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New Product Development and Competitive Advantage of Selected Companies in the Food and Beverages Industry in Lagos State, Nigeria

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Abstract

Food and beverages manufacturing companies in Nigeria have been confronted with plague of ineffective product research and development activities which probably resulted in low competitive advantage. The study investigated the relationship between new product development and competitive advantage in the food and beverages industry. Survey research design was adopted for the study. Sample size of 364was selected. A structured questionnaire was used. Data generated were analysed using correlation analysis. Result revealed a significant relationship between new product development and competitive advantage. Study recommended that food and beverages companies marketing managers should introduce satisfactory new products to achieve competitive advantage.

Keywords: *New product development, Competitive advantage, Food and beverages and Lagos State.*

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Background to the Study

The level of dynamic global business environment encounter by manufacturing companies especially food and beverages (F&B) companies in the 21st century have forced most manufacturing companies to consistently embrace product innovation and development in order to adapt to the external environment and gain competitive advantage. The global stiff competitive business environment, continuous innovation changes, coupled with volatile market environment leave food and beverages companies with no option but to rethink on how to develop new product that will attract customer loyalty and sustain competitive advantage. Karuiki and Kilika (2017) affirm that competition of firms is coupled with the challenges of global innovation and the need to respond to customers' demands, tastes and preferences. This is because the uniqueness of organization products does not guarantee competitive advantage if the products do not meet customers' needs and provide value they desire. Furthermore, many innovative ideas do not result in successful new product especially in food and beverages manufacturing firms (Wanjiku, 2018).

New product development is an innovation that often times yield new product or services besides effecting new techniques (Namusonge, Muturi & Olaniran, 2016). Accordingly, the impact of new product development on product performance and customer taste depends on the innovation capability and degree of innovation that is being pursued. Namusaonge *et al.* (2016) submitted that on a comparative basis, radical product innovation contributes more to organization performance than incremental product innovation, because the former concentrates more on route improvements.

An organisation's capability for new product development is considered valuable assets for the firm to provide and sustain competitive advantage and in the implementation of the entire organisation's strategies. Product development and innovation can only happen if the organization has the capacity to innovate and involve in product research and development (Laforet, 2011). Rajapathirana and Hui (2017) emphasised that new product development capability not only facilitates firms to introduce new product quickly and adopt new systems rather it is important to factor for feeding the ongoing competition. Notably, most food and beverages companies in African countries are faced with the challenges of food and beverages import substitution from the developed countries and this have made it increasingly difficult for these Africa food and beverages companies to achieve the profitability result of their product development. Additionally, Africa economies faced threat factors of importation, existence of competitors' brands, insufficient capital, and lack of qualified personnel, poor planning and inadequate forecasting which militate and pose problems against the idea of product development, thus reduced their overall firm performance and competitive advantage.

In recent years, the rate of importation in the food and beverages industry in Nigeria has been extremely rapid and competition has increased through new foreign competitors having established segments and, in some cases, a change of competitive weapons (Okoro, 2016).Orji, Andah, Kate and Boman (2017) affirmed that most Nigerian food and beverages manufacturing companies could not achieve new product development idea and competitive advantage in the food and beverages manufacturing industry due to over importation of food

and beverages product from abroad. Moreover, in the Nigeria food and beverages industry, the contribution of research and development, new product development, product branding, technological agility and customer knowledge management to the organisations' competitive advantage have always experience challenges and raised top managers' attention which were once considered to be hardly accountable, because of their inherent uncertainty and unexpected nature (Okoro, 2016).

Orji, Andah, Kate and Boman (2017) further affirmed that majority of food and beverages companies in Nigeria have closed down due to poor product development resulting from insufficient capital, lack of qualified personnel and infrastructural facilities and poor planning on how to counter imported food and beverages products in the market and this have increased poor financial returns of these local food and beverages companies in Nigeria. Past studies have been done on the link between organization new product development, competitive advantage and firm performance (Akroush, 2012; Bandinelli, Rinaldi, Rossi &Terz, 2013; Bigliardi, Bottani, Montanari, & Vignali, 2010;Heim, Mallick *&* Peng, 2012; Healy, Ledwith *&* O'Dwyer, 2014; McGuinness & Hutchinson, 2013; Smith, 2011; Wong, 2012). Literature has addressed new product development and competitive advantage from developed country perspectives; most of these past studies reviewed have not examined the relationship between new product development and competitive advantage of food and beverages companies in Lagos State, Nigeria. This serves as gap for this study. In Nigeria, Orji *et al.* (2017) pointed out that food and beverages industry is characterised with significant pressures from increased levels of competition and importation, poor product development, rapidly changing market requirements, higher rates of technical obsolescence, shorter product life-cycles and the heightened importance of meeting the needs of increasingly sophisticated customers which in turn had reduced competitive advantage of Nigeria food and beverages companies.

Regarding to these gap and problem identified in the Nigeria food and beverages companies industry, this study hypothesized that; there is no significant relationship between new product development and competitive advantage of selected food and beverages companies in Lagos State, Nigeria.

