

Technology Transfer and Market Growth: The Mediating Role of Artificial Intelligence in Nigerian Manufacturing Firms

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ABSTRACT

This paper examines the connexion between transferring of technology and market development, and focuses specifically on the mediating impact of Artificial Intelligence (AI). In particular, the paper explores the role of knowledge sharing, skill sharing, and innovation diffusion as the key dimensions of technology transfer in promoting market growth by using AI-driven tools, namely, automation and predictive analytics. The descriptive survey research design was embraced and the sample was limited to the senior staff and executives of Cadbury Plc, Nigeria. Out of the 850 combined employees, a population of 381 respondents was selected using the Raosoft formula. A regression analysis was used to analyse data collected using a structured questionnaire. The findings show that knowledge sharing, skill sharing, and diffusion of innovation have strong predictive ability of market growth. The results also indicate that the use of AI technologies positively influences the effects of technology transfer through automation and predictive analytics, which increase the level of organisational decision-making and competitiveness. In general, the paper reveals the strategic value of efficient technology transfer processes and AI integration in innovation and market growth in the future. It is suggested that the study recommends organisations to constantly monitor and reinforce their technology transfer processes, and incorporate AI-based tools to stay competitive in the ever-changing business environment.

Keywords: Technology transfer, Knowledge transfer, Skill transfer, Innovation diffusion, Market Growth, Artificial Intelligence

INTRODUCTION

Over the past few years, artificial intelligence (AI) has become one of the key vectors of technological progress and evolution of the market in various fields. Organisations are also finding the use of AI to increase automation, make better decisions and predictive features that lead to strategic competitiveness. With the digital technologies adopted by firms, knowledge sharing, skill sharing, and innovation diffusion have become imperative to organisational learning, innovation and market expansion. Technology transfer helps companies internalise new capabilities, enhance operational efficiency as well as enhancing competitive position in dynamic markets. Although the role of AI is increasingly becoming prominence, its implementation in organisations is sometimes a major challenge. The deployment of AI technologies is usually expensive in terms of financial expenditure on technology infrastructure, human resources, and organisational re-orientation. The requirements can restrict the successful adoption of AI into the existing systems in many companies, particularly in developing economies. Besides, variations in the organisational culture and institutional settings, as well as technological preparedness, may limit the transfer of AI-related knowledge and skills (Dwivedi, Hughes, Ismagilova, Aarts, Coombs, Crick, & Williams, 2021). These issues are especially pronounced in the multinational companies and inter-organisational networks that require transferring technologies to become innovative and competitive in the market.

Technology transfer has been widely known in the literature as a key determinant of organisational performance and growth in the market. According to previous researchers, knowledge sharing, skill sharing, and diffusion of innovation are important factors in facilitating innovation and productivity in firms (Oladimeji, Benneth, & Kazeem, 2019). Nonetheless, although these aspects of technology transfer were extensively addressed by scholars, the contribution of artificial intelligence to these processes is not studied in detail. Specifically, not much empirical research has been conducted on the mediation role of AI-enabled functionality in technology transfer mechanisms and market expansion (Oladimeji et al., 2019). This is especially pronounced in emerging economies like Nigeria where the manufacturing companies are rapidly moving towards the use of digital technologies to stay afloat both in their local and global markets. The Nigerian manufacturing companies work in the fast-changing technological environment that is marked by heightened competition, globalisation and an ever-growing need of innovation. Companies like Cadbury Nigeria Plc, a prominent multinational manufacturing company, is dependent on technological abilities, exchange of knowledge, and practises of innovation to maintain the market growth. The role of the AI-enabled tools in facilitating knowledge, skills, and innovations transfer in such organisations is thus important towards enhancing organisational performance and competitiveness (Grashof, 2023).

Despite the fact that previous research has revealed the significance of technology transfer in relation to firm performance, the research has not been focused on the process of how artificial intelligence boosts these processes and market development. In particular, the mediating effect of AI capabilities, i.e., automation and predictive analytics as the factor that reinforces a relationship between knowledge sharing, skill sharing, innovation diffusion, and market growth

is not thoroughly studied (Dwivedi et al., 2021). This empirical ignorance constrains scholarly knowledge and management practise on the ways organisations can optimally exploit AI to ensure that they enjoy the full advantages of technology transfer. This paper, therefore, aims to fill this gap by considering the connexion between technology transfer and market expansion, and in this case, the mediator is artificial intelligence. Namely, the research examines the role of knowledge sharing and skill sharing, as well as diffusion of innovation, in driving market growth using capabilities of AI, including automation and predictive analytics, in Nigerian manufacturing companies. The case study has given empirical data on how a multinational manufacturing company based in Nigeria (Cadbury Nigeria Plc) uses AI to improve the technology transfer process and improve its competitiveness in the market through the study.

