Relationship Between Technology and International Business on Growth and Development of MNEs

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Abstract

This study ascertained the relationship between technology and international business on growth and development of MNEs. Descriptive research design was adopted. A total of 181 questionnaires was administered to the staff of MTN and Airtel Telecommunication. Frequency distribution and percentages was determined, the hypotheses were tested using regression analysis and Spearman correlation coefficients with the help of SPSS version 23.0. Based on empirical investigation and analysis, the findings indicated that; there is significant relationship between technology and international trades, there is significant relationship between international trade and growth and development of MNEs and expansion of market territory, market superiorities, financial superiorities and technological superiorities are significant factors contributing to growth and development of MNEs. The study concludes that; the main contributing factors to growth and development of MNEs are expansion of market territory, market superiorities, financial superiorities and technological superiorities and indicates a significant effect of export trade on the growth and development of MNEs. There is significant influence of technology on the growth and development of MNEs. Based on the findings, the study recommends that; government should support telecommunication industries through reduced tax that will encourage technology enhancement that will expand the boundaries of international trades and government and other regulatory bodies should encourage expansion of market territory, market superiorities, financial superiorities and technological superiorities which will contribute to growth and development of MNEs.

Keywords: Technology, International Business, Growth, Development, MNEs

INTRODUCTION

In today's world, economic life has become more complex and diversified. No country can live in isolation and claim to be self-sufficient. Even countries with different ideologies, culture, and political, social and economic structure have trade relations with each other. Thus, trade relations of U.S.A. with U.S.S.R. and China with Japan are examples. The aim of international trade is to increase production and to raise the standard of living of the people. International trade helps citizens of one nation to consume and enjoy the possession of goods produced in some other nation.

There is a high chance of trade to promote economic growth from the supply side, however, if the balances of payment costs end up reducing the availability of goods imported, the exporters will be forced to use expensive imports in order to offset the imbalance of trade in the economy.

International trade is simply the sale and purchase of services and goods beyond the national borders. International trade can be done by governments or firms that have the stamina of operating on the international scale. In fact, the modern world consists of mutual interdependence among various economies of nations.

International business literatures recognize that institutional knowledge is an essential factor for successful Internationalization of the firm. It is important for individual firms to increase their knowledge about cultural and institutional differences. Also in this study, culture is considered to be the distinctive characteristics of thoughts of people from other people. Hofstede (2012) discusses culture as "Mental Programming" which is referred to as arrangement of thoughts, emotional state and credible performance. The behavioral patterns and thinking dimensions of the people creates a culture.

Multinational firms are an increasingly important part of international economic integration thereby impacting on growth and development of MNEs on host country. In recent years, foreign direct investment has been increasing at a rate that exceeds both the rate of growth of international trade and that of income. Further, multinational firms play an important role in international trade. Intrafirm trade is international trade that occurs between different affiliates of the same multinational firm. In addition, multinational firms also do a great deal of arms-length trade, this accounts for an additional percentage of all international trade. Trade that has nothing whatsoever to do with multinational firms is a mere small percentage of the total. Understanding the role of multinational firms in an environment of increasing international economic integration is therefore essential for policy-makers.

STATEMENT OF THE PROBLEM

International business literatures such as (Hofstede, 2016; Forsgren, Humble & Kim, 2018; Lundberg, 2015) recognize that institutional knowledge is an essential factor for successful Internationalization of the firm. It is important for individual firms to increase their knowledge about cultural and institutional differences. In this study, culture is considered to be the distinctive characteristics of thoughts of people from other people (Hofstede, 2016). Hofstede (2012) discusses culture as "Mental Programming" which is referred to as arrangement of thoughts, emotional state and credible performance. The behavioral patterns and thinking dimensions of the people creates a culture. There is a great impact on the business procedures and organizing of businesses due to cultural differences, where people disentangle the situations and issues and resolve the predicaments (Trompenaars & Hampden-Turner, 2014).

