

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH AND KNOWLEDGE

ISSN-2213-1356

www.ijirk.com

Does Disruptive Technology Promote Market Share? Evidence from Manufacturing SMEs in Nigeria

Akinlabi, H. B., Makinde, G. O. & Ayodeji, O.T.

Department of Business Administration and Marketing, School of Management Sciences,
Babcock University, Ilishan-Remo, Ogun - State, Nigeria

ABSTRACT

The manufacturing SMEs are noted as a pertinent engine for economic growth, employment, wealth creation and sustainable development. However, the sector faces notable gamut of challenges than any other sector in Nigeria. Also, the manufacturing SMEs are greatly affected by the various environmental conditions brought about by globalisation, trade liberalization and international competition over the past decades. The Nigerian manufacturing SMEs have not really merged into the global system as the Nigerian manufacturing SMEs are characterised with low - capacity utilization and thinning income streams among others resulting in poor market share. Therefore, this study investigated the effect of disruptive technology (DT) on market share of selected manufacturing SMEs in Lagos and Ogun States, South-West, Nigeria. This study adopted a survey research design. The total population was 2603 owners-managers of manufacturing SMEs in Lagos and Ogun States, Nigeria. The study used Cochran (1977) formula to determine the sample size of 436. A simple random sampling technique with proportionate allocation was used to select the respondents. A structured and validated questionnaire was used for data collection. Cronbach's alpha reliability coefficients for the constructs ranged from 0.726 to 0.900. The response rate was 88.30%. Findings revealed that disruptive technology had significant effect on market share ($Adj.R^2 = 0.827$, $F(6, 378) = 306.200$, $p < 0.05$). The study concluded that disruptive technology improved market share of selected manufacturing SMEs in Lagos and Ogun States, South – West, Nigeria. It was recommended that to expand market share, SMEs should often implement and respond to disruptive technology. SMEs should actively seek out and adopt disruptive technologies that can enhance their operations, products, and services. This could involve investing in automation, data analytics, artificial intelligence, or other emerging technologies relevant to their industry.

KEYWORDS: *Disruptive technology, Market share, Technology accessibility, Technology adaptation, Technology awareness, Technology investment, Technology response*

1.0 INTRODUCTION

The manufacturing SMEs are noted as a pertinent engine for economic growth, employment, wealth creation and sustainable development. However, the sector faces notable gamut of challenges than any other sector in Nigeria. Also, the manufacturing SMEs are greatly affected by the various environmental conditions brought about by globalisation, trade liberalization and international competition over the past decades. The Nigeria manufacturing SMEs have not really merged into the global system as the Nigerian manufacturing SMEs are characterised with low - capacity utilization and thinning income streams among others. This of course, have spurred up negative effects such as poverty, low living standards, increased unemployment, sharp practices and other business vices; thus, affecting the industry's performance especially market share (Enemu et al., 2019). In the contemporary business activities, the rate of poor performance and subsequent failures of small and medium enterprise (SMEs) in Nigeria in recent time has been worrisome among business practitioners. This is evident from the consistent increasing difficulties associated with market shares, liquidity challenge and the inability to sustain the growth of the businesses among many other performance indicators. This situation is exacerbated by the emergence of global Coronavirus pandemic that broke out in 2020 and impacted negatively on SMEs corroborated by Emenyi & Effiong (2020) that the economic impact of the virus will be long and severe for Nigeria economy.

The study of Agwu (2018), indicated that the use of information technology by management of SMEs help market shares thereby increasing the effectiveness of management. Information technology has weakened the use of the brain and led to fatigue at work at the same time, reduced stress and work load while Cozzolino et al., (2018), found that when external economies emerge after a disruption, incumbents have incentives to use the external resources (such as knowledge and technologies) to gain access to larger markets; reduce costs; and increase their innovation. Similarly, ICT raises market share and provide firms with many benefits, such as help in introducing new products and services, becoming more customer-oriented, responding better to market changes, and being able to innovate for better firm performance (Gërguri-Rashiti et al., 2017). Furthermore, Jiang et al. (2016) show that electronic word-of-mouth has a significant effect on a brand's market share.

For business or organization to continue to be sustained, the share of the business or organization in the market must be large and have positive growth trend (Tijani, 2020). Similarly, Okunbanjo et al. (2017) found that risk taking enhances firms' market share. However, Okeowo (2017) attributed the lack of patronage of Nigerian products to its high cost which negatively affects the market share of the textile sector in Nigeria. The foregoing clearly indicates that disruptive technology can positively transform the manufacturing sector to enable them play their key role Nigeria-wide. This has necessitated this study which evaluated how disruptive technology promotes market share of selected manufacturing SMEs in Lagos and Ogun States, South - West, Nigeria.

2.0 LITERATURE REVIEW

2.1 Disruptive Technology

Disruptive technology (DT) is a term used for an emerging technology out of a specific and niche market that, becomes dominant thus disrupts the stable-state of a market and often affect and force-out, existing leading and incumbent firms out of the market (Singh & Hanafi, 2019). Disruptive technology (DT) is a term coined and introduced by Joseph Bower and Clayton Christensen in the year 1995. It equally refers to a selection and or, an adoption of technologies or up-to-date technology that significantly alters the way that businesses

operate. According to Smith et al. (2020), disruptive technology is an innovation that significantly alters the way that consumers, industries, or businesses operate.

A disruptive technology sweeps away the systems or habits it replaces because it has attributes that are recognizably superior. New technologies are often commercialized in a specialized niche. Some stay in their niche while others go on to penetrate mainstream segments and compete with incumbent technologies. A disruptive technology does not have to be better than those currently offered by the market, and may damage the overall market to some extent by extending technology. It could, for example, be significantly cheaper and still provide the desired features (Vaidya, 2022).