The research thus aims at investigating how technology transfer, in terms of knowledge sharing, skills sharing, and diffusion of innovativeness through innovation, influences the growth of the market through the use of artificial intelligence. The specific hypotheses are to: (i) examine the effect of knowledge sharing on the market growth, mediated by the level of automation and predictive analytics (ii) test the effect of skill sharing on the market growth with automation level and predictive analytics as the mediators (iii) test the effect of innovation diffusion on the market growth with the automation level and predictive analytics as the intermediaries. The rest of the study is broken down into three sections. Section two (2) is on the review of relevant past studies, while section three (3) is focused on the methodology and empirical results. Section four (4) is dedicated to the conclusion and recommendations.

LITERATURE REVIEW

Conceptual Review

Technology Transfer

Technology transfer describes the exchange or flow of knowledge, skills, technologies and innovations between one organisation, institution or country to another in a bid to promote productivity, innovation as well as economic growth. According to Bozeman (2000), technology transfer refers to the transfer of technological expertise and ability of the source of innovation to people who can utilise them to commercial or practical use. Equally, the World Intellectual Property Organisation (WIPO, 2020) considers technology transfer as the process of knowledge transfer about technology, intellectual property and expertise through licencing agreements, research agreement, joint ventures, training programmes etc. Generally, scholars hold that technology transfer goes beyond the actual actual transfer of technology to include transfer of human capabilities and organisational knowledge that will be required in successful utilisation. Sharif (1995) theorised on this concept by defining the components of technology to comprise of four broad categories namely technoware (equipment and machinery) humanware (skills and expertise), infoware (technical information) and orgaware (organisational processes and systems). Technoware deals with physical technologies whereas humanware deals with human capabilities needed to successfully use technological resources.

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This paper narrows down to the humanware aspect of technology transfer that encompasses information exchange, skills exchange and diffusion of innovations. These factors are especially significant in the contemporary organisations where the technological progress is more and more based on the human potential and the learning of people through cooperation with each other. When applied in the framework of artificial intelligence (AI), knowledge and skills transfer can help companies embrace automation and predictive technologies that can improve the efficiency of operations and competitiveness in the market (Grashof, 2023). Therefore, the transfer of technology may act as a strategic tool where organisations gain the capacity to innovate which will eventually lead to market growth.

Knowledge Sharing

Knowledge sharing is the process whereby individuals or groups of individuals share information, expertise and experience between or among organisations. It is very important in organisational learning, innovation and performance. Grashof, 2023, differentiates tacit knowledge, which is subjective and can hardly be formalised, and explicit knowledge that can be easily formalised, and communicated by use of documents or information systems. Van, Bool, Vlijmen, & Elferink-Gemser (2021) state that organisational knowledge creation takes place when tacit knowledge is transformed into explicit knowledge and distributed among organisational departments. Although initial researchers have made a point of how knowledge sharing is vital in organisational learning, more contemporary studies have made the point regarding its strategic value in enhancing innovation capability and competitive advantage. Van et al. (2021) also believe that knowledge sharing is especially relevant in collaborative settings, including strategic alliances and joint ventures, where companies depend on mutual learning to reach performance results.

The information can be shared within a formal setting, which might include training programmes, knowledge management systems, and structured meetings, or informal setting, which might involve mentoring, socialisation, and teamwork (Luttikhuis, 2021). Wen and Wang (2022) note that organisations that have a well-developed culture of knowledge sharing are in a better position to assimilate different expertise and react to technological aspects. Nevertheless, researchers also acknowledge that organisational barriers to knowledge sharing might include the absence of trust, ineffective communication channels, and insufficient incentives (Ahmad & Karim, 2019). Effective knowledge sharing is even more important in the context of AI-driven organisations as it would enable to share digital competencies and technological capabilities to implement more advanced technologies (e.g. automation, predictive analytics, etc.). Hence, knowledge exchange is one of the primary systems that organisations can use to improve their capacity to become more innovative and sustain growth in the market.

