The Dynamics for the Adoption of Electronic Marketing Innovation among Nigerian Manufacturing Firms

Olomu, M. O, Ajao, B. F & Atoyebi, M. K

Department of Science Policy Research and Innovation Studies, National Centre for Technology Management (NACETEM), Obafemi Awolowo University, Ile-Ife, Nigeria smo128micho@yahoo.com

Irefin, I. A African Institute for Science Policy and Innovation (AISPI), Obafemi Awolowo University, Ile-Ife, Nigeria airefin@yahoo.com

> Olomu, O. E Department of Accountancy, Federal Polytechnic Ado-Ekiti, Nigeria olaleyeeniolao@gmail.com

ABSTRACT

The emergence of e-Marketing innovation as a new communication tool is increasing globally and it provides exceptional opportunities for firms to enjoy improved sales, performance and competitiveness in the market place. The Nigerian manufacturing sector has in recent times placed much importance on innovative marketing for stimulating firm's efficiency and accomplishing a sustainable development, but firms' decisions to adopt and deploy e-Marketing innovation are conceptually based on organizational, technological, environmental and behavioural factors which could either influence or impede its adoption. This study measured the relationships between e-Marketing innovation and key factors influencing its adoption among the Nigerian manufacturing firms, while major interactions among these factors were also examined using appropriate statistical methods. Furthermore, the study ascertained the level disparity among factors determining e-Marketing adoption. It was found that firms' decisions to adopt e-Marketing innovation were primarily driven by the availability of financial resources, external pressure, cost of technology and market acceptability of e-Marketing services. They were discovered to be more significant and dominant factors for e-Marketing adoption. The study recommends that e-Marketing adoption by firms should embrace sustainable strategies such as strategic planning, need assessment/analysis, substantial financial resources and focus driven investment decisions.

Keywords: e-Marketing; Innovation; ICT; Firms; Nigeria

Aims Research Journal Reference Format:

Olomu, M. O, Ajao, B. F, - Atoyebi, M., Irefin, I. A & Olomu, O. E (2016): The Dynamics for the Adoption of Electronic Marketing Innovation among Nigerian Manufacturing Firms. Advances in Multidisciplinary Research Journal. Vol. 2. No. 4, Pp 87-102

1. INTRODUCTION

In today's highly competitive global marketplace, businesses now steadily deploy information and communications technologies (ICTs) to build brands, facilitate and track consumer communities, share pertinent information, disseminate messages, provide customer service as well as to gain competitive edge in the cluttered marketplace (Krishnamurthy, 2006). More increasingly, organizations have been deploying the Internet and other electronic based means in conducting their marketing activities as a way of exploiting electronic marketing tools to thrive in a very dynamic and dramatic way (El-Gohary, 2010).



Manufacturing firms around the world are now focusing more on employing technologies to spur growth, client value and market differentiation, while other businesses are embracing innovative technologies for breakthrough change and diversification. Therefore, innovative marketing is an important means to stimulate firm's efficiency and a source to accomplish a sustainable development in an organization. Studies have ascertained that the adoption of ICT as an innovative and communication tools provide distinctive opportunities for organizations to enjoy improved sales and allay competitive pressure.

Moreover, manufacturing firms in Nigeria are threatened with stiff competition and growing demands for high quality products, services and market which is categorized by fast response time, reliable deliveries and new product functions. In such a dynamic and competitive environment, innovative marketing is regarded as a key strategic tool for these manufacturing firms' competitiveness. Manufacturing firms characterized with effectual deployment of e-Marketing are liable to enjoy higher profitability levels, price premium and generate growth in turnovers with higher margins as a result of their improved means of introducing new products into the market which may have explicit benefits over existing products in established markets.

However, the appropriate deployment of ICT by firms has emerged as an effective facilitator for growth and a major driving force to an impressive development due to varying lifestyle patterns, better communication network and rapidly changing demand structure of consumers (Sindhi *et al.*, 2011). ICT has also been increasingly useful for almost all business functions during the past decades in the developed nations to solve difficulties of all kinds in the business world (Brady *et al.*, 2002) and has provided means of reaching out to the people at all levels.

Hence, electronic marketing (e-Marketing) which principally entails the deployment of Internet and other communicating technologies to create and facilitate dialogue between firms and identified customers (Coviello *et al.*, 2001) is increasingly having a dramatic influence on almost all aspects of business and encompasses one-to-one marketing which allows for mass customization. This phenomenon is not only applicable to businesses in the developed economies, but also in developing nations such as Nigeria, though the level of their usage differs.

For effectual marketing decisions, ICT provides ready access to a vast array of global information resources and aids the gathering of valuable competitive knowledge and consumer-related information that simplify the decision processes. More so, Prasad *et al.* (2001) opined that ICT offers marketing with peculiar ability to target specific groups of persons with precision and permit mass customization and one-to-one strategies by adapting communications and other elements of the marketing mix to consumer segments.

In this era of e-Marketing innovation, customers and firms can easily network electronically and the interactive nature of technology allows customer's information to be individually treated regarding the products/services and to identify their changing taste and preferences in developing products/services according to their needs. The operationalization of e-Marketing also serves as placement for accustomed traditional relationship marketing where there is face-to-face interpersonal contact. The relationships formed in e-Marketing innovation are dependent on technologies to enable interactivity and perpetually substitute for direct contact.

The ultimate goal of the any marketing-oriented organization should be to have satisfied customers who will become loyal and translate to sustained profit, value and competitive advantage as keeping customers satisfied is very important because it is more difficult and expensive to attract new customers than to retain them. Companies adopting ICT for marketing needs have to analyze the benefits of ICT usage and automation, or the advantages of personal interactions and direct customer relationships (Fellenz and Brady 2006, Rebolledo *et al.*, 2005).