Technology Investment

An information technology investment (IT investment) is the expenditure of IT resources to address mission delivery and management support. IT investment may include a project or projects for the development, modernization, enhancement, or maintenance of a single IT asset or group of IT assets with related functionality and the subsequent operation of those assets in a production environment. While each asset or project would have a defined life-cycle, an investment that covers a collection of assets intended to support an ongoing business mission may not. Technology investment refers to the cost associated with agency resources, hardware, software, or contracted services that are required to provide information technology services and initiate approved information technology projects (Chen et al., 2021). Technology investment is defined as the commitment made by organisations out of their resources to acquire information technology facilities and capabilities which will help in improving their productivity, service delivery and profitability (Aminu, 2019). Investments are viewed as a tool for market success and creation of new employment opportunities and are recognized as a strategic objective for most industrial countries, especially after the global economic crisis (Aldieri & Vinci, 2018).

Technology Awareness

Awareness is an attribute of action which does not refer to some special category of mental state existing independently of action but to a person's being or becoming aware of something. Awareness is a social activity in that we take cues from those around us which can influence our awareness and lead to a greater shared awareness. Technology awareness refers to the skill of an individual to be aware and mindful of new and popular technology that has been gaining widespread acceptance across concerned industries or markets (Rahimah et al., 2018). Thus, awareness is an antecedent for the attitude formation stage of innovation diffusion. They further opined that innovation diffusion theory (IDT) (Rogers, 1995) used it as the initial stage of an innovation diffusion process model. According to this theory, innovation diffusion involves two different actors: a company or organization that will adopt the innovation or new technology, and users or individuals who will use the innovation or technology. Awareness in IDT is developed from the perspective of positive technologies.

More companies are building on existing information systems, along with new technologies such as social media to get to know their customers better (Weill & Woerner, 2015). Beyond the statistics, real-time data affords companies the opportunity to refine and approve what they are offering (Outram, 2016). Customer feedback also gives companies an additional opportunity to be more flexible in approaching product design through creating prototypes and adjusting to suit actual customer needs (Cusumano, 2014).

Technology Response

Today's rapidly changing business environment requires organisations to be able to quickly adapt and act. A response is a reaction to a question, experience, or some other type of stimulus. A response can come in many forms, including an answer to a question, an emotional reaction, or a reply. Identifying and then implementing an effective response to disruptive new technologies is enormously challenging for any

business. In an age of rapid technological advances, the survival of firms often rests in their ability to quickly respond to event. Mirroring this trend, there has also been a growth in recent years of management research on the challenges firms face during times of disruption and on how firms can respond to disruption (Ansari et al., 2016; Volberda et al., 2018). However, despite the pervasiveness of this recommendation, many firms are unsuccessful in responding to disruption (Khanagha et al., 2018) raising the question of the validity, feasibility, or boundaries of such an internal fit perspective. Companies cannot explore all potential disruption plans, or their prospective opportunities equally, and so need to create a prioritized investment plan for responding to digital disruption that best suits their business (Plummer et al., 2017). A key point is establishing a team of individuals tasked with staying current and identifying possible disruptions, and allocating funds towards ventures that may arise from disruptions (Plummer et al., 2017).

Technology Adaptation

Technology adaptation refers to understanding users' behaviours towards accepting and utilising technology effectively (Kee et al., 2021; Rubel et al., 2016). Also, technology adaptation refers to the use of technology, how it has changed or adapted by people in the organisation. It was argued that technology choice is not merely a matter of implementing the latest innovation (technology adoption); rather, organisation must have the ability to adapt the technology (technology adaptation) to connect and meet the needs of their customers (Kee et al., 2021). Three of the basic characteristics of ICT are its pervasive nature as it spreads across economic sectors, its ability to improve over time and hence lower cost for users, and its ability to spawn innovation by facilitating research and development of new products, services, or processes (Mustafa, 2015). The adoption of ICT presents opportunities for organizational leaders to improve operational efficiency, reduce transaction cost, facilitate coordination between suppliers, expand market reach, and gain a competitive advantage in the global market (Mustafa, 2015). The adoption of ICT has had a positive effect on firms' productivity, directly and indirectly resulting in growth, profitability, employee and customer satisfaction, increased market value, and positive social and environmental impact (Gupta et al., 2020).

Technology Transfer

Technology transfer (TT) refers to the process of conveying results stemming from scientific and technological research to the market place and to wider society, along with associated skills and procedures, and is as such an intrinsic part of the technological innovation process. Going beyond technology transfer; going beyond the current linear technology transfer mode of extension requires a pragmatic and programmatic approach to the delivery of agricultural extension services. The process of this is that technology transfer process is the move-mentor flow of technical knowledge, data designs, prototypes, materials, inventions, software, and/or trade secrets from one organisation to another organisation or from one purpose to another purpose (UNCTAD, 2018). Technology transfer can be defined as a flow between technology holder and technology user. It can be done through buying, renting, lending or licensing. Technology transfer can consist of several entities. The most important are innovators (technology creators), commercialization (companies) and central government institutions (economic policy) (Yahaya & Bakar, 2017).