Skill Sharing

Skill sharing is defined as the exchange of competence, knowledge, and practise between an individual, a team or an organisation. It is a significant process by which organisations are able to build human capital and enhance organisational performance. Indriyani, Eliyana, Sobirin, and Nathanael, (2020) said that skill transfer in most cases is a result of employee mobility,

training programmes, mentoring, and collaborative projects. There are various types of skill transfer in organisations as identified by scholars. Vertical skill transfer is the transfer that takes place across levels within the hierarchies, e.g., when senior managers educate junior workers. Horizontal skills transfer, conversely, is when an individual or a team at one level transfers to another or another team at the same level (Van et al. 2021). In addition to internal organisational settings, skill sharing may also exist between organisations as a result of alliances, partnerships, and joint ventures (Wang et al., 2024).

Skill transfer may be discouraged by various organisational and behavioural barriers although the above has its benefits. As an illustration, staff might be reluctant to transfer expertise because of job security or personal gain at the expense of the job. Efficient transfer can also be constrained by cultural disparities, language barriers, and the lack of appropriate skills (Grashof, 2023). The strategies that organisations usually adopt to overcome such challenges include leadership support, training of employees, cross-functional hierarchies and diversity management programmes. These approaches encourage team building and successful movement of knowledge between organisations. In the framework of AI usage, the importance of skill sharing grows especially since in order to successfully apply the automated mechanisms and data-driven decision tools, employees will need to acquire new technology-related skills. Therefore, the organisations that facilitate the exchange of skills stand better chances of improving productivity, innovation, and market expansion.

Innovation Diffusion

The innovation diffusion process is defined as the process in which new ideas, technologies or practises diffuse in a social system over time. In his Diffusion of Innovation Theory, Rogers (1995) states that gradual adoption of innovations is done by various types of adopters which include innovators, early adopters, early majority, late majority, and laggards. Innovations have many characteristics that affect the diffusion process. These are relative advantage, which implies the perceived benefits of the innovation; compatibility, which implies to what extent the innovation fits the current values and practises; complexity, which explains how easy it is to use and learn the innovation; trialability, which grants potential adopters the opportunity to experience the outcomes of the innovation; and observability, which is associated with the observability of the innovation results.

Although the model presented by Rogers offers a background insight into innovation adoption, modern research focuses on the contribution of organisational capabilities and digital technologies to speeding up the diffusion process. Specifically, AI technologies can support the accelerated spread of innovations by providing opportunities to automatize processes, rely on data and create better communication channels. Innovation diffusion, therefore, has a significant role in increasing the adaptability of organisation, technological ability, and eventually increase in the market.

Automation Level

Automation can be explained as utilising technology in undertaking work with minimum human intervention. The degree of automation shows how many processes are performed in an automatic way instead of manually (Firlej & Taeihagh, 2021). Automation may stop at the stage of manual operations (Level 0) or completely autonomous systems (Level 5). Basic assistance systems are in the lower levels, and intelligent systems, which have the ability of making decisions on their own, are at the higher levels. Artificial intelligence technologies that enable machines to analyse data, identify patterns, and perform tasks effectively are a common feature of modern organisations, making automation a possible phenomenon. Studies indicate that increasing automation by more can lead to more productive performance, lower costs of operation, and increase organisational performance. Nevertheless, a successful automation will need the human skills that go hand in hand with technical expertise and digital skills. This leads to the fact that knowledge sharing and skills transfer in organisations tends to become the determinant of the adoption of automation technologies.

Predictive Analytics

Predictive analytics is the application of a statistical method, machine learning, and past data to predict future occurrences or behaviour (Selvan and Balasundaram, 2021). Predictive analytics are becoming essential in organisations to enable a better strategic decision-making process, improved customer relationship management, and operational process optimization. As an example, predictive analytics can be used in the segmentation of customers, demand forecasting, fraud detection, or supply chain optimisation. Organisations can use big data to identify patterns and trends that can be used to make proactive decisions. Predictive analytics is another critical feature of artificial intelligence in the framework of which companies will be able to turn data into information actions. This ability will make organisations responsive to trends in the market and strategic efforts to increase market share and competitiveness.