A major challenge firm's face is institutional knowledge and analysis of the environment it intends to operate in. Cultural ignorance has led to the failure of some multinational enterprises because of failure of adjusting to the trends, uniqueness and difference in the foreign market. Countries have diverse people, beliefs and systems (Lindbergh, 2015), it is important to note that cultural intelligence is essential for a firm's business relationship and is necessary for successful integration into the foreign market. It is on this basis that this study was carried out to ascertain the relationship between technology and international business on growth and development of MNEs. Specifically, the study was carried out to: examine the relationship between technology and international business, ascertain the relationship between international business and growth and development of MNEs and determine the factors contributing to the growth and development of MNEs.

RELATED LITERATURE REVIEW

CONCEPTUAL FRAMEWORK

International business

International business is a trade of goods and services etc. in which the exchange takes place between entities from foreign countries, so that the subject of the sale renames borders or customs line and the territory of the seller (exporter) and land buyer (importer). All this is done under written foreign trade agreement. Foreign trade is normally performed by certain rules and laws, and the rights and obligations of the participants are determined in the contract. In foreign trade only competitive products and services are included in terms of quality, price, payment, terms of delivery.

International businesses is also associated with spillovers for domestic firms because workers that embody the knowledge of the MNE affiliate can be attracted to domestic firms (Fosfuri, Motta, and Rønde, 2011), because multinationals give access to new specialized intermediate inputs (Rodriguez-Clare' 2016), or because domestic firms use local intermediate goods suppliers whose productivity has been raised through the know-how of the MNEs. In these and other instances, it is *a priori* plausible that market prices do not necessarily reflect the full benefits and costs.

Foreign trade is exchange of capital, goods, and services across international borders or territories. In most countries, it represents a significant share of gross domestic product (GDP). While

international trade has been present throughout much of history, its economic, social, and political importance has been on the rise in recent centuries.

The significance and role of international business are reflected in the fact that with its help of foreign trade that countries supplying goods and services that cannot alone produce or unable to produce sufficient quantities to meet the needs of consumers' country. International trade stimulates the division of labor reduces production costs, creates more competition between buyers and producers, reduces the possibilities of creating monopolies and rapid price changes and facilitate the movement of capital.

Characteristics of International Business:

a) **Separation of Buyers and Producers:** In inland trade producers and buyers are from the same country but in foreign trade they belong to different countries.

b) **Foreign Currency:** Foreign trade involves payments in foreign currency. Different foreign currencies are involved while trading with other countries.

c) **Restrictions:** Imports and exports involve a number of restrictions but by different countries. Normally, imports face many import duties and restrictions imposed by importing country. Similarly, various rules and regulations are to be followed while sending goods outside the country.

d) **Need for Middlemen:** The rules, regulations and procedures involved in foreign trade are so complicated that there is a need to take the help of middle men. They render their services for smooth conduct of trade.

e) **Risk Element:** The risk involved in foreign trade is much higher since the goods are taken to long distances and even cross the oceans.

f) **Law of Comparative Cost:** A country will specialise in the production of those goods in which it has cost advantage. Such goods are exported to other countries. On the other hand, it will import those goods which have cost disadvantage or it has no specific advantage.

g) **Governmental Control:** In every country, government controls the foreign trade. It gives permission for imports and exports may influence the decision about the countries with which trade is to take place.

Relationship between Technology and International Business

Technology is beneficial to international business. It may be stated that lowering of trade barriers has made globalization of markets and production a theoretical possibility, technology has made it a practical reality. Specifically, technology is facilitating international business in at least six ways, which are as follows:

❖ **Telecommunications:** This is the most obvious dimension of the technological environment facing international business. Now people are using cellular phones, beepers and other telecommunications service, giving a way to international growth. As a result, growth in the wireless technology business worldwide has been rapid and the future

promises even more. This growth is welcome as business, domestic or global, cannot prosper without an efficient telephone system. Technologies such as 3G, MMS of NOKIA have fostered closely knit global business.

❖ **Transportation:** Technology In addition to developments in computers and telecommunications, several major innovations in transportation have occurred since World War II. In economic terms, the most important are probably the development of commercial jet aircraft and super freighters and the introduction of containerization, which simplifies transshipment from one mode of transport to another. While the advent of commercial jet has reduced the travel time of businessmen, containerization has lowered the costs of shipping goods over long distances.