Technology Accessibility

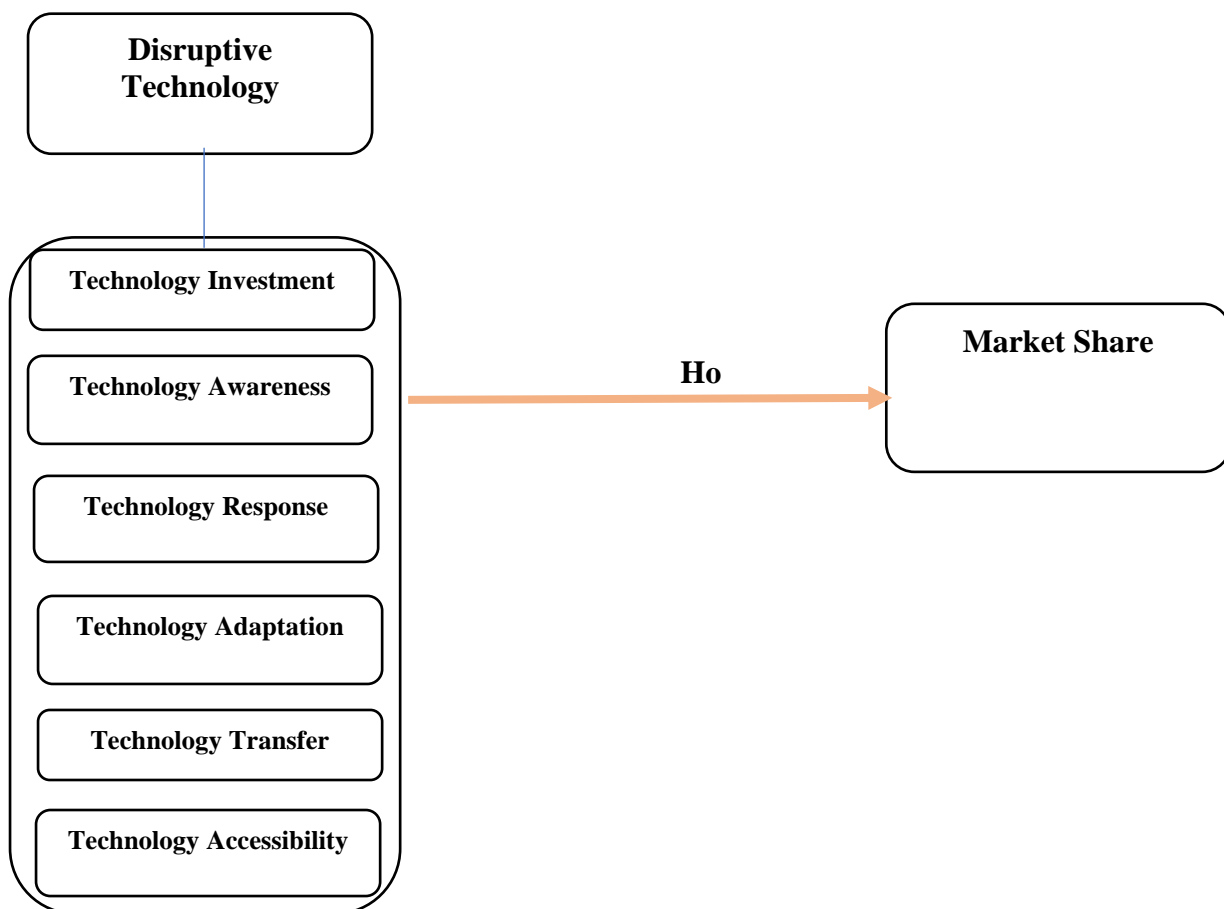
Accessibility may have originated to facilitate matters for a particular sub-group. For example, the widely used speech technology (e.g., hearing driving directions in cars or search results on smartphones) was birthed from Dr. Raymond Kurzweil's decision to create a reading machine for the blind. E-books that we listen to today were birthed from George Kerscher's frustration that he, as a blind man, could not access information. Captioned video which helps us follow a movie via subtitles in noisy places or helps us learn new languages was created for people who are deaf or hard of hearing, speech recognition or voice recognition technology, be it Microsoft's Cortana or Apple's Siri, or interactive voice response systems we use to book hotel rooms or

air tickets have been used by persons with disabilities for over thirty years (Kulkarmi, 2019). Areas where employers may need to address technology accessibility include web-based intranet and internet information and applications, email and other electronic correspondence, software applications and operating systems, telecommunications products and video and multimedia products, desktop and portable computers, self-contained, closed products such as calculators, copy machines and printers and online job applications. Non-compliance can result in financial loss, but organizations that maximize accessibility also have a lot to gain (World Bank, 2020).

2.2 Market Share

Market share refers to the company's percentage of the entire sales of the market or industry in which it operates. It refers to the company's sales amount compared to that of the overall industry. Generally, market share is a metric that indicates the size of the company in an industry or market (Gordon, 2022). According to Pulaj et al. (2015), market share provides the general idea about the size of a business organisation in relation to its market and its competitors. Similarly, Olanipekun et al. (2015) elucidated market share as the percentage of an industry (defined in terms of either units or revenue) acquired by a business entity over a specific time period. It is the percentage that goes to a company out of the total purchases of the customer of a product or service. As such, market share of a firm is often calculated as the firm total sales divided by the industry overall sales over a specific period of time. These definitions though portray the intent of market share, but they are not sufficient. There was therefore an improvement when Uchegbulam et al. (2015) defined market share as the proportion of an industry total market (expressed in term of sales revenue or units) that goes to a specific organization over a specific period of time.

2.3 Research Conceptual Model



Source: Authors' Research Model (2023).

2.4 Empirical Review

Cozzolino et al. (2018) found that when external economies emerge after a disruption, incumbents have incentives to use the external resources (such as knowledge and technologies) to gain access to larger market share; reduce costs; and increase their innovation. Access to such external resources is likely to provide an advantage, compared to the sole reliance on internal factors of productions (internal-only economies of scale). To rapidly and effectively respond to the threat, incumbents are likely to use alliances and acquisitions and a mixed business model (half-closed and half open) as new adaptation mechanisms rather than stand-alone experimentation, which is generally riskier and slower. Furthermore, Nguyen et al. (2019) research findings suggested that process and product innovations are beneficial to firm performance in terms of market share, but not return on total assets and that both process and product innovations have significantly positive impacts on firm performance. Similarly, Kipkirui (2017) investigated the effect of innovation strategies on market share of small-scale tea packer firm in Kenya. The study revealed that technological innovation has positive and significant effects on market share of small-scale tea packer in Kenya.