Market Growth

Market growth is the growth of a market in terms of revenue growth, customer base, and demand of products. It is a significant measure of organisational achievements and economic growth. Schumpeter (1942) contends that innovation is one of the key sources of market growth since it brings innovations in products, processes, and business models that inspire economic growth. Technological advancement, shifts in consumer taste, government policies and the economic conditions across the globe can also influence market growth. According to scholars like Rokkan (2023), when firms follow a market-oriented strategy, they can gain a better opportunity recognition and react to the changing customer demands. The strategies that can help organisations grow in the market include market penetration, products development, market expansion, and diversification Oladimeji, Abosedo, Eze, & Akanni (2018). The capacity to use knowledge, skills, and innovation capacities in a technology-driven industry becomes especially relevant in the context of the maintenance of the competitive advantage and the realisation of the market growth in the long run.

Theoretical Review

This paper has been based on the Resource-Based View (RBV) theory. According to RBV, sustainable competitive advantage is achieved when organisations use valuable, rare, inimitable and non-substitutable resources (Barney, 1991). In the framework of the current research, knowledge sharing, skills sharing, and innovation diffusion are valuable organisational resources that can increase the technological capability and innovativeness potential. With proper use, these resources allow companies to use new technologies, like artificial intelligence, automation, and predictive analytics. The mediating role of AI technologies can also be supported using the RBV framework. By automation and predictive analytics, organisations are able to enhance their internal strengths, efficiency in operations as well as competitiveness in the market.

The paper also resorts to the Diffusion of Innovation Theory (Rogers, 1995) that is used to understand how innovations in technology are transmitted to organisations and industries. This theory assists in explaining the process of the introduction of AI technologies into firms and the effect thereof on the organisational performance and market development. Collectively, these theoretical viewpoints offer a solid basis in explaining ways in which technology transfer mechanisms can drive growth in the market using AI-enabled capabilities.

Empirical Review

There are empirical studies to investigate the association of technology transfer mechanisms and organisational performance outcomes. A study by Wu, Chang, & Chen, (2014). revealed that the knowledge sharing plays a major role in organisational innovation, and performance in the market, and collaborative learning among firms is a crucial aspect to be taken into account. Equally, Akben-Selcuk (2016) indicated that effective transfer of skills enhances organisational productivity and competitiveness especially when anchored on good human resource practises. As Kim and Park (2017) showed, diffusion of innovation has a positive impact on growth of firms, particularly in organisations that have high levels of collaborative networks. In the meantime, Dauth, Findeisen, Südekum & Wöner (2021) discovered that in companies that implemented a high-technology manufacturing system, automation technologies contributed a considerable increase in productivity and operational efficiency.

Additional evidence by Akter et al. (2020) stated that the predictive analytics improves organisational performance through the advancement of decision-making and the management of customer relationship. Similarly, Chae and Shin (2020) demonstrated that automation, as well as data analytics as digital technologies, could mediate the relationship between innovation capability and firm performance. Despite the contributions of those studies in revealing the significance of knowledge sharing, skills transfer, diffusion of innovations, and technologies related to AI, there has been a lack of empirical studies on the effectiveness of such factors in the development of the market, specifically the manufacturing industry in Nigeria. The present study is thus a contribution to the body of literature since it analyses the mediating role of artificial intelligence between the mechanisms of transfer of technology and market growth.

METHODOLOGY

Method

This study used a survey approach to gather data specifically related to Cadbury, Nigeria. The research was conducted in Lagos State, Nigeria. The decision to choose Lagos as the site was based on the concentration of fast-moving consumer goods companies in the area and the fact that all multinational firms have their headquarters in Lagos State (Nigerian Exchange, 2024). The choice of Cadbury, Nigeria, as the study theatre was anchored on the fact that with a market value of NGN 37.1 billion, Cadbury Nigeria is the 52nd most valuable stock on the NGX. It accounts for about 0.067% of the equity market on the Nigerian Stock Exchange. According to Cadbury's (2023) financial statement, the company has 850 regular staff members. The sample size was determined to be 381 using the Raosoft sample size estimator, assuming a 95% confidence level and a 5% margin of error. Based on Hair et al.'s (2021) viewpoint, this research considered the sample size appropriate for the inquiry. According to the authors' claims, a sample size of at least 300 or more is sufficient to reduce measurement errors' impact and assign statistical significance to even minor changes. The main data-gathering strategy used in this research was administering questionnaires to the personnel of the selected company. The study instrument was administered to management staff members, with support from competent research assistants within the organization. The first and subsequent pilot tests showed a positive correlation, resulting in Cronbach alpha coefficients of $\alpha = 0.81, 0.92, 0.88, 0.94$ and 0.87 for knowledge sharing, skill sharing and innovation diffusion, predictive analytics and market growth, respectively.