Advances In Multidisciplinary

However, the manufacturing sector has significantly influenced the Nigerian economy. The sector is a potential growth driver that must be coordinated so as to make best use of its forward linkage with retail and wholesale trades from a local production perspective through enhanced value-added production thereby making manufacturing sector a major driver of growth and exports (National Planning Commission, 2009). The contribution of the manufacturing sector to real GDP steadied around 4% between year 2005 and 2015 without any major improvement in the sector's productivity. In recent times, the contribution of the manufacturing sector is mostly noticed in the processing and manufacturing of goods but its effects on the GDP is largely insignificant when compared with the oil sector. The inability of the government to develop non-oil sectors including manufacturing industry has hampered the development and growth that the sector would have contributed to the Nigerian economy at large. Although the present status of the Nigerian manufacturing sector cannot attain an enviable economic development but it has great potentials and bright future as Nigeria possesses one of the most flamboyant markets. Considering the teeming population of about 160 million consumers and millions more consumers in the neighboring countries, the sector has the potential of adopting more advanced technologies in coming years to spur production processes.

The Nigerian paints industry which is a subset of the manufacturing sector has come a long way and has metamorphosed from the manual based production processes to more advanced production methods. The industry is characterized with high intensity of competitiveness, but not adequately controlled which allows free entry and exit resulting to rather 'friendly capital required' to commence the business. The operating costs are reasonably low, thereby increasing the number and longevity of players that exist in the industry (LeadCapital, 2008). The intensification of infrastructural facilities and maintenance spending by the private and public sector is giving impetus to the industrial paints and coatings market in Nigeria. The Nigerian Government efforts and successful stimulation of private and public participation in developmental projects have handed them the opportunities to handle major operations at Nigeria's shore and even beyond. The rapid rollout of several new developmental projects over the years by the Nigerian Government and private companies has significantly increased the local production and capacity utilization of paints and coatings industry. However, the pronouncement of new projects in the oil sector and allied industries in Nigeria are driving the demand for industrial paints and coatings products (Frost and Sullivan, 2014). The Government and other private companies are the key forces motivating the launch of new projects and in turn broadening market potentials. More so, the persistent increasing price of raw materials is pushing up the cost of industrial paints and coatings production. The inconsistent exchange rates are also a cause for concern, as most raw materials used for production of paints products are imported (Coatings World, 2014).

The manufacturing paints firms in Nigeria now deploy ICT in their product marketing in order to keep hold of market share and ensure profitability in the face of increasingly stiff competition and product homogenization, this development has considerably improved the rate of e-Marketing adoption in the Nigerian paints industry, even though it is not as pronounced as those observed in advanced countries. Inevitably, it is essential to understand the factors that drive the adoption of e-Marketing innovation among firms in the Nigerian paints industry. Nevertheless, the innovative capability of paints firms in Nigeria significantly varies depending on the size, resources, infrastructures, targeted market, locations and the opportunities accrued to such business environment in which they operate. It is in lieu of this that this study essentially seeks to examine the factors that influence e-Marketing adoption in the Nigerian paints industry.

Furthermore, the consideration of the factors that influence the e-Marketing adoption usually accorded firms the opportunities to create and plan on how to attract consumers for their products and services, thereby enabling them to gain competitive advantage and control meaningful share of the market (Ghobakhloo *et al.*, 2011). In Nigerian paints industry, there is practically dearth of information as regards what motivates firms' decisions to adopt and incorporate ICT for marketing activities. This could be as a result of the fact that e-Marketing adoption among paints firms is still in its infancy stages, while its acceptance and use by firms is still inadequate.

2. LITERATURE REVIEW

This section discusses issues on ICT access and usage, related empirical literatures on e-Marketing innovation and factors that propel its adoption around the world.

2.1 ICT Revolution In The Modern World

Over the years, the ICT evolution has driven global development in a remarkable way. More importantly, the technological advancement, infrastructure deployment and falling prices have brought about unexpected progress in ICT access and connectivity to billions of people globally. Based on the recent statistical data from the International Telecommunication Union (ITU) in 2015, there are more than 7 billion mobile cellular users across the globe, which is equivalent to a penetration rate of 97% from 738 million in the year 2000, while mobile broadband penetration rate which remains the most dynamic market segment globally has reaches 47% in 2015 with a value that increased 12 times since 2007.

Globally, 3.2 billion people are deploying the Internet of which 2 billion are from developing countries, while out of the 940 million people living in the least developed countries; only 89 million persons use the Internet, corresponding to a 9.5% penetration rate. This means that between the year 2000 and 2015, global Internet penetration grew 7 fold from 6.5% to 43% (ITU, 2015). Similarly, Nigeria is the largest user of Internet in the African continent, with 92,699,924 users and 51.1% internet penetration rate from the estimated population of 181 million people. Also, between the year 2000 and 2015, Internet users' growth in Nigeria grew to 28.1% as compared to other African countries (Internet World Statistics, 2015).

However, ICT infrastructure varies widely in the countries. In developing countries; they may be less available and offer less capacity. Nevertheless, Nigeria is catching up quickly by leapfrogging older generations of technology as well as creating solutions that suit the needs of its user communities. More so, the prevalence, affordability and accessibility of broadband are means of promoting a knowledge-based and informed society. Broadband technologies are regarded to be vital when measuring access to the use of the internet, as they offer users the possibility to rapidly transfer large volumes of data and keep access lines open. The take-up of broadband is considered to be an important indicator within the domain of ICT policy making.

The proportion of households with Internet access at home improved from 18% in 2005 to 46% in 2015, while fixed-broadband uptake is growing at a lesser pace, with a 7% annual increase over the past three years and reaching 11% penetration by end 2015. The proportion of the population coverage of a 2G mobile-cellular network grew from 58% in 2001 to 95% in 2015, while 3G mobile-cellular network increased from 45% in 2011 to 69% in 2015. With the mobile-broadband less expensive than fixed-broadband plans, the price of a basic (fixed or mobile) broadband plan corresponds to less than 5% of average GNI per capita, thus meeting the Broadband Commission target in the year 2014 in 111 countries. The global average price of a basic fixed-broadband plan (30 PPP\$) stands 1.7 times higher than the average price of a comparable mobile-broadband plan (30 PPP\$). In developing nations, the average monthly fixed-broadband prices (in PPP\$) are 3 times higher than in developed countries, which means that mobile-broadband prices are twice as expensive as in developed countries.