Olomu et al. (2016) outcome of the study revealed that ICT tools/mediums such as telephone, e-mail, website, computer/laptop gadgets and social media/ networks were found to be predominantly deployed and integrated in marketing practices in the Nigerian paints industry. This could be as a result of the prevalent nature of mobile phones and increasing awareness of facilities available to users on handsets with easy access to electronic mails. Evidences from the sampled companies provided that they engaged more in supporting current marketing efforts (reinforcing marketing practice) than improving existing marketing efforts (enhancing marketing efforts) and re-defining marketing efforts (transforming marketing efforts). Also, Singh and Hanafi, (2019) opined that disruptive innovation is also seen as the adoption of technologies that significantly transforms the way businesses are operated that can push companies to change the way they approach their business or risk losing market share and, in some cases, becoming irrelevant.

Based on the foregoing, the study thus hypothesized that:

H₀: Disruptive technology have no significant effect on market share of selected manufacturing SMEs in Lagos and Ogun States, South-West, Nigeria.

2.5 Theoretical Framework

2.5.1 Christensen's Disruptive Innovation Theory

Disruptive technology model from Clayton Christensen is a theory best used to discuss the impact of new and ground breaking technologies on a firms' existence. This model was introduced by Christensen in 1997 in his book "The Innovators Dilemma: When New Technologies Cause Great Firms to Fail." This model was a function of performance and time in relation to new technology. This model also describes the inability of great firms to counter the impact of new technology. Christensen's theory is based on innovation and not just technology change. He proposes that disruptive innovation theory has two basic categories. The first is when incumbent companies ignore the low-end part of the market, allowing new entrants to come into the market and take over the low-end market, building a trajectory to the upper-level markets. The second category of innovation acknowledged in Christensen's theory is the creation of a new market where none existed before. The use of wearable technology to measure physical fitness or activities could be seen as a new market where none previously existed. It is important to note that while Christensen closely ties technology to many of the disruptive innovations, the theory does not need technology as its only platform to exist (Christensen et al., 2015).

In today's highly competitive market, SMEs seek to take advantage of opportunities through the use of technologies to strengthen their business models and achieve exponential changes through creative destruction that leads them to higher levels of innovation (Teece 2018). The theory is used in explaining a situation in which it alters and transforms industry or market through the introduction of simple, convenience, accessible

and affordable solutions (Christensen Institute, 2022). Christensen explained that such innovations usually begin in a niche market that is not very attractive or considered inconsequential by incumbent firms in the industry, but eventually the new solution or product completely redefines the industry. Disruption does not occur suddenly and the incumbents frequently overlook the disrupters until the market has already moved away from them. Key factors that allow incumbents to respond to digital disruption include resources, processes and values/culture (Karimi & Walter, 2015). The culture of the organization will play a key role in determining if an organization has the capability to handle the amount of change it is faced with in light of the disruptive technologies. Recent history (COVID -19 2020 - 2022) has shown us that forecasting events is less than certain and industry may find predicting technology change equally challenging. Many of the next waves of technologies may appear cost prohibitive at first, but as technology advances these costs quickly change allowing entry into new markets or, for some vendors, the ability to attack from above and move downward (Petrooulos et al., 2022). Others easily create new markets which displace or eliminate existing markets. Some incumbents may become the innovators themselves, but “new entrants are what drives innovation” (Stringham et al., 2015).

As competition increases, firms attempt to upgrade their performance levels (market share) by producing better products in order to attain more customers in the market. The improvements in market share will however, increase at a faster rate than anticipated customer needs, a situation which will give rise to disruptive technologies (King & Baartartogtokh, 2015). The key conceptual building blocks of disruptive innovation are (a) product performance (b) sustaining technology (c) disruptive technology and (d) customer needs (Montoya & Kita, 2018).

3.0 METHODOLOGY

This study adopted a survey research design. The total population was 2603 owners-managers of manufacturing SMEs in Lagos and Ogun States, Nigeria. The study used Cochran (1977) formula to determine the sample size of 436. A simple random sampling technique with proportionate allocation was used to select the respondents.

A closed ended questionnaire was adopted by the study. The items in the questionnaire were adapted from related previous literatures to collect data for the variables in the study. The primary data source was used in this study. The primary data was collected through administering structured questionnaire. Parts B, C and D used a structured 6 – point Likert type scale battery of Very High VH (6) High H (5) Moderately High MH (4) Moderately Low ML (3) Low L (2) Very Low VL (1).

Table 1: Sources of the adapted questionnaire

Main Variables	Specific Main Variables	Sources of Instrument
Independent Variable: Disruptive Technology	Technology Investment	Ji, Yan and Yu (2019); Karhade & Dong (2021).
	Technology Awareness	Alaeddin and Altounjy (2018); Sharma et al., (2020).
	Technology Response	Prevost et al., (2018); Ahuja et al., (2014).
	Technology Adaptation	Kumar and Ayedee (2021).
	Technology Transfer	Handoko et al., (2019).
	Technology Accessibility	Horton (2021); Kulkarni (2019); Gould et al., (2019).
Dependent Variable:	Market Share	Nlagi, (2016).

Source: Researcher's Literature Review (2022).