Theoretical Framework

Dynamic Capability Theory

The proponent of this theory is Teece, Pisano and Shuen. It refers to the company's capacity to integrate and adapt to the unstable and unsecure business environment (Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece, & Winter, 2007; Helfat& Winter, 2011; Schweizer, Rogbeer, &Michaelis, 2015; Winter, 2003). The ability to react adequately and timely to external changes requires a combination of multiple capabilities. It is based on the insight that especially in the presence of environmental change existing frameworks, such as the resource based view (Barney, 1991; Penrose, 1995; Wernerfelt, 1984) or the competitive forces approach (Porter, 1980), are of limited value in explaining the occurrence and the sources of sustainable competitive advantage. The main assumption of this framework is that an organisation's basic competencies should be used to create short-term competitive positions that can be developed into longer-term competitive advantage. This is evidenced by the significant number of

longitudinal studies of dynamic capabilities (Athreye, 2005; Eisenhardt & Martin, 2000;Helfat&Peteraf, 2003;Lampel&Shamsie, 2003;Pisano, 2000; Rindova & Kotha, 2001). That organisations' strategists are constrained rationally. And that value conception and addition at specific point of time is based on assets features and allotment.

As posited by Eisenhardt and Martin (2000) that DC are procedures that engineers new knowledge and bring about market dynamics which is significant in both exceedingly and reasonably unstable environments. Their proposition of equifinality in DC suggests that firms can develop their capabilities internally or externally and there are multiple ways of developing them through concrete processes such as new product development teams. The actual deployment process depends on the industry dynamism. In moderately dynamic environments, DC, through these processes, takes the form of complex, analytical routines. Conversely, in highly dynamic environments, where information speed and not necessarily accuracy is of utmost importance, firms activate more experiential like routines. Value is created through DC in upgrading the resource configurations of firms. Value is appropriated through the timely deployment of the appropriate routines. Accordingly, the extent to which the environment changes, either endogenously or exogenously changes the industry boundary, and hence the product/ market space in which the firm operates. Studies that are in support of DCs are Lopez(2005); Bhutto (2005); kylaheiko & Sandstorm (2007) and Teece (2007).

Despite its considerable acceptance, the dynamic capabilities framework suffers some criticisms, DC has been generally criticised as unclear and sometimes fraught with unconsolidated perspective (Arend & Bromiley, 2009); empirically difficult to measure its underlying operational processes and relationship with the firm at large (Di Stefano *et al.*, 2010; Easterby-Smith *et al.*, 2009). The concept is ambiguous in terms of perceptions and causes. It suffers from repetitiveness and weak forecasting capability when compared to other theories, lack of a coherent theoretical foundation; weak empirical support; and unclear practical implications (Arend & Bromiley, 2009). This theory is relevant to this study because firms would endeavor to build and reconfigure the innovative capability dimensions (research and development, new product development, product branding, technological agility and customer knowledge management) and use it to drive sustainable competitive advantage under regimes of rapid changes.

Porter`s five forces Theory

This study anchored on Porter's five forces model propound by Michael E. Porter. This model was to help companies assess the nature of an industry's competitiveness and develop corporate strategies accordingly. The framework allows a business to identify and analyze the important forces that determine the profitability of an industry. Porter's five forces include three forces from 'horizontal' competition: the threat of substitute products or services, the threat of established rivals, and the threat of new entrants; and two forces from 'vertical' competition: the bargaining power of suppliers and the bargaining power of customers. This theory is based on the following assumptions-that buyers, competitors and suppliers are separate entities that never interact, never collude and never influence each other directly; that

structural advantage or the creation of entry barriers is the source of value; that there is always low uncertainty, which allows participants in a market to always be able to plan ahead and counter competitor actions. Porter argues that companies need to analyse competitions that company face within the industry in order to gain sustainable competitive advantage and respond favourably to the five forces (Barney, 1991). This theory is relevant to this study because there is significant competitive rivalry in the food and beverage industry. This resulting competitive pressure means that prices, profits and competitive strategy would be driven by it; firms could engage in aggressive research and development to come up with new product development with different features and value addition in order to gain competitive advantage.

Methodology

This study employed cross sectional survey research design as questionnaire instrument were administered to respondents in various selected (F&B) companies in Lagos State, Nigeria. The total population for the study is 6,852. Cochran (1977) standard method of randomisation was employed to determine the sample size. According to Cochran (1977), the formula that connects total sample size of (F&B) with the desired degree of precision is given below:

$$\mathbf{n} = \frac{Nz^2pq}{d^2(N-1) + Z^2pq} \quad \text{---------- 1}$$

$$n = \frac{6,852\ (1.96)^2(0.5)\ (0.5)}{(0.05)^2(6,852-1) + (1.96)^2(0.5)\ (0.5)} = 364 \quad \text{---------- 2}$$

Therefore, the expected numbers of sample to be taken for this study would be 364.The study employed stratified random sampling method. The questionnaire for this study used a six point likert type rating scale as follows: Very high extent (Coded 6), high extent (Coded 5), average extent (Coded 4), low extent (Coded 3),Very low extent (Coded 2), no extent at all (Coded 1). The scale increased the reliability of the responses. In this study correlation analysis was employed.