ICT is envisioned to play more decisive roles in the post 2015 development agenda thereby achieving sustainable development goals as the world moves closer to a digital society. In last decade, ICT has been able to connect people and create a truly inclusive information society in which the availability of comparable and high-quality data and statistics had been used to measure progress. The prevalent access to the new applications of ICT is seen as essential for the development of advanced services on the internet and other electronic based platforms such as e-Marketing, e-Business, e-Government or e-Learning. E-Marketing has become a rapid and dynamic means of marketing communication. This is as a result of the increasing numbers of businesses depending on it to conduct their marketing activities and this development is enormously driving electronic based marketing researchers to intensify more study in this arena (Mohd *et al.*, 2014).



However, this is not without the influencing factors and barriers for adoption in implementing electronic based marketing practices by organizations which might create not only a lot of opportunity but can change the shape and the nature of business all over the world.

2.2 Empirical Literatures of the Study

Various studies have identified factors considered to be prerequisites for adopting and deploying e-Marketing innovation in an organization. The impact of e-Marketing on firm's performance and profitability in developed and developing countries have led to a lot of research in the literature on the influences of its adoption by firms (Dlodlo and Dhurup, 2013). Notably, firms would only adopt and deploy technologies that are in harmony to their line of business and such technologies would have to offer relative benefits (Rashid and Al-Qirim, 2001).

El-Gohary (2012) opined that when it comes to the implementation of e-Marketing in an organization, its acceptability is determined by several factors which includes owner skills, the available resources of the firm, the organizational culture, cost of adoption, size, ease of use, compatibility, competitive pressure, government influence, market trends, national infrastructure and cultural orientation towards e-Marketing by the customers.

More importantly, a review of literatures revealed that the adoption of e-Marketing varies by industry type (Poon and Swatman, 1999), which could eventually implies that the nature of industry determines the influencing factors for e-Marketing adoption. Martin and Matlay (2001) and Sadowski *et al.* (2001) further ascertained that those firms that specialized in manufacturing products are liable to adopt technologies less compare to the knowledge intensive service organizations such as Consultancies firms. This occurrence could be majorly attributed to the fact that most of these manufacturing companies are still at the early phases of e-Marketing adoption. The various factors influencing e-Marketing innovation adoption are briefly discussed below based on related literatures from developed and developing countries of the world.

i. Organizational Factors

Organizational factors represent those aspects that describe the uniqueness or distinct nature and characteristics of a firm or organization from others. Literatures have identified a number of factors that influence or drive e-Marketing adoption within the boundary of an organization.

The organizational readiness to adopt and deploy technology is a function of the availability of top managerial supports (Levy and Powell, 2002), skilled human resources (Stansfield and Grant, 2003; Kohn and Husig, 2006), financial and technological resources (Lee and Cheung, 2004), compatibility of the firm's culture and values with the technology adoption process (Bruque and Moyano, 2007; Saffu *et al.*, 2008).

Organizational philosophy and management supports are pertinent in driving the acceptance and implementation of electronic marketing among firms (Saffu *et al.*, 2008; Modimogale and Kroeze, 2011). Studies from Simpson and Docherty (2004) put forward that some organizations perceived e-Marketing as a "mere catch phrase" as a result of insignificant return on investment on its adoption. This portrays the views and beliefs that are preconceived in the minds of firms to the adoption of e-Marketing (Dlodlo and Dhurup, 2010).

The study conducted by Liebermann and Stashevsky (2002) revealed that some firms may not be willing to embrace e-Marketing due to perceived risks that include privacy and security issues. This is majorly because any online dealings and purchasing decisions made are solely built on trust (Wagener, 2004), while the unavailability or inadequate security, trust and privacy procedures or perhaps unrecognized brand name could threaten customer's confidence in embracing any electronic based means of interactions introduced by the firm.



ii. Environmental Factors

The environment factors entail the external realm of business engagement of the firm that impacts and challenges e-Marketing adoption. For example, Government support in terms of effective regulatory policy ensures appropriate setting and social integration of the technological change processes majorly through the expansion of ICT Infrastructure and the deregulation of the telecommunications sector as recorded in South Africa in 2009 (Dlodlo and Dhurup, 2013).

Evidently, competitive pressure in an industry has been identified to be an effective means of forcing firms to adopt ICT. The greater the intensity of the competitiveness in a particular industry, the more the extent of persuasiveness on an organization to adopt technologies to gain and maintain competitive advantage in the industry (Chwelos *et al.*, 2001; Zhu and Weyant, 2003). Lane *et al.* (2004) also suggested that the critical absence of an eligible or limited market poses a challenge for firms in quest to adopt e-Marketing strategies. Therefore, the provision of adequate investment and the proper management of ICTs infrastructure are the pertinent foundation of technology adoption.

iii. Behavioural Factors

Studies have suggested that subsequent to the early phase of e-Marketing adoption, external readiness plays a crucial role in ensuring that an organization enjoys full benefits of the technology (Dlodlo and Dhurup, 2013). More so, the level of awareness among customers and business partners to electronically conduct marketing activities significantly influences the institutionalization of the e-Marketing concept among firms (Ghobakhloo *et al.*, 2011).

iv. Technological Factors

Scupola (2009) described technological factors as those that are attained from the nature and characteristics of the ICT that an organization or firm deploys or anticipate deploying for e-Marketing purposes. The presence of technological competence and acceptability for an innovation may be an important prerequisite for its adoption and diffusion (Chau and Hui, 2001). Evidences from Asia highlighted that firms are not encouraged to adopt e-Marketing as a serious business practice based on the limited acceptability and popularity of online dealings by consumers (Lane *et al.*, 2004).

Dlodlo and Dhurup (2010) postulated lack of technological skills, training and inadequate research around the subject matter of e-Marketing has led many organization's failure to implement e-Marketing practice which also corroborated with the conclusions of the studies of Ramsey and McCole (2005), and Kohn and Husig (2006) which indicated that the absence of experience and profound knowledge of e-Marketing practices often determines its adoption.

