire as instrument for data collection. The target population of the study comprised of a part-time academic and administrative (professional) staff of the University of South Australia. Primary data were obtained from a total population of 2,270 participants. Out of the questionnaire administered to the online users, only 275 usable data were collected and used for the analysis. Data were analyzed using correlation and multiple regression techniques to generate data. The findings showed that perceived usefulness and managerial support were dominant variables in explaining the adoption of technological innovation by employees. The result also showed that social factors (such as peers and social network) and demographic factors indicate individual adoption of innovation.

Zukowski and Brown (2014) examined the Influence of Demographic Factors on Internet Users' Information Privacy Concerns in Cape Town, South Africa. The study adopted an inferential descriptive survey approach and a questionnaire as the instrument of data collection. The sample population comprised of Information Technology professionals, end-users and tertiary level students. The study adopted convenience and snowball sampling technique in the distribution of the questionnaire to the participants. The total population of the study comprised 200 people. Out of structured questionnaires administered to the respondents, only 194 were filled and returned while the remaining 6 were not returned and used for the analysis. The hypotheses were statistically tested and analyzed using frequency table, factor analysis and correlation to generate study data. Findings showed that demographic factors such as age, education and income level have a significant influence on internet users' concerns for information privacy. Result also revealed that others factors such as gender and internet experience were found to have an insignificant influence on internet users.

2.4 The Gap in Knowledge

Previous studies by Zukowski and Brown (2014) examined the Influence of Demographic Factors on Internet Users' Information Privacy Concerns in Cape Town, South Africa. The

previous study adopted (non-probability) convenience and snowball sampling technique in the distribution of the questionnaire to the participants; while the present study intends to use probability simple sampling technique in the distribution of the questionnaire. Result also revealed that others factors such as gender and internet experience were found to have an insignificant influence on internet users. However, the findings did not rank which of the demographic variables exert greater influence among others. In light of the above, the present study identified a methodological, empirical and theoretical gap in knowledge.

3. RESEARCH METHODOLOGY

3.1 Research Design

The study adopted a correlational survey design to determine the relationship between the two variables without the researcher's influence. Adoption Technology represents the independent variable, while Organizational Competitive Advantage represents the dependent variable. The geographic coverage of this study is Owerri Metropolis, Imo State Nigeria.

3.2 The Population of the Study

The population of the study was made up of postgraduate (Postgraduate Diploma, PGD, Masters and Doctorate) students in eight faculties at the Federal University of Technology Owerri, FUTO, Imo State, Nigeria for 2018/2019 academic session. The population distribution is represented in table 1 below.

Table 1: Population Distribution

S/N	FACULTIES	MALE (2018/2019) Session	FEMALE (2018/2019) Session
1.	School of Agricultural and Agricultural Technology (SAAT)	96	84
2.	School of Information and Communication Technology (SCIT)	75	13

3.	School of Engineering and Engineering Technology (SEET)	204	29
4.	School of Management Technology (SMAT)	247	90
5.	School of Biological Science (SOBS)	75	70
6.	School of environmental Sciences (SOES)	29	14
7.	School of Health Technology (SOHT)	47	59
8.	School of Physical Science (SOPS)	108	41
TOTAL			881

Source: (Personal Records of Federal University of Technology Owerri).

3.3 Sample Size and Sampling Technique

However, the total population of the study comprised of 881 students. In order to achieve the study objective, a sample was drawn from the entire population and statistically determined using Taro Yamane formulae. The sample size was calculated as 299. This population was utilized in data collection using a simple random probability sampling technique. The whole population was given equal chances to participate in the survey.

3.4 Method of Data Collection

In addition, a structured questionnaire was used as an instrument for data collection. Research question one was sourced from primary data obtained by the researchers through face-to-face interactions with the respondents. The questionnaire was designed using the study used five points Likert scale of; strongly agree (SA=5), agree (AG=4), undecided (UN=3), disagree (DA=2) and strongly disagree (SD=1).

