

Matching Typology of innovations to different emerging business situations

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Abstract

Matching product, process or strategy innovation strategies to the emerging exogenous or endogenous business situations minimises a firm's vulnerability in the wake of the increasingly more precarious business world. However, it is often the mismatch between such strategies which is often a major hurdle of most of the contemporary businesses. To address such innovation strategy mismatches, it is argued in this conceptual paper that it is not only synchronisation of product innovation with relevant process and strategy innovation strategies that would leverage a firm's superior market performance, but also matching relevant product, process and strategy innovation strategies to the diagnosed exogenous and endogenous business situations. In exogenous business situations characterised by intense industry rivalries or market saturation, the application of a combination of product and strategy innovation strategies would enable a business avoid vulnerability to the increasing spate of destructive rivalries by creating new products to tap opportunities in new markets and render irrelevant the competition in the existing markets. However, in cases of frequent sporadic destructive competitors' actions causing proliferation of enormous disruptive innovations, the use of a combination of product, process and strategy innovation strategies would enable a business create superior value offerings in conjunction with gaming-motivated cooperation and strategic alliances with rivals to recreate the existing industry conditions and circumstances to its advantages. That contrasts with the circumstances where a business is experiencing significant shifts in customer tastes and preferences. In such situations, the use of product and strategy innovation strategies would integrate new value offerings in the existing products to reverse the shifts in customer tastes and preferences. However, in endogenous situations, quests for growth would require the use of a combination of product, process and strategy innovation strategies as contrasted with cases of quests for costs' minimisation where only the use of process and strategy innovation strategies would be required. It also contrasts with differentiation quests where only product and process innovation strategies would be critical for aiding a firm to achieve its business credo.

Keywords: Emerging Exogenous Business Situations; Endogenous Business Situations; Matching Product, Process or Strategy Innovations; Survival; Sustainability.

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How to cite this article: Okanga Boniface, (2023). Matching Typology of Innovations to Different Emerging Business Situations, 13(2) 70-88. Retrieved from <https://jms.eleyon.com/index.php/jms/article/view/670>

Received: 8 April 2023 **Revised:** 10 May 2023 **Accepted:** 26 June 2023

1. INTRODUCTION

Innovation is a prerequisite for minimising a firm's vulnerability in the wake of the increasingly more precarious modern business world. It aids brand review, renewal and revitalisation to respond to the significant shift in customer tastes and preferences. If it is not entailing the development of new products, innovation often modifies and recreates new features, design, usage or methods of delivering the existing value offerings. This leverages the existing value offerings' responsiveness to the unfolding industry and market changes. ^[1]

If the modified versions of the existing value offerings attract the desired customer responses, innovations may easily spur brand revitalisation to minimise risks of product obsolescence or decline. Product obsolescence or decline often erodes lucrative structure of

a firm's portfolios of products. This causes significant decline in revenue streams, profitability and returns on shareholder value. ^[2,3,4,5]

Even if the modification of the existing value offerings does not instigate significant improvement of a firm's competitiveness, innovations creating wholly new products would still do so. This implies innovations that only seek to modify the existing value offerings must be accompanied with innovations creating wholly new products. If successful, innovations creating new products can create unique advantages that reshape the existing industry conditions to a firm's advantages. This bolsters a firm's capabilities to counter competitors' actions causing risks of vulnerability to rivals' disruptive innovations.

However, for innovation to aid a firm's

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capabilities to deliver on its business credo, innovation may not only require product innovations. Instead, product innovations may have to be accompanied with process and strategy innovations (Milling & Stumpfe, 2014). As product innovation modifies the existing value offerings or creates new values, review and modifications of the existing processes and strategies are often of essence for leveraging the market performance of such new values. ^[6,7,8,9,10,11,12]

Unfortunately, that is often not the case. In most of the cases, product innovations are undertaken even in hi-tech innovative enterprises without thorough evaluation of the required accompanying relevant process and strategy innovations that can be undertaken to catalyse such new innovations' effective market performance (Cooper & Edgett, 2010). ^[13,14,15,16,17]

Whether it entails just the modifications of the existing value offerings or the creation of new products, poor synergy between product, process and strategy innovation strategies often still constrains superior market performance of superior innovations that would have performed more effectively. Quite often, this is attributable to the fact that most developers of superior innovations tend to strongly subscribe to product-centricity thinking. It is the fundamental argument in product-centricity thinking that for as long as the product is superior; a huge chunk of the market would still scamper for the product, even if the accompanying processes of delivering the product or the marketing strategies are not that effective. ^[18,19,20,21,22,23,24]