❖ **Globalization of Production:** Technological breakthroughs have facilitated globalization of production. A worldwide communications network has become essential for any MNC. Texas Instruments (TI), the US electronics firm, For example, has nearly 50 plants in 19 countries. A satellite based communications system allows TI to coordinate on a global scale; its production planning, cost accounting, financial planning, marketing, customer service and human resource, 21 in some ways conventional Ricardian theories appear to be irrelevant as shown in figure 2.5.

❖ **Globalization of Markets:** Along with the globalization of production, technological innovations have facilitated the internationalization of markets. As stated earlier, containerization has made it more economical to transport goods over long distances, thereby creating global markets. Low-cost global communications networks such as the World Wide Web are helping to create electronic global market places. In addition, low-cost jet travel has resulted in the mass movement of people around the world. This has reduced the cultural distance between the countries and is bringing about convergence of consumer tastes and preferences. At the same time, global communications networks and global media are creating a worldwide culture. Worldwide culture is creating world market for consumer goods. Signs of a global market are already visible. It is now easy to find, a McDonald's restaurant in Tokyo as it is in New York, to buy a Sony Walkman in Mumbai as it is in Berlin and to buy Lewis's jeans in Paris as it is in San Francisco.

❖ **E-Commerce:** The Internet and the access gained to the World Wide Web have revolutionized international marketing practices. Firms ranging from a few employees to large multinationals have realized the potential of marketing globally online and so have developed the facility to buy and sell their products and services online to the world. Because of the low entry costs of the Internet it has permitted firms with low capital resources to become global marketers, in some cases overnight. There are, therefore, quite significant implications for SMEs. For all companies, the implications of being able to market goods and services online have been far reaching. The Internet has led to an explosion of information to consumers, giving them the potential to source products from the cheapest supplier in the world. This had led to the increasing standardization of prices across borders or, atleast, to the narrowing of price differentials as consumers become more

aware of prices in different countries and buy a whole range of products via the net. In B2C marketing this has been most dramatically seen in the purchase of such things as flights, holidays, CDs and books. The Internet, by connecting end- users and producers directly, has reduced the importance of traditional intermediaries in international marketing (i.e., agents and distributors) as more companies have built the online capability to deal direct with their customers, particularly in B2B marketing.

❖ **Technology Transfer:** Technology transfer is a process that permits the flow of technology from a source to a receiver. The source in this case is the owner or holder of the knowledge, while the recipient is the beneficiary of such knowledge. The source could be an individual, a company, or a country.

Factors Contributing to the Growth of MNEs

MNEs exercise massive control over world economy. Several factors are contributing for the growth of MNEs. The important among them are:

- ✓ Expansion of Market Territory,
- ✓ Market Superiorities,
- ✓ Financial Superiorities
- ✓ Technological Superiorities

Factors Affecting International Business

Most influential factors affecting Foreign Trade are as follows:

a) **Impact of Inflation:** If a country's inflation rate increases relative to the countries with which it trades, its current account will be expected to decrease, other things being equal. Consumers and corporations in that country will most likely purchases more goods overseas (due to high local inflations), while the country's exports to other countries will decline.

b) **Impact of National Income:** If a country's income level (national income) increases by a higher percentage than those of other countries, its current account is expected to decrease, other things being equal. As the real income level (adjusted for inflation) rises, so does consumption of goods. A percentage of that increase in consumption will most likely reflect an increased demand for foreign goods.

c) **Impact of Government Policies:** A country's government can have a major effect on its balance of trade due to its policies on subsidizing exporters, restrictions on imports, or lack of enforcement on piracy.

d) **Subsidies for Exporters:** Some governments offer subsidies to their domestic firms, so that those firms can produce products at a lower cost than their global competitors. Thus, the demand for the exports produced by those firms is higher as a result of subsidies. E.g.