CONCEPTUAL FRAMEWORK FOR THE STUDY



Source: Authors

3. METHODOLOGY

The data used in this study was obtained from a field survey conducted among the paints manufacturing firms in the year 2014, where all six states in the Southwestern, Nigeria were covered. This was based on the fact that most of the paints firms in Nigeria are sited in this region while other regions depend solely on regular production and supplies of paints from the Southwestern region of Nigeria which are greatly achieved through effectual vast dealership networks they operate. The paper employed a structured questionnaire to collect data from two hundred and forty (240) respondents from randomly selected and registered paints manufacturing firms drawn from the Nigerian business directory. A total number of two hundred and three (203) completed questionnaire representing 84.5% response rate were used in this work through purposive selection of one Head/Senior staff from Marketing/Sales department and Chief Executive Officer/General Manager in the registered and selected paints companies.

Quantitative methods of analysis used were descriptive and inferential statistics. Inferential statistical techniques employed were regression and correlation matrix analysis, while the study descriptively used percentage ratio. However, some of the socio-demographic characteristics of the sampled paints firms were captured. The study revealed that five (2.5%) of the sampled firms had been in existence before the year 1970, while three (1.5%) were established between the year 1970 and 1980, twenty-eight (13.8%) were created between the year 1981-1990, seventy-eight (38.4%) were between the year 1991-2000, seventy-one (34.9%) were between the period of 2001-2010 and eighteen (8.9%) were created between the year 2011-2014.

Also, the results further revealed that 43.3% of the respondents have less than 5years of job experience, 33.1% had 5-9years, 19.7% had 10-19years and 3.9% had 20-30years of job experience. About 43.3% of the respondents from the sampled companies were management staffs, while 32% were senior staffs, 15.3% were junior staffs, 6.9% were contract staffs while 2.5% of the respondents fell into other categories of staffs. The sampled staffs showed that they had a vivid understanding of their organizational marketing structures and better knowledge of their products. Moreover, the firms also indicated how long they had been adopting e-Marketing tools. It was revealed that 52.7% of the sampled firms started deploying e-Marketing devices in the last four years, while 44.6% also indicated that their ICT deployment was within the last 5-14 years and 2.7% of the firms deployed ICT between 15-24 years.

3.1 Study Variable and Measurement

The key variables that were used in this study were divided into independent and dependent variables. The independent variables are the factors identified to influence e-Marketing adoption, while the dependent variable is the deployment of e-Marketing among paints manufacturing firms in Nigeria. The independent variables were categorized into organizational, environmental, behavioural and technological factors. The factors considered in the study were centered around due consultations of various empirical literatures of ICT adoption for different purposes in different fields.

Hence, a clear understanding of e-Marketing innovation adoption, together with a more holistic conceptual framework that explains the key elements of e-Marketing adoption among manufacturing firms' general dispositions towards ICT usage for marketing activity, is an important issue for this research as follows:

i. Organizational Factor

An organizational influence plays a major role in determining reasons why a particular technology should be adopted in any organization. The respondents were asked to rank the degree to which each identified factors dictated the organizational decision to adopt ICT and the variable was measured by method of ranking using the 5-point Likert scale. The mean of 1 represents Undecided, 2 for Not Important, 3 for Moderately Important, 4 for Important and 5 for Very Important.

ii. Environmental Factor

Clear-cut considerations for environmental issues are pertinent in organization's decision to adopt and deploy electronic based tools for marketing activities. This variable was also measured by method of ranking using the 5-point Likert scale. The mean of 1 indicates Undecided, 2-Not Important, 3-Moderately Important, 4-Important and 5-Very Important.

iii. Behavioural Factor

For proper adoption and deployment of e-Marketing by firms, the educational status and social awareness of the customers and market at large as regards the technology must be reckoned with for smooth operationalization. This variable was measured by method of ranking using the 5-point Likert scale. The mean of 1 signifies Undecided, 2-Not Important, 3-Moderately Important, 4-Important and 5-Very Important.

iv. Technological Factor

The factor was measured using the assessment of technical know-how of the staffs, technological acceptability/popularity, cost of the technology and the adequacy of the technology in terms of speed and time. This variable was measured by method of ranking using the 5-point Likert scale. The mean of 1 denotes Undecided, 2-Not Important, 3-Moderately Important, 4-Important and 5- Very Important.

4. DATA PRESENTATION AND DISCUSSIONS

The results derived from the econometrics analyses of the study are shown in the tables below with empirical discussions.

Table 1

Regression Result of E-Marketing Innovation Adoption among Nigerian Manufacturing Firms

Dependent: E-Marketing Innovation Adoption

Sample: 203				
Variable	Coefficient	Std Error	t-statistic	Prob (p-value)
Cost	0.407	0.828	-2.234	0.028
Technology Competence	0.150	0.093	-1.345	0.182
Technology Acceptability/Popularity	0.263	0.111	0.585	0.560
Human and Technical Capability	0.071	0.108	-0.659	0.511
Top Management Support	0.082	0.104	0.793	0.430
Financial Resources	0.604	0.109	0.588	0.558
Competition	0.302	0.106	-2.858	0.005
Targeted Customers/Market Size	0.104	0.118	1.267	0.208
Speed/Time	0.171	0.110	-1.555	0.123
Social Awareness/Culture	0.048	0.105	0.453	0.652
Level of Education	0.074	0.125	-0.589	0.557
Infrastructure	0.060	0.107	0.563	0.575
Regulatory Policy	0.151	0.102	-1.037	0.302
Security, Trust and Privacy	0.074	0.088	0.088	0.159
Returns on Investment	0.065	0.054	-0.074	0.453
C	5.231	0.058	6.319	0.000
R ²	0.482			
F-statistic	2.237			
Prob. (F-statistic)	0.013			