Unfortunately, it has often emerged from most empirical studies that even the market performance of superior products often get surpassed by the market performance of relatively inferior products. All these are attributable to the efficiency of the production and distribution processes as well as the adopted marketing and promotion strategies. Even though a new product could have been developed by businesses with remarkable reputations in new product developments, a new product often does not have a brand image and reputation that attract immediate customer attention upon its launch. ^[25,26,27,28,29,30,31,32]

That implies upon the introduction of the new brand or the recreated existing brand, prowess of the adopted marketing and promotion strategies may tend to be critical determinants of the immediate impressive market performance of the product. Immediate impressive market performance of the product is often of essence for attracting the desired revenues to recoup costs of R&D. ^[33,34,35,36,37,38]

Yet, as the new products' marketing and promotion machineries claim a lot of facts about its superiority, customer perceptions and expectations may not only be met by the extent to which the product delivers the claimed superior values, but also by the efficiency and effectiveness of the processes used in delivering such

products (Augier & Teece, 2009). This implies cycle time and lead time as well as the overall quality of customer services may easily arise when customers evaluate the overall superiority of the product. ^[39,40,41,42,43]

Besides, the essence for synchronising the application of product, process and strategy innovation strategies, the application of each of these strategies or a combination of such strategies may also have to match the emerging exogenous or endogenous business situations (Diplock & Wheatland, 2010). Matching product, process or strategy innovations to the diagnosed exogenous or endogenous business situations often minimises a firm's vulnerability in the wake of the increasingly precarious business world.

Utilisation of appropriate product, process and strategy innovation strategies aids a firm's effective response to the diagnosed business situations (Augier & Teece, 2009). This precision leverages success of the adopted strategies as well as minimisation of wastes that often emerge from the application of wrong strategies in wrong business situations. It mitigates risks of failures to in turn spur a business' sustainability and continuity. However, matching product, process or strategy innovations to suitable exogenous or endogenous situations is often a major paradox of the contemporary businesses. Even though a lot of studies have been conducted on innovation, only little seems to have been done to explore such areas (Tripunovski, Nikolovski & Vasileva, 2014).

To address this gap, we begin our discussions in this conceptual paper by evaluating the exogenous and endogenous instigators of the executives' decisions to innovate or not to innovate. In the second section of the discussions, we present a typology of innovation strategies highlighting product, process and strategy innovation strategies that businesses may consider when faced with a particular business scenario.

Against this backdrop, it is argued in the third section of our discussions that innovation can only influence achievement of a firm's superior performance, if given the prevailing endogenous and exogenous business situations, the executives are able to assess how relevant product, process or strategy innovation strategies can be linked and applied to address the diagnosed exogenous and endogenous business situations. The paper concludes with the reiteration of how a combination of product, process or strategy innovations can be matched to the diagnosed exogenous or endogenous business situations to enhance the extent to which innovations are able to leverage a firm's superior market performance.

2. INNOVATION

Innovation is a strategic process of initiating and converting ideas into tangible products or services (Milling & Stumpfe, 2014). Results of innovations are

often latent in new product or service development or the modifications of the features of the existing products or services. Innovation outcomes may also be reflected in the development of new processes and strategies or in the modifications of the existing processes or strategies (Milling & Stumpfe, 2014).

Innovation is a pivotal pillar for sustainability in the increasingly precarious contemporary business environment. Innovation influences the development of new products or services. This enables businesses to revitalize their market performance and sustainability.

Quite often it aids market performance revitalization through constant relevant analysis and development of new products to fill the identified gaps. Even if innovations do not lead to the development of new products, it may still spur constant modifications of the existing products or services to create points-of-difference that leverage a firm's overall competitiveness. Improved modified versions of the existing products or services may create values that catalyse sales and profitability.

Such values are often edified by the outcomes of new products or services' development that often enrich a firm's portfolio of strategic business units (Boehner & Gold, 2012). Subsequently, all these may spawn improvement of a firm's overall financial values. Quite often, strategic decisions of whether to undertake product, process or strategy innovations emerge from certain exogenous instigators such as the degree of industry or market saturation, competitors' actions and significant shift in customer tastes and preference.

As mediated by certain specific heterogeneous resource endowment of a firm that reside in capital finance, skills, R&D capabilities and marketing, these exogenous instigators combine with inherent endogenous instigators such as quests for growth, cost minimisation and differentiation to create impetus for a firm's strategic decisions to innovate or not to innovate if it's to survive in midst of the emerging and prevailing industry threats and imbalances.

2.1 Instigators of Strategic Decisions to Innovate or not to Innovate

Instigators of strategic decisions to innovate or not to innovate may be exogenous or endogenous.

2.1.1 Exogenous Instigators

Exogenous instigators often emerge from the degree of industry or market saturation, competitors' actions causing proliferation of endless disruptive innovations or significant shifts in customer tastes and preference (Chesbrough, 2010; Habtay & Holmen, 2016).