Many firms in China commonly receive free loans or free land from the government. These firms incur a lower cost of operations and are able to price their products lower as a result, which enables them to capture a larger share of the global market.

e) **Restrictions on Imports:** If a country's government imposes a tax on imported goods (often referred to as a tariff), the prices of foreign goods to consumers are effectively increased. Tariffs imposed by the U.S. government are on average lower than those imposed by other governments. Some industries, however, are more highly protected by tariffs than others. American apparel products and farm products have historically received more protection against foreign competition through high tariffs on related imports. In addition to tariffs, a government can reduce its country's imports by enforcing a quota, or a maximum limit that can be imported. Quotas have been commonly applied to a variety of goods imported by the United States and other countries.

f) **Lack of Restrictions on Piracy:** In some cases, a government can affect international trade flows by its lack of restrictions on piracy. In China, piracy is very common; individuals (called pirates) manufacture CDs and DVDs that look almost exactly like the original product produced in the United States and other countries. They sell the CDs and DVDs on the street at a price that is lower than the original product. They even sell the CDs and DVDs to retail stores. It has been estimated that U.S. producers of film, music, and software lose $2 billion in sales per year due to piracy in China. As a result of piracy, China's demand for imports is lower. Piracy is one reason why the United States has a large balance-of-trade deficit with China. However, even if piracy were eliminated, the U.S. trade deficit with China would still be large.

g) **Impact of Exchange Rates:** Each country's currency is valued in terms of other currencies through the use of exchange rates, so that currencies can be exchanged to facilitate international transactions.

Multinational Enterprises

Multinational enterprises (MNEs) are major protagonists in the ever-increasing economic integration around the world that we call globalization. In 2009, the United Nations Conference on Trade and Development (UNCTAD) estimated there were approximately 82,000 MNEs globally, with 810,000 foreign affiliates, employing about 77 million people (UNCTAD, 2009). More recent estimates of UNCTAD suggest that between 1990 and 2014, the amount of sales of foreign affiliates of MNEs increased from USD 4.7 trillion to USD 36 trillion, while the numbers employed increased from 21 million to 75 million (UNCTAD, 2015).

International Business and telecommunication industries in Nigeria

International business has had a notable impact on the expansion of mobile telephone in Nigeria since the launch of Global System for Mobile (GSM) licensing in January 2001. Two of the three licenses issued went to foreign companies MTN of South Africa and Econet Wireless (at the time a Zimbabwean-South Africa firm and now Celtel Nigeria, further to the entry in 2006 of the Zain Group Kuwait) – for $285 million each. Within two years, Econet and MTN had signed up 2.2

million subscribers. MTN alone claims to have invested more than $3 billion to date in Nigeria and the Zain Group has pledged another $2 billion investment. The impact of international trade under competitive conditions in mobile telephone has been remarkable. In the sector as a whole, subscriber numbers have grown from 35,000 to over 19 million by September 2005, while prices are being driven below those in comparator countries. Competition in the fixed-line sector is provided by nationally owned Globacom, was issued the second national operator license in 2002. After various failed attempts to privatize the State-owned operator, 51% of Nigeria Telecommunications Limited (NITEL) was eventually acquired by Transnational Corporation (Transcorp) of Nigeria, a local company, in November 2006. However, the Government reversed the privatization in February 2008, on grounds that Transcorp failed to achieve the objectives of the privatization guidelines, and is now looking for a new core investor.

Theoretical Framework

This study is anchored on Classic internalization theory (Coase, 1937) which states that, conditional on location factors, multinational enterprises (MNEs) emerge when the benefits of internalization exceed the costs (Rugman, 1981). As it stands, this is almost tautological. When a firm is found to an MNE, it is claimed that the net benefit of internalization is positive, and if it is not an MNE then it is claimed that the net benefit is negative. But internalization theory contains other propositions too, and it is the synergy between all these propositions that gives the theory explanatory power (Casson, 2014). Adding the proposition 'proprietary knowledge incurs heavy licensing costs that can be avoided by internalization' enables the deduction from the theory that multinationalism will be most common in knowledge-intensive industries, and the evidence will show this to be correct (Hymer, 1976). To develop the theory further, we can add 'the benefits of internalizing knowledge are particularly high when intellectual property rights (IPR) are weak'. This predicts that in knowledge-intensive industries foreign direct investment (FDI) will be most common in countries with weak IPR, and licensing most common in countries with strong IPR, and again this is (mostly) right (Casson, 2014). To refine the theory additional factors can be identified, e.g. 'local entrepreneurial capabilities' to further increase explanatory power (Buckley & Casson, 2020).