The construct reliability was employed to evaluate the extent to which operationalisation of a construct measure what it intends to measure and nothing else. Cronbach's alpha was used to determine the internal consistency of the constructs. For the research instrument the Cronbach's alpha reliability fitness result is presented below:

Table 2: The Internal Consistency Reliability Results

SN	Variables	Number of Items	Cronbach's alpha coefficient	CR	Remark
1	Technology Investment	5	0.847	0.768	Reliable
2	Technology Awareness	5	0.726	0.789	Reliable
3	Technology Response	5	0.810	0.746	Reliable
4	Technology Adaptation	5	0.787	0.758	Reliable
5	Technology Transfer	5	0.895	0.865	Reliable
6	Technology Accessibility	5	0.785	0.825	Reliable
7	Market Share	5	0.896	0.855	Reliable

Source: Computed from Pilot study, (2022)

Model Specification

$$Y = f(X)$$

Y = Dependent Variable

X = Independent Variable

Y = Market Share (MS)

X = Disruptive technology (DT)

X = (x₁, x₂, x₃, x₄, x₅, x₆)

Where:

X = Disruptive technology (DT)

x₁ = Technology investment (TI)

x₂ = Technology awareness (TA)

x₃ = Technology response (TR)

x₄ = Technology adaptation (TAD)

x₅ = Technology transfer (TT)

x₆ = Technology accessibility (TAC)

The model formulated for the hypothesis is written as:

Hypothesis One

$$MS = \psi_0 + \psi_1 TI + \psi_2 TA + \psi_3 TR + \psi_4 TAD + \psi_5 TT + \psi_6 TAC + \epsilon_i \dots \dots \dots \text{Regression eqn. 1}$$

4.0 DATA ANALYSIS AND RESULTS

436 questionnaires were distributed before the retrieval of 385 questionnaires which represented approximately (88.3%) returned and found usable for the analysis. Approximately 11.7% of the copies administered were not returned and some were incompletely filled, hence judged as invalid and unusable for the analysis. 436 copies of questionnaires were distributed to the respondents of which 385 copies of the distributed questionnaires were duly filled and returned which was used for the analysis. This represented a response rate of about 88.3% of the population employed in the study, which was considered an excellent response rate according to Holtom et al., (2022).

Table 3: Multiple Regression between disruptive technology components and market share

N	Model	B	Sig.	T	ANOVA (Sig.)	R	Adjusted R ²	F (6, 378)
385	(Constant)	.342	.103	1.634	0.000 ^b	.911 ^a	.827	306.200
	Technology Investment	.213	.000	7.144				
	Technology Awareness	.061	.000	4.554				
	Technology Response	.139	.277	1.089				
	Technology Adaptation	.076	.007	2.692				
	Technology Transfer	.140	.191	1.311				
	Technology Accessibility	.342	.014	2.475				
Predictors: (Constant), Technology Accessibility, Technology Investment, Technology Awareness, Technology Adaptation, Technology Response, Technology Transfer								
Dependent Variable: Market Share								

Source: Researcher’s Findings, 2023

Interpretation

Table 3 showed the multiple regression analysis results for the dimensions of disruptive technology on market share in selected manufacturing SMEs in Lagos and Ogun States, South-West, Nigeria. The results showed that for the disruptive technology components on market share in Nigeria. The results revealed that technology investment ($\beta = 0.213, t = 7.144, p < 0.05$), technology awareness ($\beta = 0.061, t = 4.554, p < 0.05$), technology adaptation ($\beta = 0.076, t = 2.692, p < 0.05$), technology transfer ($\beta = 0.140, t = 1.311, p < 0.05$) and technology accessibility ($\beta = 0.342, t = 2.475, p < 0.05$), and technology response ($\beta = 0.139, t = 1.089, p > 0.05$) have a positive and significant effect on market share except for technology response and technology transfer. This implies that all the components of disruptive technology (technology investment, technology awareness, technology adaptation and technology accessibility) are important factors in the manufacturing SMEs’ firms which in turn yields an increase in market share of the manufacturing SME firms.

The R value of 0.911 supports this result and it indicated that disruptive technology components especially (technology investment, technology awareness, technology adaptation and technology accessibility) have a very strong positive relationship with market share of selected manufacturing SMEs in Nigeria. The coefficient of multiple determination $AdjR^2 = 0.827$ revealed that about 82.7% variation that occurred on the market share in selected manufacturing SMEs firms can be accounted for by the components of disruptive technology while the remaining 17.3% changes that occurred was accounted for by other variables not captured in the model. The predictive and prescriptive multiple regression models were thus expressed:

$$P = 0.342 + 0.213TI + 0.061TA + 0.139TR + 0.076TAD + 0.140TT + 0.342TAC + U_i$$

--- Eqn.(i) (Predictive Model)

$$P = 0.342 + 0.213TI + 0.061TA + 0.076TAD + 0.140TT + 0.342TAC + 0.139TR + U_i$$

--- Eqn.(ii) (Prescriptive Model)

Where:

- MS = Market Share
- TI = Technology Investment
- TA = Technology awareness
- TR = Technology response
- TAD = Technology adaptation
- TT = Technology transfer
- TAC = Technology accessibility