Table 1: Reliability and Validity Statistics

Variables	Number of Items	KMO	Bartlett test of Sphericity	AVE	Cronbach's Alpha
Competitive advantage	8	0.873	0.000	0.575	0.76
New product development	9	0.701	0.000	0.505	0.74

Source: Author's Computation (2019)

Construct validity of the instrument was established using the Kaiser-Meyer Olkin (KMO) and Bartlett test of Sphericity. The KMO value of each of scale exceeds the recommended value of 0.50 and Bartlett test of Sphericity is significant ($p<0.05$) showing great validity.

Given the widely accepted 0.70 coefficient *alpha* standard for reliability as recommended by Nunnally (1978), thus all the constructs were above the bench mark 0.70; hence, the overall reliability of the whole scale was guaranteed.

Correlation Models:

$Y = f(x_1)$

COMPADV = f(NPD) ---------- eq (i)

Where;

Y= COMPADV= Competitive Advantage

$x_{1=}$NPD = New Product Development

Result and Discussions

Table 2: Response Rate

Response Rate	Frequency	Percentage%
Returned	348	96
Unreturned	16	04
Total	364	100

Source: Field Survey, 2019

Table 2 shows the response rate from the questionnaire administered to the targeted respondents for the study. The result presented in this study, therefore, was based on the responses from the questionnaire that were correctly filled and returned.

Table 3: Pearson Correlation Coefficient on the relationship between New Product Development and Competitive Advantage of food and beverages companies in Lagos State

		New Product Development	Competitive Advantage
New Product Development	Pearson Correlation	1	.865**
	Sig. (2-tailed)		.000
	N	478	478
Competitive Advantage	Pearson Correlation	.865**	1
	Sig. (2-tailed)	.000	
	N	478	478

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

Source: Researcher's Field Results (2019)

Table 3 presents result of Pearson's correlation coefficient on the relationship between new product development and competitive advantage of food and beverages companies in Lagos State. The result in Table 3 shows that there is a strong positive and significant relationship between new product development and competitive advantage of selected food and beverages companies in Lagos State ($r = 0.865$, $p < 0.05$). This implies that the more the food and

beverages company in Lagos State adopts new product development, the more their competitive advantage. Based on this result, the null hypothesis which states that new product development does not have significant relationship on competitive advantage of selected companies in the food and beverages industry in Lagos State, was hereby rejected. The results were also consistent with Liu and Jiang (2016) who assert that NPD has significant impact on product competitiveness. Healy, Ledwith and O'Dwyer (2014) and Guan (2002) established in their studies that NPD has positive impacts on firms' competitiveness. The results also agreed with Wong (2012) in a study on entrepreneurial orientation on product advantage and new product success (NPS), which found out that product advantage, has a strong influence on NPD.

Conclusion and Recommendations

The study concluded that new product development has positive and significant relationship with competitive advantage of selected food and beverages manufacturing companies in Lagos State, Nigeria. Based on this finding and conclusion, this study recommended that; there is an urgent need for managers to focus their efforts on developing marketing activities and marketing functions in a competitive manner so that they can introduce both quick and satisfactory products. Knowing fully well that introduction of new products that meet customers' specifications and needs would equally increase customers' patronage and consequently increase competitive advantage.

Managerial implications

There are several management implications from our findings for food and beverages firms. First, this framework for competitive advantage could be used by managers to guide them in their competitive advantage strategy. Research suggests that, in other to remain relevant in the turbulent business environment in which the food and beverages industry is operating, firms should make competitive move, particularly in the aspect of new product development. However, mangers should anticipate reactions to new product development. Regarding reactions, implications for managers is to be abreast of the information concerning the reactions and act accordingly. Secondly, research has demonstrated a lot of failed new products, to avert this by managers, it is crucial that managers ensures that its new product follow all the stages in new product development process. They also must learn to deal with challenges that may emerge at the quest for new product development. Third, managers need to develop the skills of its research and development team to build and maintain team synergy. Fourth, research has demonstrated that NPD could engender firms' competitiveness (Ledwith & O'Dwyer, 2014; Guan, 2002). The implication for managers is that they should consciously deploy resources toward NPD. Finally, mangers should make the new product to have value addition and the nutritive value should be made known on the packaging, such that it can compete with imported food products at relatively affordable prices to the potential consumers.

Limitation and future direction for further studies

The major limitations in our study results from the trade-offs required in a research of this type. First, the cross-sectional data collected for this study cannot empirically establish the

causal relationship examined in the study or to examine the sustainability dimension of competitive advantage. Future researchers could complement our findings by employing longitudinal research designs and give better insight on competitive advantage. Second, this study is localized on a specific industry, while different sectors might have a different approach to the NPD process and patenting activities therefore limiting generalising in other contexts. Therefore, future researchers could replicate similar studies in other sectors. Replication of this study is encouraged in other countries to allow for generalizability as against considering it only from Nigeria context. Finally, future research involving new product development and competitive advantage should strive to examine the link between the various dimensions of product advantage and both new product and organizational performance, particularly in food and beverages.

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