Internalization theory not only explains what will happen; it explains what *will not* happen too. Internalization assumes that firms maximize profit. Managers do *not* make irrational decisions that damage the interests of the shareholders. This implies, for example, that firms do *not* internalize organized commodity futures markets, except at times of panic or crisis, because it would be inefficient to do so.

The assumption that drives these strong results is often questioned (Buckley, Devinney & Louviere, 2007). Are managers really rational, and do they always put shareholders' interests first? This does not accord with empirical observation. So we can assume that they can be irrational and dishonest. Irrationality can take many forms, and so can dishonesty. So managers can now do almost anything. They could even act rationality, but only by accident or mistake. The theory has degenerated into a tautology. It says, in effect that 'managers do whatever managers do'. The theory is more realistic but is not a predictive theory any more. The theory can be rescued, but it

requires some effort. Suppose we observe an irrational bias to internalization. Perhaps managers believe they are rewarded by the size of the firm as well as profitability. Thus they have a bias to internalize because it increases firm size and boosts their salaries, shareholders will not necessarily lose. If shareholders believe that bigger firms are more attractive to institutional investors, then growth through internalization may increase the equity price and afford the shareholders capital gains, which could exceed their temporary loss of profit. The theory can therefore remain predictive if we change the assumptions. This assume that managers maximize shareholder value rather than profit, that value depends upon size, and that size affects salaries. All of these are testable propositions. Rationality still prevails, but in a wider context than before. The therefor did not rejected the key assumption, but rather refined it, by replacing profit with shareholder value. This present study rescued the theory and avoided tautology.

METHODOLOGY

The study adopted survey research design which utilized primary data from questionnaire, interviews and direct observations to gather data from the respondents. The population of the study was three hundred and thirty one (331) comprising the aggregation of the senior and junior staff and management of MTN and Airtel Telecommunication. A sample size of 181 which was determined using Taro Yamen's method and stratified sampling technique using Bowley's proportion technique was adopted. The questionnaire were structured using 5 points Likert-scale of (Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree). The study adopted pre-test validity and test-re-test reliability method and a reliability of 0.70% which was ascertained using Cronbach alpha coefficient of reliability. Data were analyzed using descriptive statistics of mean, percentages and standard deviation while the hypotheses testing was regression analysis statistical tool. The computer aided Statistical Package for Social Sciences (SPSS) window version 25 was employed to do all the analysis.

RESULTS

Questionnaire Distribution

Table 1: Distribution of questionnaire to staff of MTN and Airtel Telecommunication and response rate

Respondents	Distributed questionnaires	% Valid & Returned questionnaires	% Invalid and returned	% Not Returned
MTN Telecommunication	109 (60.22)	100 (61.35)	4 (57.14)	5 (45.46)
Airtel Telecommunication	72 (39.78)	63 (38.65)	3 (42.86)	6 (54.54)
Total	181 (100)	163 (90.06)	7 (3.87)	11 (6.08)

Source: Field survey, 2023

Table 1 above, shows the distribution of questionnaire to respondents. From the table it can be seen that out of the total 181 questionnaires distributed only 163 were actually completed and returned valid constituting 90.06%, while a total of 7 and 11 were either returned not completed or not returned at all constituting 3.87% and 6.08% respectively. Therefore, this analysis is based on 163 questionnaire correctly filled and returned which formed about 90.06% of respondents who

co-operated with the researcher. The high percentage of those who co-operated with the researcher shows that they were familiar with the topic under consideration.

DATA PRESENTATION

Table 2:   What is the relationship between technology and international business? N = 163

S/N	QUESTIONS	SA 5	A 4	UD 3	D 2	SD 1	TOTAL	MEAN	REMARK
16	Elimination of communication barriers through multi-media in international MNEs	83	69	3	5	3	713	4.37	Accepted
17	Technology serves as gateway for global trade for MNEs	85	60	4	7	7	698	4.28	Accepted
18	Productivity has also increased with the latest developments in technology	90	58	5	7	3	714	4.38	Accepted
19	Use of technology has made business and customers closer in many areas	75	70	4	8	6	689	4.22	Accepted
20	Inventions in technology have helped MNEs in marketing through media print ads	81	72	1	3	6	708	4.34	Accepted
	Clustered mean for decision rule:-							**4.32**	**Accepted**

Source: Field survey, 2023

Thirteen questions were designed in the questionnaire to ascertain the extent does top management support affect organizational performance. From the result the mean responses for items 16 – 20 surpassed the criterion mean (4.37, 4.28, 4.38, 4.22 and 4.34 ≥ 3.0). Furthermore, the clustered mean was 4.32 which was accepted, this therefore implies that technology impact on international business.