The regression model showed that holding disruptive technology to a constant zero, market share would be 0.342 which is positive. In the predictive model it was seen that some of the variables (technology investment, technology awareness, technology adaptation and technology accessibility) were positive and significant so the management of the manufacturing firms needed to give priority especially to those variables significant that is why they were the variables included in the prescriptive model. The results of the multiple regression analysis as seen in the prescriptive model indicated that when technology investment, technology awareness, technology adaptation, technology response, technology transfer and technology accessibility were improved by one unit, market share would also increase by 0.213, 0.061, 0.076, 0.139, 0.140 and 0.342 respectively. This implies that an increase in technology investment, technology awareness, technology adaptation, technology response, technology transfer and technology accessibility, would lead to an increase in the market share of the selected manufacturing SMEs in Lagos and Ogun States, South – West, Nigeria. Also, the F-statistics ($df = 6, 378$) = 306.200 at $p = 0.000$ ($p < 0.05$) indicated that the overall model was significant in predicting the effect of disruptive technology on market share except (technology response and technology transfer) which implies that disruptive technology components orientation especially technology investment, technology awareness, technology accessibility and technology adaptation) were all important determinants in the market share of selected manufacturing firms in Lagos and Ogun States, South – West, Nigeria. The result suggested that manufacturing firms should pay more attention towards developing the components of technology disruption with special emphasis on technology investment, technology awareness, technology accessibility and technology adaptation to increase the market share. Therefore, the null hypothesis (H_{03}) which stated that disruptive technology components have no significant effect on market share of selected manufacturing SMEs in Lagos and Ogun States, South – West, Nigeria was rejected.

DISCUSSION OF FINDINGS

The test of the hypothesis revealed that disruptive technology components have significant effect on market share of the selected manufacturing SMEs in Lagos and Ogun States, South - West, Nigeria. Empirically, the results of this study were consistent with Jiang et al. (2016) which showed that electronic word-of-mouth had a significant effect on a brand's market share. They further discovered that innovativeness of an online brand was highly correlated with a brand's market performance under s-commerce. A brand can gain market share by improving its innovativeness, and novel firms derived competitive advantages both online and offline while confirming that innovation was positively associated with market share. Durotoye et al. (2018) observed that firm's incapability to proliferate their market share were due to the challenges they encountered exclusively from the environment. The need for every firm to have a considerable share in the market was very crucial.

Cozzolino et al. (2018) found that when external economies emerged after a disruption, incumbents had incentives to use the external resources (such as knowledge and technologies) to gain access to larger market share; reduce costs; and increase their innovation. Access to such external resources was likely to provide an advantage, compared to the sole reliance on internal factors of productions (internal-only economies of scale). To rapidly and effectively respond to the threat, incumbents were likely to use alliances and acquisitions and a mixed business model (half-closed and half open) as new adaptation mechanisms rather than stand-alone

experimentation, which was generally riskier and slower. Furthermore, Nguyen et al. (2019) research findings suggested that process and product innovations were beneficial to firm performance in terms of market share, but not return on total assets and that both process and product innovations had significantly positive impacts on firm performance. Similarly, Kipkirui (2017) investigated the effect of innovation strategies on market share of small-scale tea packer firm in Kenya. The study revealed that technological innovation had positive and significant effects on market share of small-scale tea packer in Kenya.

Olomu et al. (2016) outcome of the study revealed that ICT tools/mediums such as telephone, e-mail, website, computer/laptop gadgets and social media/ networks were found to be predominantly deployed and integrated in marketing practices in the Nigerian paints industry. This could be as a result of the prevalent nature of mobile phones and increasing awareness of facilities available to users on handsets with easy access to electronic mails. Evidences from the sampled companies provided that they engaged more in supporting current marketing efforts (reinforcing marketing practice) than improving existing marketing efforts (enhancing marketing efforts) and re-defining marketing efforts (transforming marketing efforts). Also, Singh and Hanafi, (2019) opined that disruptive innovation was also seen as the adoption of technologies that significantly transformed the way businesses were operated that can push companies to change the way they approached their business or risk losing market share and, in some cases, become irrelevant.

Theoretically, this research findings fell in line with the disruptive innovation theory. The disruptive innovation theory assumes that as competition increases, firms attempt to upgrade their market share by producing better products in order to attain more customers. The improvements in market share will however, increase at a faster rate than anticipated customer needs, a situation which will give rise to disruptive technologies. The disruptive innovation theory seeks to stimulate the creativity of companies which is to identify process and structure improvements and encourage new ideas and products to the market.

The disruptive innovation theory distinguished between sustainable technologies and disruptive technologies in which sustainable technologies add value to existing and already established products whilst disruptive technologies disrupt or redefine performance levels thereby creating a new marketplace (Christensen et al., 2018). In general, technological improvements result in performance improvement of established products. These products usually become faster, cheaper, louder, and smaller, as indicated by the above characteristics of disruptive technology (Bower & Christensen, 1996). As a result, the disruptive innovation theory was judged appropriate for investigating the influence of disruptive innovation on market share of the selected manufacturing SMEs in Lagos and Ogun States, South - West, Nigeria.

CONCLUSION AND RECOMMENDATION

The study concluded that disruptive technology improved market share of selected manufacturing SMEs in Lagos and Ogun States, South – West, Nigeria. This implies that the adoption and implementation of disruptive technology by the selected SMEs in Lagos and Ogun States, South – West, Nigeria have led to an increase in their market share. This could be attributed to several factors, such as improved operational efficiency, enhanced product quality, increased production capacity, cost savings, or the ability to offer innovative products that meet the changing demands of the market.

It was recommended that to expand market share, SMEs should often implement and respond to disruptive technology. SMEs should actively seek out and adopt disruptive technologies that can enhance their operations, products, and services. This could involve investing in automation, data analytics, artificial intelligence, or other emerging technologies relevant to their industry.

LIMITATION OF THE STUDY AND SUGGESTION FOR FURTHER STUDY

Although the findings of this study provided new insights into the effect of disruptive technology on a firm's performance, the results might have been constrained by the following: In survey research design, confidentiality is always an issue for respondents; most respondents tend to reject or not fill the questionnaire because they are not sure of the outcome of the research. Furthermore, primary data is time-consuming and researcher does not have information to back up findings. Questionnaire were not granted easy access by the management of the selected manufacturing SMEs. The researcher tried as much as possible to reduce these limitations in the study such as individual's subjective perception, political response and their interpretations of those perceptions, rather than by independent, verifiable, objective measures reported by group members; confidentiality was ensured by disallowing respondent's name to be written as well as other information that identified participants was removed and at the same time, study codes was used on data documents. Also, a non- response rate has been included to make – up for non - responding responses.