Source: Authors' Analysis (2016) using Eviews 7.1

* Correlation is significant at 95% Confidence level

Manufacturing Firms

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
 E- Marketing Adoption Cost 3. 	1.0 00 0.1 91 0.1	1.0 00 0.1	1.0													
Technology	53**	28	00													
4.Technolog y Acceptability /Popularity	0.2 21 [*]	0.2 98 ^{**}	0.4 41 ^{**}	1.0 00												
5. Human and Technical Capability	0.1 93 [*]	0.3 30 ^{**}	0.3 89 ^{**}	0.3 85 ^{**}	1.0 00											
6. Top Managemen	0.1 18 ^{**}	0.3 79 ^{**}	0.2 19 [*]	0.3 38 ^{**}	0.3 65 ^{**}	1.0 00										
7. Financial Resources	0.1 56 ^{**}	0.1 71	0.3 32 ^{**}	0.2 40 [*]	0.2 44 [*]	0.2 37 [*]	1.0 00									
8. Competition (Competitive Pressure)	0.2 41 [*]	0.1 11	0.3 74 ^{**}	0.2 72 ^{**}	0.3 56 ^{**}	0.1 97 [*]	0.4 08 ^{**}	1.0 00								
9. Targeted Customers/ Market Size	0.0 43 ^{**}	0.2 21 [*]	0.4 24 ^{**}	0.4 04 ^{**}	0.3 62 ^{**}	0.3 59 ^{**}	0.2 24 [*]	0.5 02 ^{**}	1.0 00							
10. Speed/Time 11. Social Awareness/	0.2 00 [*] 0.2 19 [*]	0.2 84 ^{**} 0.2 98 ^{**}	0.3 23 ^{**} 0.2 10 [*]	0.4 03 ^{**} 0.2 71 ^{**}	0.4 31 ^{**} 0.3 37 ^{**}	0.2 58 ^{**} 0.1 39	0.3 32 ^{**} 0.2 30 [*]	0.4 51 ^{**} 0.2 90 ^{**}	0.5 22 ^{**} 0.3 42 ^{**}	1.0 00 0.2 90 ^{**}	1.0 00					
12. Level of Education	0.0 88 ^{**}	- 0.2 07 [*]	- 0.1 96 [*]	0.1 18	- 0.2 45 ^{**}	0.0 52	- 0.0 35	- 0.2 03 [*]	- 0.3 32 ^{**}	- 0.2 03 [*]	- 0.5 10 ^{**}	1.0 00				
13 . Infrastructur	0.0 97 [*]	0.1 20	0.1 22	0.0 90 ^{**}	0.1 43	0.1 03	0.1 83	0.1 30	0.1 66	0.1 68	0.3 38 ^{††}	- 0.4 22 ^{**}	1.0 00			
14. Regulatory	0.0 77 ^{**}	0.1 16	0.0 97	0.1 38	0.1 41	0.1 62	0.0 17	0.0 32	0.1 03	0.0 79	0.3 73 ^{**}	- 0.1	0.0 82	1.0 00		
15. Security, Trust and Privacy	0.0 34	0.2 40 [*]	0.0 26	- 0.1 17	0.1 28	0.2 24 ^{**}	0.2 42	0.2 37 [*]	0.2 44	0.1 71	0.2 84 ^{**}	69 0.2 96	0.2 00	0.1 83	1.0 00	
16. Returns on Investment	0.1 73 [*]	0.3 23 ^{**}	0.0 90	0.0 22 [*]	0.2 21 [*]	0.2 12	0.1 97 [*]	0.1 78	0.1 04 ^{**}	0.2 04	0.1 44 ^{**}	0.2 90	0.2 10	0.1 00	0.0 01	1.0 00

(ROI) ** Correlation is significant at 99% Confidence level In table 1, the regression analysis reveals that all factors considered have direct and positive relationship with e-Marketing innovation adoption among the firms, but the degree differs. The study further revealed that cost of the technology adoption has more influence on the firms' decisions to deploy e-Marketing innovation, and this conforms with studies that cost is the main driver of e-Marketing adoption and growth (Johnstone and Wright, 2004; Barwise and Farley, 2005; Uzoka *et al.*, 2007), and also contradicts the findings of Drew (2003) which opined that the cost of infrastructure, access and adoption of e-Marketing have declined to stages where it no longer pose a threat or barrier. This is not the case of the Nigerian paints industry, but other studies revealed that the determinants of e-Marketing adoption in developed countries vary from those in developing ones (Purcell and Toland, 2004; Uzoka *et al.*, 2007).

Market structure and size has demonstrative effects on the adoption and implementation of new technologies, thereby allowing for a more substantial degree of heterogeneity across and within industries (Baptista, 1999; Davide *et al.*, 2010). This is also evident among Nigerian manufacturing firms. Similarly, Bresnahan et al., (2002) draws attention to the importance of human/technical capability and technological competencies in the adoption of innovation, this is also evident among the Nigerian manufacturing firms. Also, security, trust and privacy play a fundamental role in the dynamics of e-Marketing adoption and diffusion among Nigerian firms which is in accordance with the empirical and theoretical literature. Davide *et al.* (2010) emphasized that those firms imploring for a high route to information exchanges, to online sales and purchases will be most interested in the provision of advanced technological infrastructure for the security, trust and privacy of their own marketing activities and transactions.

Also, the efficacy of a technology is characterized by its ability to deliver with high speed and timing efficiency. The estimated coefficient for time and speed in e-Marketing innovation adoption which is positive and significant, shows that the continuous evolution of technological deployment of ICT services requires better transmission efficiency (Grubesic and Murray, 2004; Savage and Waldman, 2005). Evidently, this is as a result of the accessibility of suitable communication infrastructure among Nigerian firms which raise the speed of communications and the access to the Internet as well as the use of other e-Marketing interactive innovations.

Furthermore, the correlation matrix was used to examine the multi-collinearity problems among the various factors identified in the study. To analyze the relationships between e-Marketing adoption and influencing factors for adoption, a correlation factor analysis was conducted and the results are shown in Table 2. The association between each of the independent variables and dependent variable was analyzed using Pearson Correlation at both 1% and 5% levels of significance.