**Table 3:   What is the relationship between international business and growth and
                development of MNEs?   N =
163**

S/N	QUESTIONS	SA 5	A 4	UD 3	D 2	SD 1	TOTAL	MEAN	REMARK
21	Encourages foreign direct investment toward MNEs	78	67	7	5	6	695	4.26	Accepted
22	Advantages of large-scale production which leads to surplus in the international markets	98	52	3	6	4	723	4.43	Accepted
23	It equalizes the prices of goods throughout the world	90	55	5	6	7	704	4.31	Accepted

24	Helps in exchange of technical know-how and establishment of new industries	80	67	7	4	5	702	4.30	Accepted
25	Increases the efficiency and benefits to the consumers all over the world.	81	75	1	4	2	718	4.40	Accepted
	Clustered mean for decision rule:-							**4.34**	**Accepted**

Source: Field survey, 2023

Thirteen questions were designed in the questionnaire to ascertain the extent does international business affect growth and development of MNEs. From the result the mean responses for items 21 - 25 surpassed the criterion mean (4.26, 4.43, 4.31, 4.30 and 4.40 ≥ 3.0). Also, the clustered mean was 4.34 which was accepted, this therefore implies that international business impact on growth and development of MNEs.

Table 4:   Determine the factors contributing to the growth and development of MNEs (N=163)

S/N	QUESTIONS	SA 5	A 4	UD 3	D 2	SD 1	TOTAL	MEAN	REMARK
26	Expansion of Market Territory	92	60	3	6	2	723	4.44	Accepted
27	Market Superiorities	93	56	8	3	3	778	4.77	Accepted
28	Financial Superiorities	78	71	4	1	9	697	4.28	Accepted
29	Technological Superiorities	89	62	4	5	3	718	4.40	Accepted
	Clustered mean for decision rule:-							**4.47**	**Accepted**

Source: Field survey, 2023

Thirteen questions were designed in the questionnaire to ascertain the extent does top management support affect organizational performance. From the result the mean responses for items 30 – 34 surpassed the criterion mean (4.44, 4.77, 4.28 and 4.40 ≥ 3.0). The clustered mean was 4.47 which was accepted, this therefore implies that top management support organizational performance. This means that there are factors contributing to the growth and development of MNEs**.**

Table 5: **Regression results examining the relationship between technology and international business**

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	-.379	.182		-2.087	.038	-.738	-.020
Technology	1.035	.041	.896	25.535	.000	.955	1.115

R   = 0.896
R-Square   = 0.802
Adjusted R-Square   = 0.801
Std. Error of the Estimate   = 0.43499
Durbin-Watson   = 0.204
F-Statistics   = 652.044
T-Statistic (df_1 = 1 & df_2 = 231)   = 25.535

a. Dependent Variable: International business
b. Predictors: (Constant), Technology

Source: *Researcher's Estimation 2023 SPSS version 23.0 Significance @ 95 confidence level (See SPSS Output –Appendix IV)*

Also, in the Table 5, the regression results showed that the estimated coefficient of the regression parameters has positive sign and thus conform to our a priori expectation, the R- square value of 0.802 which is the coefficient of determination covers 80.2% of the sample variation in the dependent variable is explained or caused by the explanatory variable while 19.8% is unexplained. This remaining could be caused by other factors or variables not built into the model. The high value of R-square is an indication of a good relationship between the dependent and independent variables, meaning that there is a strong positive relationship between technology and international business. This means that an increase in the independent variables will bring about credibility in the dependent variable. The regression equation (Y= -0.379+1.035TEC+e) shows that the bank profitability will always depend on a positive constant factor of 0.044 regardless of the existence of other determinants of international business. Every unit decrease of technology will increase international business by a factor of 0.982.