Further study should be conducted among other sectors apart from manufacturing SMEs companies for comparative study and generalization of the findings established in this study. This is because there are contextual, regulatory, and operational differences between manufacturing SMEs firms and other Sectors. Also, the model used in the study focused only on disruptive technology as a determinant of market share of manufacturing SMEs firms in Lagos and Ogun States, South - West, Nigeria. However, other disruptive technology dimensions, as well as other factors of performance indicator other than market share should be considered in future studies for a more robust generalisation of result.

REFERENCES

- Agwu, M. E. (2018). Relevance of information technology in the effective management of selected SMEs in Lagos State Nigeria. *Academy of Strategic Management Journal*, 17(1), 1-15.
- Alaeddin, O., & Altounjy, R. (2018). Trust, technology awareness and satisfaction effect into the intention to use cryptocurrency among generation Z in Malaysia. *International Journal of Engineering & Technology*, 7 (42), 8-10.
- Aminu, R. (2019). Information Technology Investment and a validity assessment framework, *Human Relations*, 75 (8), 1560 – 1584.
- Ansari, S., Garud, R., & Kumaraswamy, A. (2016). The disruptor's dilemma: TiVo and the US television ecosystem. *Strategic management journal*, 37(9), 1829-1853.
- Bower, J. L. & Christensen, C. M. (1996). Customer power, strategic investment, and the failure of leading firms. *Strategic management Journal*, 17(3), 197-218.
- Chen, L. K., Yuan, R. P., Ji, X. J., Lu, X. Y., Xiao, J., Tao, J. B., ... & Jiang, L. Z. (2021). Modular composite building in urgent emergency engineering projects: A case study of accelerated design and construction of Wuhan Thunder God Mountain/Leishenshan hospital to COVID-19 pandemic. *Automation in Construction*, 124, 103555.
- Christensen, C.M., Raynor, M.E., & McDonald, R. (2015). What is Disruptive Innovation? *Harvard Business Review*, 44-53.
- Christensen, C. M., McDonald, R., Altman, E. J., & Palmer, J. E. (2018). Disruptive innovation: An intellectual history and directions for future research. *Journal of management studies*, 55(7), 1043-1078.
- Christensen Institute (2022). Disruptive innovation. Retrieved form <https://www.christensenInstituteOrg/key-concepts/disruptive-innovation-2>
- Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). New York: John Wiley & Sons.
- Cozzolino, A., Verona, G., & Rothaermel, F. T. (2018). Unpacking the disruption process: New technology, business models, and incumbent adaptation. *Journal of Management Studies*, 55(7), 1166-1202.
- Cusumano, M. (2014). Staying Power: Managing Innovation in an Uncertain World. *European Business Review*. <http://www.europeanbusinessreview.com/staying-power-managing-innovation-in-an-uncertain-world/> Retrieved July 2016 .
- Durotoye, T. O., Adeyemi, A. A., Omole, D. O., & Onakunle, O. (2018). Impact assessment of wastewater discharge from a textile industry in Lagos, Nigeria. *Cogent Engineering*, 5(1), 1531687.
- Emenyi, E., & Effiong, S. A. (2020). Macroeconomic variables and stock market performance: Covid–vectors or Covid–variables. *Journal of Critical Reviews*, 7(12), 4685-4693.
- Enemuo, J. I., Ude, A. O., Udoh, B. E., Obiora-Okafo, C. A., & Onodugo, I. J. (2019). The impact of technological transfers on innovative capacity of manufacturing entities in an emerging economy. *Academy of Strategic Management Journal*, 18(6), 1-8.

- Gërguri-Rashiti, S., Ramadani, V., Abazi-Alili, H., Dana, L. P., & Ratten, V. (2017). ICT, innovation and firm performance: the transition economies context. *Thunderbird International Business Review*, 59(1), 93-102.
- Gordon, B. R., Moakler, R., & Zettelmeyer, F. (2022). Close enough? a large-scale exploration of non-experimental approaches to advertising measurement. *Marketing Science*.
- Gupta, A., Lanteigne, C., & Kingsley, S. (2020). SECure: A social and environmental certificate for AI systems. *arXiv preprint arXiv:2006.06217*.
- Handoko, F., Vitasari, P., Hidayat, S., & Tjahjadi, M. E. (2019). Technology transfer program for SMEs in Indonesia. In *Journal of Physics: Conference Series* 1375 (1), IOP Publishing.
- Horton, S. (2019). Empathy cannot sustain action in technology accessibility. *Frontiers in Computer Science*, 3, 31.
- Ji, P., Yan, X., & Yu, G. (2019). The impact of information technology investment on enterprise financial performance in China. *Chinese Management Studies*, 14 (3), 529 – 542.
- Jiang, G., Tadikamalla, P. R., Shang, J., & Zhao, L. (2016). Impacts of knowledge on online brand success: an agent-based model for online market share enhancement. *European Journal of Operational Research*, 248(3), 1093-1103.
- Karhade, P., & Dong, J. Q. (2020). Information technology investment and commercialized innovation performance: Dynamic adjustment costs and curvilinear impacts. *MIS Quarterly*, 1 – 40.
- Kee, D. M. H., & Rubel, M. R. B. (2021). Technology adaptation is on its way: the role of high involvement work practice. *International Journal of Business Innovation and Research*, 25(1), 35-50.
- Khanagha, S., Ramezan Zadeh, M. T., Mihalache, O. R., & Volberda, H. W. (2018). Embracing bewilderment: Responding to technological disruption in heterogeneous market environments. *Journal of Management Studies*, 55(7), 1079-1121.
- King, A. A., & Baartartogtokh, B. (2015). How useful is the theory of disruptive innovation? *MIT Sloan Management Review*, 57 (1), 77.
- Kipkirui, J. B. (2017). *The effect of innovation strategies on market share of small- scale tea packers in Kenya* (Doctoral dissertation, University of Nairobi).
- Kulkarni, M. (2019). Digital accessibility: Challenges and opportunities. *Indian Institute of Management Bangalore Management Review*, 31, 91 – 98. https://www.researchgate.net/publication/327324797_Digital_Accessibility_Challenges_And_Opportunities.
- Kumar, A., & Ayedee, D. (2021). Technology adoption: A solution for SMEs to overcome problems during COVID-19. *Forthcoming, Academy of Marketing Studies Journal*, 25(1).
- Montoya, J. S., & Kita, T. (2018). Exponential growth in product performance and its implications for disruptive innovation theory. *International Journal of Business and Information*, 13(1), 1–36.