3.5 Validity and Reliability of the Instrument

On the other hand, the instrument was subjected to validity both on the face and content level. This was achieved with the aid of experts who looked at the questionnaire to ensure that content and face validity were obtained. The pilot test and re-test method was used to test the reliability

of the instrument using seven expert. This was achieved by administering the instrument to the sample of the study and their responses were collected. After an internal assessment, the same instrument to the sample population and their responses were collected. The two results were compared. The reliability test of the instrument was performed with the aid of SPSS using Cronbach’s alpha test. The result obtained gives the value of 0.810 (81%) which is above 60%; and is generally accepted by scholars. Since the result is above satisfactory level, it can be interpreted that the instrument is reliable.

Table 2: Reliability Statistics

Cronbach's Alpha	N of Items
.810	7

Source: (SPSS Version 20).

To achieve study objective data used for trial testing of the hypothesis one was obtained from Adoption of Technology and Organizational Competitive Advantage using a case study of the Federal University of Technology. Data for research question one were analyzed using Pearson Correlation to ascertain the influence of demographic factors on firm innovativeness.

Table 3: Summary of Questionnaire Administered and Returned

Questionnaire Administered	Number of Questionnaire	% of Questionnaire not Returned
Number of Questionnaire Returned	287	96.0
Questionnaire not Returned	12	4.0
Total	299	100

Source: (Field Survey, 2021)

4. DATA PRESENTATION AND DISCUSSION

4.1 Data Presentation

The section presents data guided by the research questions. Out of 299 copies of questionnaires distributed to the participants, only 287 were filled and returned, while the remaining 12 were not returned and used for the analysis. Investigative questionnaires on demographic factor and organizational innovativeness are presented in the table 4 below.

Table 4: Proposed Questionnaire on Demographic Factors and Organizational Innovativeness

S/ N	Questionnaire Items	Strongly Agree (AG)	Agree (AG)	Undecided (UN)	Disagree (DA)	Strongly Disagree (SD)	Total
A	DEMOGRAPHIC FACTORS						
1.	I am currently enrolled in Post graduate Diploma, Masters or Doctorate program.	131	78	54	18	6	287
2.	Postgraduate students are the primary target of this innovative product (Turn-it-in) due to their level of education.	101	99	57	24	6	287
3.	My perception of (Turn-it-in) software is good.	99	113	48	21	6	287
4.	A particular gender will benefit more than the other in the use of this technology.	75	86	78	21	27	287
5.	The new product is user friendly irrespective of age bracket.	69	104	72	30	12	287
6.	People with high income level are	66	86	75	42	18	287

	more likely to use this (Turn-it-in) software frequently.						
7.	Having experience on the use of the internet is important to usage of this technology.	90	92	63	27	15	287
8.	My marital status does not affect me on the use of this new technology.	81	86	63	39	18	287
B.	Organizational Innovativeness						
1.	My institution routinely seeks new ways of doing things.	54	113	75	27	18	287
2.	My institution is among the top universities that embrace digital transformation in learning.	66	89	45	66	21	287
3.	The new technology (turn-it-in software) is very useful in assessing the similarity index of any work.	105	104	45	24	9	287
4.	The digital platform (turn-it-in software) encourages originality of ideas in the academic world.	75	119	69	9	15	287
5.	Turnitin plagiarism software is user friendly and can process many works without stress.	63	101	75	33	15	287
6.	Both students and lecturers' are eager to adopt the new technology in doing research.	87	95	63	30	12	287
7.	All complaints related to poor service associated with the use of new technology is handled by our technical staff to improve user satisfaction.	60	96	92	27	12	287

8	All complaints related to poor service delivery are managed by our technical staff to improve user satisfaction.	69	86	87	30	15	287
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Source: (SPSS Version 20).

4.1.2 Test of Hypothesis

Hypothesis One

H₀₁: Demographic factors do not influence the firm’s innovativeness.

H_{A1}: Demographic factors influence firm’s innovativeness.