The R^2 value of 0.801 means that 80.1% of the variations in bank profitability is explained by employee training and academic background while the 19.9% is explained by other variables indicating that the model is a good predictor. 0.43499 indicates its Standard Error of the Estimate, while Durbin Watson Statistic of 0.204 show the degree of no autocorrelation of variables in the region or partition curve. The F-Statistics of 652.044 measures the goodness of fit of the model

which is greater than 2.5 rule of thumbs. The calculated t-Statistic remains 25.535 at ($df_1 = 1$ & $df_2 = 161$). With reference to table above, the calculated t-statistics of 25.535 is greater than the critical value (i.e. 1.984), the null hypothesis was rejected and the alternative accepted. This means that, there is significant relationship between there is significant relationship between technology and international trades

Table 6: Regression results ascertaining the relationship between international business and growth and development of MNEs

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.292	.134		9.670	.000	1.028	1.556
	International business	.758	.031	.887	24.345	.000	.697	.820

R   = 0.887
R-Square   = 0.786
Adjusted R-Square   = 0.785
Std. Error of the Estimate   = 0.38634
Durbin-Watson   = 0.136
F-Statistics   = 592.658
T-Statistic ($df_1 = 1$ & $df_2 = 231$)   = 24.345
  a. Dependent Variable: Growth & develop. of MNEs
  b. Predictors: (Constant), International business

Source: *Researcher's Estimation 2023 SPSS version 23.0 Significance @ 95 confidence level (See SPSS Output –Appendix V)*

Also, in the Tables 6 the regression results showed that the estimated coefficient of the regression parameters has positive sign and thus conform to our a priori expectation, the R- square value of 0.786 which is the coefficient of determination covers 78.6% of the sample variation in the dependent variable is explained or caused by the explanatory variable while 31.4% is unexplained. This remaining could be caused by other factors or variables not built into the model. The high value of R-square is an indication of a good relationship between the dependent and independent variables, meaning that there is a strong positive relationship between international business on growth & development of MNEs. This means that an increase in the independent variables will bring about credibility in the dependent variable. The regression equation (Y= 1.292+0.958INB+e) shows that the growth & development of MNEs will always depend on a positive constant factor of 1.292 regardless of the existence of other determinants of growth & development of MNEs. Every unit decrease of international business will increase growth & development of MNEs by a factor of 0.958.

The R^2 value of 0.785 means that 78.5% of the variations in bank profitability is explained by employee training and academic background while the 31.5 % is explained by other variables indicating that the model is a good predictor. 0.38634 indicates its Standard Error of the Estimate, while Durbin Watson Statistic of 0.136 show the degree of no autocorrelation of variables in the region or partition curve. The F-Statistics of 592.658 measures the goodness of fit of the model which is greater than 2.5 rule of thumbs. The calculated t-Statistic remains 24.345 at ($df_1 = 1$ & $df_2 = 161$).

With reference to table above, the calculated t-statistics of 24.345 is greater than the critical value (i.e. 1.984), the null hypothesis was rejected and the alternative accepted. This means that, there is significant relationship between international trade and growth and development of MNEs.

Table 7:   **Nonparametric Correlation Result determine the factors contributing to the growth and development of MNEs**

Correlations

			Growth & develop. of MNEs	Expansion of Market Territory	Market Superiorities	Financial Superiorities	Technological Superiorities
Spearman's rho	Growth & develop. of MNEs	Correlation Coefficient	1.000	.936**	.950**	.827**	.911**
		Sig. (2-tailed)	.	.000	.000	.000	.000
		N	163	163	163	163	163
	Expansion of Market Territory	Correlation Coefficient	.936**	1.000	.985**	.869**	.968**
		Sig. (2-tailed)	.000	.	.000	.000	.000
		N	163	163	163	163	163
	Market Superiorities	Correlation Coefficient	.950**	.985**	1.000	.869**	.957**
		Sig. (2-tailed)	.000	.000	.	.000	.000
		N	163	163	163	163	163
	Financial Superiorities	Correlation Coefficient	.827**	.869**	.869**	1.000	.897**
		Sig. (2-tailed)	.000	.000	.000	.	.000
		N	163	163	163	163	163
	Technological Superiorities	Correlation Coefficient	.911**	.968**	.957**	.897**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000	.
		N	163	163	163	163	163