There were positive and significant correlations between e-Marketing adoption and Cost (R = 0.191, P≤0.05); Technology Competence (R = 0.153, P≤0.01); Technology Acceptability/Popularity (R = 0.221, P≤0.05); Human/Technical Capability (R = 0.193, P≤0.05); Top Management Support (R = 0.118, P≤0.01); Financial Resources (R = 0.156, P≤0.01); Competitive Pressure (R = 0.241, P≤0.05); Targeted Customers/Market Size (R = 0.043, P≤0.01); Speed/Time (R = 0.200, P≤0.05); Social Awareness/Culture (R = 0.219, P≤0.05); Level of Education (R = 0.088, P≤0.01); Infrastructure (R = 0.097, P≤0.05); Regulatory Policy (R = 0.077, P≤0.01); Security, Trust and Privacy (R = 0.034, P≤0.01) and Returns on Investment (R = 0.173, P≤0.05).

The correlation matrix revealed and supported that the various factors considered under the technological, organizational, behavioural and environmental factors have positive associations with the adoption of e-Marketing innovation in the Nigerian paints industry. All of the identified factors positively correlated with the e-Marketing adoption rate and the differences were shown to be statistically significant at both 1% and 5% levels of confidence, which implied that all the fifteen business factors had influenced or dictated the adoption of e-Marketing innovation in the Nigerian paints industry.

More so, the positive relationship between firms' investment in human/technical capability and firms' adoption of ICT has been supported by various arguments. Human and technological capability enables a firm to achieve greater competence to meet the demands of its changing domestic and international market (Zahra and George, 2002) giving rise to better performance among the firms.

Notably, the Technological Acceptability/Popularity had a strong and significant relationships with Human/Technical Capability (R = 0.385, P≤0.01); Top Management Support (R = 0.338, P≤0.01); Financial Resources (R = 0.240, P≤0.05); Competition (R = 0.272, P≤0.01); Targeted Customers (R = 0.404, P≤0.01); Speed/Time (R = 0.403, P≤0.01), Social Awareness (R = 0.271, P≤0.01); Level of Education (R = 0.118, P≤0.05); Infrastructure (R = 0.090, P≤0.01), Returns on Investment (R = 0.022, P≤0.05). This means that the acceptability and popularity of a technology among the firms and customers have greater roles to play in attaining effective and efficient marketing goals.

5. CONCLUSION

The outcomes from the statistical analyses gave a clearer picture of e-Marketing adoption in the Nigerian paints industry. The data analyses showed that organizational capability, in terms of human and technical competence, returns on investment, availability of financial resources and top management support had major influence on the adoption of e-Marketing. This conformed to the findings of Fillis *et al.* (2004) that employees' technical capability to integrate and deploy a technology-related innovation usually promotes the availability of human capital for technological adoption and implementation within an organization. This outcome emphasized the need for firms to regularly intensify trainings and ensure avenues for employees to have deeper knowledge on how to approach and deploy ICT systems and applications for marketing more efficiently.

However, Scupola (2003) findings affirmed that top management supports are very crucial as they are much concerned in the employees' knowledge. More so, organizational prowess in terms of top management decision has significantly promoted e-Marketing adoption as decisions taken at the management level to support ICT adoption will enhance the process of the integration and deployment of e-Marketing and identifies ICT as an imperative tool for an organization to attain higher height in the market place and stay competitive. This shows that top management decision is a key component by strongly ensuring the initiation and implementation of e-Marketing adoption.

Furthermore, environmental features such as competition, infrastructure, regulatory policy and market size are primary factors dictating proper adoption of e-Marketing in the paints industry. Other purposes of ICT adoption for marketing activities in the industry were to provide quality services, enjoy competitive advantage and maintain good market position by offering new forms of products and services, and protect the good image of the paints firm. The examination of the technological attitudes of firms in terms of cost of e-Marketing adoption, technology competence, its acceptability (popularity) and the effectual use for service delivery and time are crucial towards adoption and deployment of ICT by the paints firms and they are found to be statistically significant predictors of e-Marketing. The results put forward that if firms perceive that new ICTs are easy to use, guarantee quality service delivery and timing, they would show less resistance to its adoption and offerings. In addition, previous study from Akbulut (2002) confirmed that the complexity nature of a technology has a key influence on the adoption decision by firms, while self-confidence as a result of competency and self-efficacy could motivate firms to adopt and deploy ICT applications (Peansupap and Walker, 2005).

The behavioural aspect of the decision making processes of e-Marketing adoption which are characterized by educational level and social awareness (information intensity) of technology showed that innovativeness and knowledge of the firms as regard e-Marketing were significant influencers that propel adoption.

6. POLICY IMPLICATIONS AND RECOMMENDATIONS

The investigations carried out in this study have several implications. The major implication of this study is that the integration and deployment of ICT innovation for marketing should embrace more other advanced features of e-Marketing, and a potent and uncompromised level of top management commitment should be encouraged by the Nigerian manufacturing firms.

Also, it is pertinent that the initial investment cost of acquiring ICT systems or tools should be subsidized by the Government, so that more value can be added to e-Marketing adoption, as some firms are discouraged to embrace ICTs due to high rate of technological changes. More attention should be on companies' capability to innovate and subsequently introduce new ICT products and services in the market place.

Furthermore, regular ICTs training and skills acquisition of marketing principle should be emphasized among employees, thereby equipping them to rapidly adapt to new technological changes and new ways of doing things. It is necessary for e-Marketing intending adopters to acquire experience on how to deploy specific ICT for a stipulated purpose. This is as a result of the diversities of the information systems which are sophisticated such that only a good command of them can ensure a useful exploitation of their numerous features.

However, companies should see marketing as a vehicle for change and diffusion of technological knowledge that can contribute to their success by deploying ICT that would enable them the privilege to access emerging opportunities. The proliferation of e-Marketing applications, concepts, systems, policies and implementation strategies to ensuring quality services has become a fundamental issue and concerns to firms, which is presently a necessity for local and global competitiveness. E-Marketing adoption demands strategic planning, coupled with the initial requirement of substantial financial resources and investments for the adoption. To allay fears regarding ICT adoption, need assessment and analysis should be conducted before acquiring ICT facilities and software systems for marketing and other usage. This may require the engagement of ICT experts and consultants to ascertain right investment decisions and strategies.