The Model

The composite model showing the interactions among the variables is shown in eq. 1-3

$$MKTG = (Technology\ Transfer) \dots \dots \dots (1)$$

$$MKTG = (KS, SS, ID) \dots \dots \dots (2)$$

$$MKTG = \beta_0 + \beta_1(KS) + \beta_2(SS) + \beta_3(ID) + \mu \dots \dots \dots (3)$$

Note that AI is the mediating variable

Where; ‘

MKTG: Market Growth

KS= Knowledge Sharing

SS= Skill Sharing

ID= Innovation Diffusion

μ = Error Term

β_0 is the constant

$\beta_1, \beta_2, \beta_3$ are the coefficient estimators

In a-priori terms and based on the preceding discourse, it is anticipated that the dimensions of technology transfer will exhibit a positive relationship with market growth.

$$\beta_0, \beta_1, \beta_2, \beta_3 > 0 \quad (4)$$

RESULTS AND DISCUSSIONS

Empirical Results

Hypothesis Testing

Hypothesis 1

Table 4. 1: Results of linear regression analysis for knowledge sharing and market growth.

Model	Knowledge sharing has no significance effect on market growth.								
	B	T	Standard Error	Sig.	R	R ²	Df	F	Sig
(Constant)	13.041	9.193	1.41	.000	.434 ^a	.183	1	34.393	.001 ^b
Knowledge sharing	.368	5.865	0.063	.000			322		
a.	b. Dependent Variable: MARKET GROWTH								
c.	d. Predictors: (Constant), Knowledge sharing								

Source: Authors’ Computation (2025)

The linear regression results of the influence of the Knowledge sharing on the Market growth of Cadbury in Lagos state, Nigeria are on the table of 4.1. Table 4.1 findings showed that regression model correlation coefficient (R) was (0.4 34) showing that there is a moderate, positive, and significant relationship between Knowledge sharing and Market growth. However, the findings show that Knowledge sharing explains about.183 of the variation of the dependent variable, Market growth. The regression model adjusted coefficient of determination is $R^2 = 0.183$, meaning that the model 18.3% of the variation is explained by the predictor, while the remaining 81.7% of the variation is explained by factors that are not included in the model. The total value of the model, the Analysis of Variance (ANOVA) was 0.000 (p-value = 0.000 was below 0.05) and the F-value = 34.393. This means that the Market growth can be highly predicted by knowledge sharing. Hence, the model was estimated to forecast the Market growth of Lagos State, Nigeria. The statement as an individual proxy of Knowledge sharing was significant, positive and very strong in relation to Market growth ($b = 0.434$, $t = 5.865$, $p = 0.000 < 0.05$). It means that Market growth will rise as Knowledge sharing will be enhanced.

Hypothesis 2

Table 4.2: Linear regression analysis for Skill sharing and market growth

Model	Skill Sharing has no significance effect on market growth.								
	B	T	Standard Error	Sig.	R	R ²	df	F	Sig
(Constant)	5.873	4.022	1.4460	.000	.680 ^a	.459	1	125.604	.001 ^b
Skill sharing	.711	11.207	0.063	.000			322		
e.	f. Dependent Variable: MARKET GROWTH								
g.	h. Predictors: (Constant), Skill Sharing								

Source: Authors' Computation (2025).

The linear regression results of the effect of the Skill Sharing on the Market growth of Cadbury in Lagos State, Nigeria, are shown in Table 4.2. Table 4.2 results showed that the correlation coefficient (R) of the regression model was (0.680), which shows that Skill Sharing and Market growth have a strong, significant and positive relationship. The findings however show that Skill Sharing explains a small percentage of the variance in the dependent variable, Market growth, which is 45.9. This is the overall regression model adjusted coefficient of determination, $R^2 = 0.459$, which suggests that about 45.9 percent of variance in the market development of Cadbury could be predicted by the significant predictor variable of skill sharing. Comparatively, the rest 54.1% variance is contributed by the other factors or variables which include the exogenous variables which might not be included in this study. The general importance of the model, Analysis of Variance (ANOVA) of the regression coefficient was 125.604 (p-value of 0.000 lower than 0.05) and the F-value is 125.604. This means that Skill Sharing is one of the major predictors of Market growth. Thus, the model was estimated to estimate the Market growth of Cadbury in Lagos State, Nigeria. The Skill Sharing as an individual statement had a strong, positive and significant impact on the growth of the Market ($b = 0.680$, $t = 11.207$ $p = 0.000 < 0.05$). This means that as Skill Sharing is enhanced, there will be an increase in the Market growth.