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

Source: *Researcher's Estimation 2023 SPSS version 23.0 (See SPSS Output –Appendix VI)*

The result present in Table 7 shows the factors contributing to growth and development of MNEs. The coefficient of the correlation are 0.936**, 0.950**, 0.827** and 0.911**with a sig. value of 0.000. This entails that, there are factors contributing to growth and development of MNEs. The result present in table 4.3.3 reveals the factors contributing to growth and development of MNEs. The coefficient of the correlation are 0.936**, 0.950**, 0.827** and 0.911** with a sig. value of 0.000. The effect is significant since the sig. value of 0.000 is lower that the acceptable 0.01% significance level. This means that, expansion of market territory, market superiorities, financial superiorities and technological superiorities are significant factors contributing to growth and development of MNEs.

DISCUSSIONS OF FINDINGS

In the fifth hypothesis, there is significant relationship between technology and international trades. This connotes with the analysis of Wolfgang and Stephen (2015), who estimated international technology spillovers to U.S. manufacturing firms via imports and foreign direct investment (FDI) between the years of 1987 and 1996. In contrast to earlier work, our results suggest that FDI leads to substantial productivity gains for domestic firms. The size of FDI spillovers is economically important, accounting for about 11% of productivity growth in U.S. firms between 1987 and 1996. In addition, there is some evidence for imports-related spillovers, but it is weaker than for FDI. The study gives a detailed account of why our study leads to results different from those found in previous work. This analysis indicates that our results are likely to generalize to other countries and periods.

The fifth hypothesis found that, there is significant relationship between international trade and growth and development of MNEs. This supported the findings of Kyove, Streltsova, Odibo, and Cirella, (2021), who determined the impact of globalization on multinational enterprises was examined from the years 1980 to 2020. A scoping literature review was conducted for a total of 141 articles. Qualitative, quantitative, and mixed typologies were categorized and conclusions were drawn regarding the influence and performance (i.e., positive or negative effects) of globalization. Developed countries show more saturated markets than developing countries that favor developing country multinational enterprises to rely heavily on foreign sales for revenue growth. Developed country multinationals are likely to use more advanced factors of production to create revenue, whereas developing country multinationals are more likely to use less advanced forms. A number of common trends and issues showed corporate social responsibility, emerging markets, political issues, and economic matters as key to global market production.

Lastly in hypothesis six, expansion of market territory, market superiorities, financial superiorities and technological superiorities are significant factors contributing to growth and development of MNEs. This is in relation to the findings of Blomkvist, Kappen and Zander, (2014), who investigated the sources of technological growth of the multinational corporation. The study conceptualized and shed empirical light on whether foreign investment strategies based on advanced greenfield subsidiaries, acquired subsidiaries, or a combination of both increase the likelihood of entry into technologies that represent new additions to the MNC's technology

portfolio. Repeated events analyses of the complete U.S. patenting activity in 226 foreign locations of 21 Swedish multinationals reveal a substantially higher likelihood of entry into new technologies among investment strategies based on foreign acquisitions, as opposed to investment strategies based on Greenfield establishments only.

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

There is significant relationship between there is significant relationship between technology and international trades with the calculated t-statistics of 25.535 is greater than the critical value of 1.984. There is significant relationship between international trade and growth and development of MNEs since the calculated t-statistics of 24.345 is greater than the critical value (i.e. 1.984). Hypothesis six reveals that expansion of market territory, market superiorities, financial superiorities and technological superiorities are significant factors contributing to growth and development of MNEs, with the coefficient of the correlation are 0.936**, 0.950**, 0.827** and 0.911** with a sig. value of 0.000.

RECOMMENDATIONS

Based on the findings, the study recommends that;

a) Government should support telecommunication industries through reduced tax that will encourage technology enhancement that will expand the boundaries of international trades.

b) There is strong need for more research that addresses contributive effects in the different economies, starting with the emerging to the developed, the influence of international trade over growth and development since these businesses are component of the society, they must subject themselves to the fair requirements of the society since they raise huge capital from their operations in the society.

c) Government and other regulatory bodies should encourage expansion of market territory, market superiorities, financial superiorities and technological superiorities which will contribute to growth and development of MNEs.

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