REFERENCES

- 1. Akbulut, A. Y. (2002). An investigation of the factors that influence electronic information sharing between state and local agencies. Proceedings of 8th Americas Conference on Information Systems, 2454-2460, Dallas, Texas, USA.
- 2. Baptista R. (1999). The diffusion of process innovations: a selective review, *International Journal* of the Economics of Business 6(1), 107-129.
- 3. Barwise, P. and Farley J. U. (2005). The State of Interactive Marketing in Seven Countries: Interactive Marketing Comes of Age. *Journal of Interactive Marketing*, 19(3), 67-80.
- 4. Brady, M., Saren, M., and Tzokas, N. (2002). Integrating Information Technology into Marketing. *Journal of Marketing Management*, 18(5/6), 555-578.
- Bresnahan, T. F, Brynjolfsson, E. and Hitt, L.M. (2002). Information technology, workplace organization, and the demand for skilled labour: firm level evidence, *Quarterly Journal of Economics* 117, 339-376.
- 6. Bruque, S. and Moyano, J. (2007). Organizational determinants of information technology adoption and implementation in SMEs: the case of family and cooperative firms. *Technovation*, 27(1), 241-253.
- 7. Chau, P. Y. K. and Hui, K. L. (2001). Determinants of small business EDI adoption: an empirical investigation. *Journal of Organizational Computing and Electronic Commerce*, 11(4), 229–252.
- 8. Chwelos, P., Banbasat, I. and Dexter, A. S. (2001). Research report: Empirical test of an EDI adoption model. *Information Systems Research*, 12(3), 304-321.
- Coatings World (2014). Analysis Report on Industrial Paints and Coatings Market for South Africa, Nigeria and Kenya. Available from: <u>http://www.coatingsworld.com/contents/view_breaking-news/2014-03-20/analysis-report-on-industrial-paints-and-coatings-market-for-south-africa-nigeria-and-kenya</u> (Accessed on 10/05/2016).
- 10. Coviello, N.E., Milley, R. and Marcolin, B. (2001). Understanding IT-enabled interactivity in Contemporary Marketing, *Journal of Interactive Marketing*, 15(4), 18-33.
- 11. Davide Arduini, Leopoldo Nascia and Antonello Zanfei (2010). Complementary Approaches to the Diffusion of ICT: Empirical evidence on Italian firms, Working Papers Series in Economics, Mathematics and Statistics.
- 12. Dlodlo, N. and Dhurup, M (2010). Barriers to E-Marketing Adoption among Small and Medium Enterprises (SMEs) in the Vaal Triangle, *Acta Commercii*, 10 (1), 164-180.
- Dlodlo, N. and Dhurup, M (2013). Drivers of E-Marketing Adoption among Small and Medium Enterprises (SMEs) and Variations with Age of Business Owners. *Mediterranean Journal of Social Sciences*, 4(14), 53-66.
- 14. Drew S. (2003). Strategic uses of E-Commerce by SMEs in the east of England. *European Management Journal*, 21(1), 79-88.
- 15. El-Gohary, H. (2010). E-Marketing-A Literature Review from a Small Businesses perspective. International Journal of Business and Social Science, 1(1), 214-244.
- El-Gohary, H. (2012). Factors affecting E-Marketing adoption and implementation in tourism firms: An empirical investigation of Egyptian small tourism organisations, *Tourism Management*, 33(5), 1256-1269.
- Fellenz, M.R., and Brady, M. (2006). Why the Tail Should Not Wag the Dog: Integrating the Deployment of Information and Communication Technologies (ICT) in Service Innovation and Delivery, Proceedings of the Irish Academy of Management Annual Meeting, September 2006, Cork, 1-25.
- Fillis, I., Johannson, U. and Wagner, B. (2004). Factors impacting on e-business adoption and development in the smaller firm. *International Journal of Entrepreneurial Behavior and Research*, 10(3), 178–191.
- Frost and Sullivan (2013). Key Sectors Driving Growth Opportunities in the Sub-Saharan African Chemical Market. Available from: http://www.slideshare.net/FrostandSullivan/frostsullivan-keysectors-driving-growth-opportunities-in-thesubsaharan-african-chemicals-market-chemexpo-nov-2013 (Accessed on 9/01/2014).

- 20. Ghobakhloo, M., Arias-aranda, D. and Benitez-amado, J. (2011). Adoption of e-commerce applications in SMEs. *Journal of Industrial Management Data Systems*, 111(8), 1238-1269.
- Grubesic, T.H., and Murray, A.T. (2004). Waiting for broadband: local competition and the spatial distribution of Advanced Telecommunication Services in the United States, Growth and Change – A Journal of Urban and Regional Policy 35(2), 139-165.
- International Telecommunication Union Report (2015). ICT Facts and Figures; The World in 2015. ICT Data and Statistics Division, Geneva, Switzerland. Available at: <u>https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2015.pdf</u> (Accessed on January 12, 2016).
- 23. Internet World Statistics (2015). Internet Stats and 2015 Population Statistics". Available at: <u>http://www.internetworldstats.com/stats1.htm</u> (Accessed on June 23, 2016).
- 24. Johnstone D.A and Wright L. (2004). The E-Business capability of small and medium sized firms in international supply chains. *Information Systems and E-Business Management*, 2, 223-240.
- 25. Kohn S. and Husig S. (2006). Potential benefits, current supply, utilization and barriers to adoption: an exploratory study of German SMEs. *Technovation*, 26(1), 988-998.
- Krishnamurthy Sandeep (2006). Introducing E-MARKPLAN: A practical methodology to plan emarketing activities. *Elsevier Business Horizons* 49, 51-60. Available at: <u>www.sciencedirect.com</u> (Accessed on February 18, 2016).
- 27. Lane M.S, Van Der Vyver G, Delpachitra S. and Howard S. (2004). An electronic commerce initiative in regional Sri Lanka: the vision for the central province electronic commerce portal. *Electronic Journal of Information Systems in Developing Countries*, 16(1), 1-18.
- LeadCapital Limited (2008). Nigeria's Chemical & Paints Industry (An Analytical View). Available from: <u>https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0a</u> <u>hUKEwj4l8Dm3M_MAhVG7iYKHZFYB8kQFggiMAA&url=https%3A%2F%2Fwww.proshareng.co</u> m%2Fadmia%2Fuplead%2Facapat%2F20ap%2F20tba%2F20Chamica%2F20%2F20

<u>m%2Fadmin%2Fupload%2Freports%2FReport%2520on%2520the%2520Chemical%2520%2520</u> <u>Paints%2520Sector.pdf&usg=AFQjCNFwKbuarRrt9VVzilS1zSDh0LSdgQ&sig2=OICnYc2A1dHR</u> <u>FKLpFOtYsQ</u> (Accessed on January 12, 2015).