Table 4.3: Linear regression analysis for innovation diffusion and market growth.

Model	Innovation diffusion has no significance effect on market growth.								
	B	t	Standard Error	Sig.	R	R ²	Df	F	Sig
(Constant)	.827	.562	1.472	.000	.757 ^a	.570	1	195.957	.001 ^b
Innovation diffusion	.905	13.998	.065	.000			322		
i.	j. Dependent Variable: MARKET GROWTH								
k.	l. Predictors: (Constant), Innovation Diffusion								

Source: Authors' Computation (2025).

Table 4.3 shows the linear regression analysis of the impact of innovation diffusion on the market growth in the Cadbury in Lagos State, Nigeria. Table 4.3 led to the realization that the regression model correlation coefficient (R) was (0757), which indicates that there is a significant and positive correlation between Innovation diffusion and Market growth. Nevertheless, the findings suggest that the Innovation diffusion is a good predictor of the dependent variable, Market growth, having the variance of about 57 percent. The summed up regression model adjusted coefficient of determination, $R^2 = 0.570$, means that the model could explain the Market growth of Cadbury as 57% of it through the significant predictor variable of knowledge transfer. The other remaining 43 percent variance is attributed to other factors or variables which are referred to as exogenous variables and they may or may not be covered in this study.

The total meaning of the model, the Analysis of Variance (ANOVA) of the regression coefficient was 0.000 (p-value of 0.000 was for less than 0.05) and F-value is 195.957. This can be interpreted to mean that the Market growth is strongly anticipated by Innovation diffusion. Thus, the model was estimated to forecast the Market growth of Cadbury in Lagos State, Nigeria. The single statement that proxied the Innovation diffusion created a robust, positive and significant impact on the Market growth ($b = 0.757$, $t = 13.998$, $p = 0.000 < 0.05$). This means that with the enhancement of Innovation diffusion, Market growth will be enhanced.

Path Analysis of the Moderating Effect of Artificial Intelligence on Technology Transfer and Market Growth

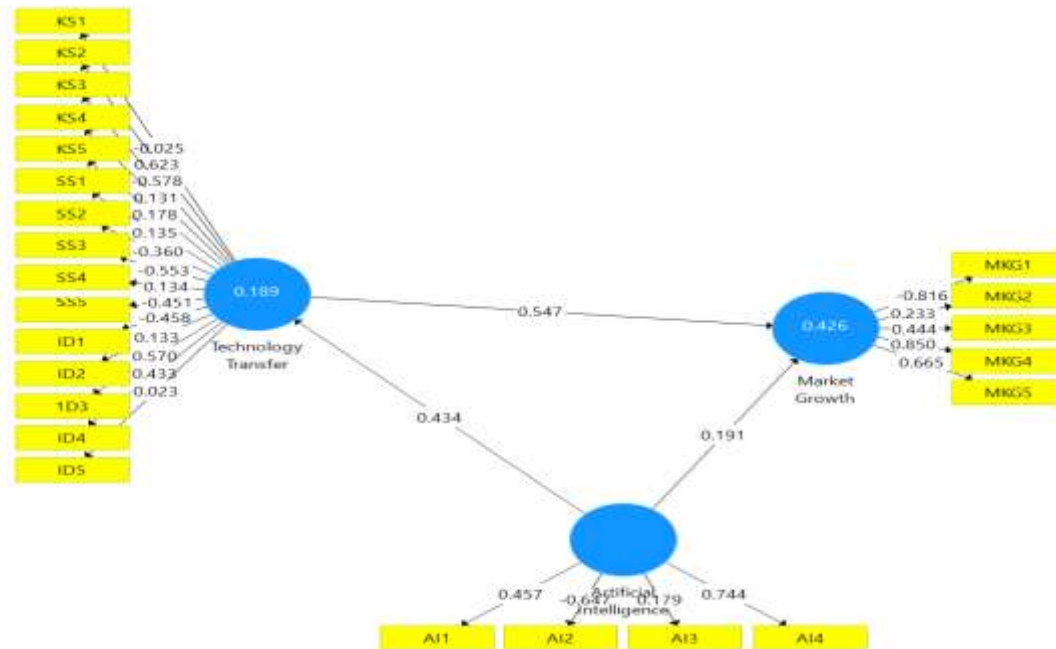


Figure 1 indicates that when moderated with artificial intelligence, the effect of technology transfer significantly ($\beta = 0.547$, $R^2 = 0.426$; $F = 13.432$, $p = 0.000 < 0.05$) improves market growth of Cadbury, Nigeria.