• Degree of Industry or Market Saturation

Degree of industry or market saturation is a critical determinant of whether or not businesses may

commit the requisite resources towards innovation. Just like in the product life cycle, industries and market growth also tend to unfold according to four main stages in the industry life cycle stages. These five stages include introduction, growth, maturity and decline (Hagi & Wright, 2015). The introduction stage refers to the stage at which the industry is at its lowest levels of performance. This is often attributable to the novelty of innovations and technology and lack of significant customers' awareness about the industry.

This causes limited opportunities that tend to discourage new entrants. New entrants are also discouraged by the fact that technological novelty and lack of experience limit the accumulation of relevant knowledge repositories on how to undertake innovations that drive down costs (Clayton, McDonald, Altman & Palmer, 2016). These high costs tend to also further deter competitors as well as customers.

However, it is not only these higher costs that instigate the need for investments in new innovations, but also quests to respond to the needs and demands of the largely affluent customers, innovation oriented and risk-tolerant customers. As pioneer firms invest enormously in innovations to lower costs and create new values such as better quality to attract mainstream customers, improved industry attractiveness often spurs the growth of the industry to the growth stage.

Further innovations often continue into the growth stage of the industry life cycle. Quite often, this is attributable to the fact that as the emerging industry players scamper for industry leadership, increased investments in innovations tend to further drive down costs. In turn, the effects of such significant reductions in costs tend to lower prices.

Combined with further investments in innovations that may also bolster improved quality and superior customer values, it is often this improvement of customer values that subsequently spurs further attraction of more mainstream customer segments (Clayton et al. 2016). Subsequently, this leverages increment in sales and profitability that offers more cash reserves for further investments in innovative initiatives. Significantly attractive industry growth tends to offer enormous growth opportunities for firms.

It is these attractive growth opportunities that may continue to attract entrants to subsequently instigate growth of the industry to the maturity stage. The maturity stage comprises of two stages. The first stage is the initially attractive stage of industry maturity in which firms that have been in the industry for a long time focus on recouping the costs of innovations (Govindarajan, Koppalle & Danneels, 2011). Quite often, this is done thorough focusing on reaping economies of scale arising from declining costs of innovations, advertisements and scale of operations.

Economies of scale also tend to emerge from the more stable brand image and confidence and trusts that customers have in a particular business. Subsequently, this drives down marketing and advertisement costs (Bergek, Berggren, Magnusson & Hobday, 2013). However, over time, the growth in the maturity stage of industry life cycle tends to slide into the saturation state. Industry saturation often arises from the increasing entrance of a significant number of rivals.

Industry saturation causes unattractive investment situations on the basis that high advertisement and innovation costs tend to lower profitability. This is often further exacerbated by the fact that firms of dominant characters that have enjoyed the benefits of the industry for a long time may tend to lose as compared to smaller new entrants using niching and better networking to offer better value offerings (Govindarajan et al. 2011).

New entrants also tend to enjoy enormous cost advantages by acquiring exiting firms at relatively lower costs to offer them enormous assets' advantages. Combined with new thinking and insights into how to turn around performance in the midst of the impending industry saturations, new entrants tend to engage in innovative initiatives that offer them advantages that cannot be matched by the established industry players that are stuck in higher cost structures that cannot easily be changed without undermining performance. Quite often, such higher costs are linked to higher salaries, benefits and incentives that had been offered to key employees during the years that the company was experiencing outstanding performance and growth.

These cost disadvantages are often further affected by ingrained inefficient systems and practices that affect the quality of customer services and a firm's overall flexibility and agility to respond to the emerging changes. As more energetic new firms engage in aggressive innovations to create new superior substitutes or to recreate new superior versions of the same product, the industry tend to slide into decline. This is because such new substitutes or recreated similar versions of superior products tend to reposition themselves as different from the previous brands that blossomed and declined.

It is this marketing approach that creates a new thinking to create a new industry for the new substitutes or modified versions of original superior products. Subsequently, this causes the decline of the previous product and its industry. Businesses caught in these situations often undertake a combination of product, process and strategy innovation strategies latent in asset and cost surgery, selective product and market pruning and piecemeal productivity moves.

In the application of asset and cost surgery, the executives will have to undertake aggressive cost reduction of excess capacity, suspension of new

investments in unnecessary plant and equipments, and reduction of investments in R&D as well as marketing (Bergek et al. 2013). These strategies may be utilized in conjunction with selective product and marketing to identify the most profitable segments or areas that the firm has significant strengths that attention must be directed.