- Mustafa, H. H. (2015). The role of ICT management to achieve organizational innovation. *International Journal of Organizational Innovation*, 7(4), 48-56.
- Nguyen, H., & Harrison, N. (2019). Leveraging customer knowledge to enhance process innovation: Moderating effects from market dynamics. *Business Process Management Journal*, 25(2), 307-322.
- Okeowo, F. O. (2017). *Trade liberalization and performance of the Nigerian textile sector (1986 - 2015)*. Ph.D. Thesis, Babcock University. https://www.researchgate.net/publication/338771141_Trade_Liberalization_and_Performance_of_the_Nigerian_Textile_Industry
- Okubanjo, A. A., Oyetola, O. K., Groot, A., & Degraaf, A. J. (2017). Average probability of failure on demand estimation for burner management systems. *Nigerian Journal of Technology*, 36(4), 1218-1225.
- Olanipekun, W. D., Abioro, M. A., Akanni, L. F., Arulogun, O. O., & Rabiou, R. O. (2015). Impact of strategic management on competitive advantage and organisational performance: Evidence from Nigerian bottling company. *Journal of Policy and development Studies*, 9(2), 185-198.
- Olomu, M. O., Ireferin, I. A., & Olomu, O. E. (2016). ICT adoption in emerging contemporary marketing practices: the case of the Nigerian paints industry. *Ecoforum Journal*, 5(3).
- Outram, C. (2016). Disrupting the Disruption: 10 Principles for Digital Success, *European Business Review*.
- Petropoulos, F., Apiletti, D., & Assimakopoulos, V. et al. (2022). Forecasting: Theory and practice. *International Journal of forecasting Review*, 38 (2022), 705 – 871.
- Plummer, D. C., Smith, D. M., & Hill, J. B. (2017). Best Practices in Managing Digital Disruption as Part of an Innovation Program. Gartner, Stamford.
- Prevost, M., Johnston Prof, K. A., & Tanner, M. C. (2018). Awareness and preparedness of IT managers to digital disruption: A South African exploratory case study. *The African Journal of Information Systems*, 10(4), 2.
- Pulaj, E., Kume, V., & Cipi, A. (2015). The impact of generic competitive strategies on organizational performance. The evidence from Albanian context. *European Scientific Journal*, 11(28).
- Rahimah, K., NorAziati, A. H., & Adnan, H. B. (2018). Organization support for cloud computing implementation success in education system: scale development and validity in Delphi. *Int. J. Eng. Technol*, 7, 512-516.
- Roger, E. M. (1995). *Diffusion of Innovations*, Fourth edition, New York: Free Press.
- Rubel, M. R. B., Kee, D. M. H., Rimi, N. N., & Yusoff, Y. M. (2016). Adapting technology: effect of high-involvement HRM and organisational trust. *Behaviour & Information Technology*, 36(3), 281-293.
- Sharma, G. (2017). Pros and cons of different sampling techniques. *International Journal of Applied Research* 3(7), 749–752.

- Singh, D. S. M., & Hanafi, N. B. (2019). Disruptive technology and SMEs performance in Malaysia. *International journal of academic research in Business and social sciences*, 9(12), 140-148.
- Smith, C., Dickinson, H., Carey, N., & Carey, G. (2020). The challenges and benefits of stewarding disruptive technology. *The Palgrave handbook of the public servant*, 1-17.
- The World Bank (2020). Nigeria development update.
- Tijani, O. O. (2020). Can strategic entrepreneurship sustain the market share of Nigerian textile manufacturing firms. *European Journal of Business and Innovation Research*, 8 (2), 1 – 19.
- Uchegbulam, P., Akinyele, S., & Lbidunni, A. (2015a). Competitive strategy and performance of selected SMEs in Nigeria. International Conference on African Development Issues (CIJ-ICA DI) 2015: Social and Economic Models for Development Track, (June), 326–333.
- United Nations Conference on Trade and Development (UNCTAD) (2018). Annual report: Alignment of our work with the Nairobi Maafikiano and the sustainable development goals.
- Vaidya, D. (2022). Disruptive technology – what is it, types, examples, pros and cons.
<https://www.wallstreetmojo.com>.
- Volberda, H. W., Van Den Bosch, F. A., & Heij, K. (2018). *Reinventing business models: How firms cope with disruption*. Oxford University Press.
- Weill, P., & Woerner, S. L. (2015). Thriving in an increasingly digital ecosystem. *MIT Sloan Management Review*.