Source: Authors’ Computation (2025)

The Figure 1 path analysis analyses the moderating effect of Artificial Intelligence (AI) on the interrelation of technology transfer and market growth in Cadbury Nigeria Plc. The findings reveal that introducing the moderating variable, which is artificial intelligence, strengthens and makes statistically significant the association between technology transfer and market growth. The standardised regression coefficient ($\beta = 0.547$) shows that taking AI into account, the scientific community depends on a moderately powerful positive correlation between technology transfer and market growth. It implies that when technological transfer activities, i.e. knowledge sharing, skills sharing and diffusion of innovation, are enhanced, the growth of the market increases tremendously with the aid of AI technologies including automation and predictive analytics. That is, AI promotes effectiveness of technology transfer processes in ensuring organisational performance is improved.

The coefficient of determination ($R^2 = 0.426$) indicates that technology transfer with moderation of artificial intelligence accounts for about 42.6 percent of the variation in growth of the market. This indicates that AI-powered technology transfer is the cause of a significant

market expansion in the organisation, but the remaining aspects of the model might be contributing to market performance. Moreover, F-statistic ($F = 13.432$) shows that the general model of regression is significant and can be used to explain the correlation between the variables. The p-value ($p = 0.000 < 0.05$) is an affirmation that the moderating effect of artificial intelligence on the relation between technology transfer and market growth has statistically significant value at the 5% level of significance. This means that the probability of the relationship that is observed happening by chance is very low. All in all, the finding indicates that artificial intelligence can be beneficial in enhancing the effects of technological transfer when it comes to market expansion. AI allows organisations to generate more efficient productivity, competitiveness, and market growth by providing an ability to transfer knowledge, skills, and innovations with better utilisation because of facilitating automation, data analysis, and better decision making.

Thus, the results present the significance of manufacturing companies like Cadbury Nigeria Plc to incorporate the technologies of artificial intelligence in their technology transfer operations to achieve the most in terms of market expansion and maintain a competitive edge in a more digital business setting.

Discussion of Findings

Statistically significant findings were obtained from a multiple regression analysis that examined the relationship between the dimensions of technology transfer and the increase of sales for a subset of Cadbury enterprises in Lagos State, Nigeria. This indicates that some Cadbury businesses in Lagos State, Nigeria, would see a rise in sales proportional to improvements in technological infrastructure, learning new skills, and accepting existing technologies.

According to Dauth et al. 2021, sales growth increases the likelihood of market share, sales turnover, gross earnings, and profitability. Other authors who have studied the relationship between technology transfer dimensions and sales growth have found a positive correlation between technology infrastructure and technology adoption and a negative correlation between skill acquisition and sales growth. Similarly, Cadbury Enterprises' financial viability is enhanced, profit is generated, risks are reduced, and the market price is influenced by sales growth streamlining that led to an increase in revenue (Grashof, 2023). This showed that a company's sales growth is directly related to the morale of its employees, which is still a major factor in business success. According to Mappanyuki, these assumptions were correct. The study found that among the several aspects of technology transfer, the only ones that significantly impacted the sales development of the Cadbury enterprises in Lagos State, Nigeria, were knowledge sharing, skill sharing and diffusion innovation. Market growth was positively and significantly impacted by knowledge sharing ($\beta = 0.434$, $t = 5.865$, $p = 0.000 < 0.05$), skill sharing ($\beta = 0.680$, $t = 11.207$, $p = 0.000 < 0.05$), and innovation diffusion ($\beta = 0.757$, $t = 13.998$, $p = 0.000 < 0.05$). Improving production processes in the Cadbury industry space in Nigeria, with a significant relationship to labour productivity sales growth and technology transfer dimensions, has supposedly benefited businesses and e-commerce enterprises (Dauth et al. 2021).