4.1.3 Decision Rule

Reject the null hypothesis (H_o) when the p-value is ≤ 0.05 ; otherwise, accept alternate (H_A) hypothesis. Table 5 below confirmed the result of the Pearson Product Moment Correlation Method. Since the p-value (0.000) is less than the critical value at 0.05 (at 2 tail test). The null hypothesis (H_o) which states that demographic factor does not influence a firm’s innovativeness was rejected; while the alternate hypothesis (H_A) which states that demographic factor influence a firm’s innovativeness was therefore accepted.

Table 5: Pearson Correlation Result

		DF	OI
DF	Pearson Correlation	1	.779**
	Sig. (2-tailed)		.000
	N	287	287
OI	Pearson Correlation	.779**	1
	Sig. (2-tailed)	.000	
	N	287	287

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

DF= Demographic Factor

OI=Organizational Innovativeness

4.2 Findings and Discussion

The result on research hypothesis one using Pearson Product Moment Correlation method showed the value of; $r = 0.7790$, $N = 287$, and $P = 0.000$. The result revealed that demographic factors (such as educational level, income and internet experience) were found to have a positive influence on organizational innovativeness. The correlation coefficient (+ r-value) in table 5 above showed that a unit increase in demographic factors results in a 0.779 increase in organizational innovativeness (OI). However, previous studies conducted in other countries by; Kosgei, Waiganjo and Ragama (2019); Chen and Tsou (2007); Macher, Miller and Osborne (2015); El-Haddadeh (2019) all reported that technology adoption exerts a significant positive influence on organizational competitiveness. It is worthy to note that previous work by these scholars were carried out in other countries using different industries and none of these studies was related to the Federal University of Technology Owerri, Imo Nigeria.

5. CONCLUSION, RECOMMENDATIONS AND LIMITATIONS OF STUDY

5.1 Conclusion

The general objective of the study is to examine the influence of the adoption of technology on a firm's competitiveness using a case study of the Federal University of Technology Owerri, Nigeria. Specifically, the study seeks to ascertain the influence of demographic factors on organizational innovativeness. The findings revealed that demographic factors (such as educational level, income and internet experience) were found to have a significant positive influence on organizational innovativeness (OI). The finding of the present study is therefore in accord with the literature. This can be further interpreted that there is an agreement between the theory and practice.

5.2 Recommendations

Based on the conclusion above, the authors recommend the followings;

- I. The policymakers are advised to provide financial support to improve the state of the art technology for both private and public universities in Nigeria.
- II. Technology has the potential to improve the effectiveness of teachers and students. Government should prioritize investment in classroom technology as well as teachers training in tertiary institutions in the country.
- III. Federal Ministry of Education is advised to create a technology-enriched curriculum to provide equal learning opportunities to working citizen to enable them to enrol in schooling.
- IV. It is important to make electronic learning as interesting as possible. The researchers, therefore, recommend the use of e-learning games and videos are great ways to motivate learners.

5.3 Research Limitations and Implications

The study was limited to the Federal University of Technology (FUTO) Owerri, Imo State, Nigeria. The information (data) obtained from the survey using a single case study is not enough to make a generalization. Sequel to this, future researchers are advised to improve on this study by exploring more geographic coverage and use of a large sample that covers the whole of Tertiary Institutions in Owerri Imo State in order to achieve generalization on this topic. Finally, future studies are recommended on The Impact of Institutional Factors for Technology Adoption on Organizational Competitiveness.

5.4 Practical Implications

This study offers practical implications. This study can help managers to identify operational activities, products and processes that require improvement and encourage research and innovation towards it. Managers should create effective team work through the organization to work towards achieving organization short and long term goals.

5.5 Social Implications

This study offers social implications. Technology adopting should be user friendly to enable demographic groups (such as income level, educational level and gender) to adopt it. In light of the above, managers should ensure that new products are designed in such a way that all categories of different groups are accommodated during modification of a product. The new product should be environmentally friendly in order to be sustain over time.

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