- 29. Lee, O. K. M. and Cheung, C. M. K. (2004). Internet retailing adoption by small and medium sized enterprises (SMEs): a multiple case study. *Information Systems Frontier*, 6(4), 385-397.
- 30. Levy, M. and Powell, P. (2002). SME Internet adoption: Towards a transporter model. Paper read at the 15th BLED Electronic Commerce conference on eReality: constructing the eEconomy held in Slovenia on June 17-19 June, Slovenia.
- 31. Liebermann, Y. and Stashevsky, S. (2002). Perceived risks as barriers to Internet and E-Commerce usage. Qualitative Market Research: *an International Journal*, 5(4), 291-300.
- Martin, L. M. and Matlay, H. (2001). Blanket approaches to promoting ICT in small firms: Some lessons from DTI ladder adoption model in UK. *Internet Research: Electronic Networking Applications and Policy*, 11(5), 399-410.
- 33. Modimogale, L. and Kroeze, J. H. (2011). The role of ICT within Small and Medium Enterprises in Gauteng. *Communications of the IBIMA Journal*, 1, 1-13.
- Mohd Irwan Dahnil, Kamarul Mizal Marzuki, Juliana Langgat and Noor Fzlinda Fabeil (2014). Factors Influencing SMEs Adoption of Social Media Marketing. *Elsevier Procedia - Social and Behavioral Sciences*, 148, 119-126.
- National Planning Commission (2009). "Nigeria Vision 20:2020: Economic Transformation Blueprint. Retrieved October 2013 from: <u>http://appar.com.ng/images/File_downloads/Nigeria%20Vision%2020%20200%20Economic%2</u> <u>0Transformation%20Blueprint.pdf</u>.
- Peansupap, V. and Walker D. H. T. (2005). Factors enabling information and communication technology diffusion and actual implementation in construction organizations. *Electronic Journal* of Information Technology in Construction, 15(10), 193-218.
- 37. Poon, S. and Swatman P.M.C (1999). An exploratory study of small business Internet commerce issues. *Journal of Information and Management*, 35(1), 9-18.

Advances In Multidisciplinary

- 38. Prasad, V. K., Ramamurthy, K. and Naidu, G. (2001). "The Influence of internet-marketing integration on Marketing competencies and export performance". *Journal of International Marketing*, 9(4), 82-110.
- 39. Purcell F and Toland J. (2004). Electronic commerce for the South Pacific: a review of Ereadiness. *Electronic Commerce Research*, 4(1), 241-262.
- 40. Ramsey E. and McCole P. (2005). E-Business in professional SMEs: the case of New Zealand. *Journal of Small Business and Enterprise Development*, 12(4), 528-544.
- 41. Rashid, M. A. and Al Qirim, N. A. (2001). E-Commerce technology adoption framework by New Zealand small to medium sized employees. *Research Letters in the Information Management Systems Journal*, 3(2), 63-70.
- Rebolledo C, Richard, L and Préfontaine, L (2005). The Potential of Information Technology in Facilitating Relationship Marketing: The Case of Large Canadian Firms. *Journal of Relationship Marketing*, 4(1/2), 57-71.
- 43. Sadowski, B. M., Maitland, C. and Dongen, J. V. (2001). Strategic use of the Internet by small and medium-sized companies: an exploratory study. *Journal of Information and Economics Policy*, 14(1), 75-93.
- Saffu, K., Walker, J. H. and Hinson, R. (2008). Strategic value and electronic commerce adoption among small and medium-sized enterprises in a transitional economy. *Journal of Business and Industrial Marketing*, 23(6), 395-404.
- 45. Savage, S.J., and Waldman D. (2005). Broadband Internet access, awareness, and use: analysis of United States household data, *Telecommunications Policy* 29(8), 615-633.
- 46. Scupola, A. J. (2003). The adoption of internet commerce by SMEs, in the south of Italy: an environmental technological and organizational perspective. *Journal of Global Information Technology Management*, 6(1), 52-71.
- 47. Scupola, A. J. (2009). SMEs' e-commerce adoption: Perspective from Denmark and Australia. *Journal of Enterprise Information Management, 22*(1/2), 152-166.
- 48. Simpson M and Docherty A. J (2004). E-commerce adoption, support and advice for UK SMEs. *Journal of Small Business and Enterprise Development*, 11(3), 315-328.
- Sindhi, V., Bhisham, K., and Ambika, K. (2011). Impact of Information Communication Technologies (ICTs) on Rural Marketing & Development, VSRD International Journal of CS & IT, 1(6), 396-407.
- 50. Stansfield, M. and Grant, K. (2003). An investigation into issues influencing the use of the Internet and electronic commerce among small medium sized enterprises. *Journal of Electronic Commerce Research*, 4(1), 15-33.
- 51. Uzoka, F. M. E., Shemi, A. P., and Seleka, G. G. (2007). Behavioural influences of E-Commerce adoption in a developing country context. *Electronic Journal of Information Systems in Development Countries*, 31(4), 1-15.
- 52. Wagener I. (2004). The building blocks of trust in Electronic commerce purchases: a case study. M.Comm. Dissertation. Johannesburg: RAU.
- 53. Zahra, S.A and George, G. (2002). Absorptive capacity: A review, re-conceptualization and extension. *Academy of Management Review*, 27, 185-203.
- 54. Zhu, K., and Weyant, J. P. (2003). Strategic decisions of new technology adoption under asymmetric information: a game-theoretic model. *Decision Sciences*, *34*(4), 643-675.