CONCLUSION AND RECOMMENDATIONS

This paper has studied the association between the market development and technology transfer and the mediating influence of artificial intelligence in Nigerian manufacturing companies to highlight the case of Cadbury Nigeria Plc as the case organisation. Particularly, the research has examined the role of the technology transfer dimensions of knowledge sharing, skill sharing, and diffusion of innovation in market development in accordance with AI-enabled functions, i.e. automation and predictive analytics.

According to the empirical results, the knowledge sharing, skills sharing and diffusion of innovations play significant role in market growth. Companies that foster good knowledge sharing and skills acquisition are in a better place to enhance innovation ability and the performance of the organisation. The findings also indicate that the ability of artificial intelligence, especially automation and predictive analytics, increase the level of association between technological transfer and market expansion by increasing the efficiency of decision-making, the operational productivity and strategic responsiveness to market dynamics.

It is thus concluded that technology transfer mechanisms that are aided by artificial intelligence was a significant strategic resource in attaining sustainable market growth in manufacturing organisations. Companies that are successful in incorporating practises of knowledge exchange with AI-based technologies have higher chances of remaining competitive and adapting successfully to market-related changes that happen at a rapid pace.

The recommendations that can be given to managers based on the results of this research are as follows:

- **Knowledge-Sharing Systems:** The manufacturing companies must develop organised knowledge storage systems which will allow the constant flow of knowledge between the employees. This is possible by the use of digital knowledge platforms, internal training programmes, mentorship systems and work environments that promote information sharing on cross-departmental basis.
- **Prudent Investment in the Skills Development of the Workforce:** To improve the competencies of employees in the new technologies, especially artificial intelligence and data analytics, organisations must invest in on-going employee training and digital capacity-building programmes. The frequent upskilling programmes will help employees to successfully use the advanced technologies and enhance the organisational productivity.
- **Innovation Diffusion Organisational Promotion:** The companies are advised to adopt internal innovation by fostering cross-functional teamwork, research and innovations as well as collaborating with schools or technology companies. These initiatives will help accelerate the spread of innovations and improve the responsiveness of the organisation to changes in technologies.
- **Incorporation of AI-Based Automation and Predictive analytics:** Artificial intelligence should be used in manufacturing organisations through the strategic introduction of automation systems and predictive analytics platforms into the daily operations. These technologies can facilitate the process of making decisions based on the data, enhance the effectiveness of production and enhance the chances of competing on the market.

- Constant Control of Technology Transfer Results: Organisational performance monitoring systems should be put in place, which periodically assesses how knowledge sharing, skills development and adoption of innovation have affected organisational performance and expansion into the market. This kind of evaluation systems will assist firms to optimise their technology strategies and also ensure that they compete in dynamic markets.
- This research also has significant consequences to the policymakers and regulators of the industry. The government agencies are in need to create policies that help in developing technological capabilities in the manufacturing industry. This can be through giving incentives to firms investing in artificial intelligence technologies, facilitating research partnerships between institutions of higher learning and industries, and by establishing national initiatives that drive innovation through sharing of knowledge and technology dissemination.
- In addition, the policymakers must enhance digital infrastructure and facilitate workforce development programmes that will train employees with the skills to work in an AI-driven economy. These policy interventions have the potential to increase the level of technological adoption of different industries as well as leading to sustainable economic growth.

Limitations of the Study

In spite of some of its contribution, this study does have limitations that ought to be noted. To begin with, the research employed a cross-sectional research design, which injures the capability to develop causality between the variables. Longitudinal research designs might be used in future to investigate the contribution of technology transfer and AI capabilities to the growth of the market with time.

Second, the research mainly used self-reported information that was gathered using questionnaires, which could have created bias in responding to questions or subjective interpretation of the respondents. The objective organisational performance data can be included in future studies to increase the strength of the findings.

Third, the research concentrated on only one manufacturing company (Cadbury Nigeria Plc) which can weaken the extrapolation of the results to other companies or industries. Further research involving numerous companies in various industries would allow shedding more light on the connexion between technology transfer, AI implementation, and market development.

Suggestions for Future Research

The connexion between technology transfer, artificial intelligence, and organisational performance in various industries and geographical settings should be the focus of future research to give a more in-depth picture of the relationships. Other possible mediators or moderators of the technology transfer outcomes that researchers can consider include machine learning, big data analytics, and intelligent decision-support systems that could be used as possible AI capabilities. Moreover, it might be the focus of the future research to determine

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how the organisational culture, types of leadership, and digital transformation strategies impact the efficiency of technology transfer and the adoption of AI in market growth.

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