Piecemeal productivity improvement may involve re-engineering and restructuring to eliminate redundant structures and units to leverage a firm's overall operational efficiency. As these strategies are being used, firms faced with impending risks of declining industry attractiveness and competition may also opt for leading, niching, harvesting or divesting.

Leading is undertaken by firms aiming to gain control of industry leadership. Quite often, this may require aggressive investment in R&D to unlock disruptive new innovations that would reshape the existing industry structures to a firm's advantages. Some of the other leadership strategies also involve acquiring rival firms with the required unique competencies and capabilities to recreate a firm's existing heterogeneous capabilities to deliver unique superior performance.

If all these strategies fail to revitalise a firm's performance, the only options would be to niche or harvest and divest to invest in new and alternative industries. However, it is not only the different stages in the industry life cycle that influence the executives' strategic decisions to innovate or not to innovate, but also competitors' actions.

•Competitors' Actions

Intense nature of industry rivalry and competition may also instigate the need for firms in that industry to invest in necessary innovations to survive. Whether it is in larger or small firms, high level of competitiveness often provoke the executives to engage in different innovative activities. For small firms, constraints of insufficient capital finance and limited R&D capabilities may limit investments in extensive R&D that produce superior innovations that disrupt and reshape the existing industry conditions to a business' advantages (Zheng, Liu & George, 2010).

However, it is still often evident that as competition intensifies, small and medium size businesses often research and invent their own suitable unique innovative strategies through which they can survive in the midst of the rising level of rivalism. This may involve niching to develop products with unique taste and features that are tailored to the unique needs of the segments identified to have been neglected by big businesses. It is through such a niche that the small and medium size businesses may not only use to survive, but also to grow and gain the competence and capabilities over time to compete with bigger businesses.

As some of the small and less superior businesses use niching, others may opt for innovative sourcing to

gain cost advantages that most of the business are often unable to attain. Such change in sourcing strategies may also involve either opting for outsourcing or partial reworking of inputs to modify quality of inputs and gain not only cost advantages arising from sourcing from cheaper sources, but also differentiation advantages emerging from the unique ingredients added to the inputs (Zheng et al. 2010). In other words, since product innovations are quite expensive, most of the small businesses may opt for process and strategy innovations.

That implies that in the quests to leverage their survival in the midst of rising competition, smaller businesses may focus on reviewing and modifying the internal business processes and operations to develop new cost advantages that would enable them deliver superior values to the customers in a way that cannot easily be matched by the usually cost-constrained big businesses. Such initiatives may be accompanied by improvement of the quality of customer services through automation or offering one-on-one personalized services. This improves customer relationship management to subsequently differentiate the quality of customer services in smaller businesses from the quality of customer services in big businesses where the quality of customer services is often a lesser considered factor.

As the small and medium-sized firms struggle with how to effectively survive in the midst of intense industry rivalry, extensively large firms often face the challenge of diffusing threats from disruptive innovations that reshape the nature of the existing industry game to the advantages of rivals. To curtail such threats, most of the extensively large enterprises often engage in aggressive innovations to develop superior products that counter such innovations (Madjdi & Huesig, 2011).

If the emergence of such superior products is not able to counter threats from disruptive innovations, some of the businesses may opt for strategic alliances, cooperation or mergers and acquisitions of rivals with unique core competencies. This enhances the combining of capabilities to create new advantages that would enable partners and rivals in the cooperative arrangement to control the heat of the rising competition.

Such strategic alliances or mergers and acquisitions may take the form of vertical backward integration to lock out rivals from potentially quality and cheaper sources of inputs, or vertical forward integration with key distributors, wholesalers and retailers in potentially lucrative markets to disadvantage other rivals in such markets. In other words, cooperative alliances among rivals influence the control of aggressive advertisement costs to control costs and offer price advantages to the products rivaling disruption innovations.

McDonald (2015) argues that not all forms of disruptive innovations are often disruptive enough to

warrant response. That implies disruptive innovations emerging from the existing and new industry players may influence the executives' decisions to respond or not to respond by investing in new innovative ventures. In this analysis, McDonald (2015) reiterates that due to advancement in technological research and innovations, some of the modern disruptive innovations are often too advanced and over-featured beyond what customers require. This causes a gap in the richer lower market tiers.

In such cases, disruptive innovations offering superior and advanced capabilities may not be directly fought through counter-innovations of better superior products, but by responding to the gaps created in the richer lower market tiers. However, that may not be the case for disruptive innovations that directly target the richer mainstream market segments. Such disruptive innovations may be fought by several rivals because of the fact that it touches the mainstream market base that most of the rivals are unwilling to exit. It is such disruptive innovations that invoke the need for gaming and alliance among rivals as critical strategies for reshaping the existing industry structure to their advantages (Madjdi & Huesig, 2011).

Although the application of such reactive approach enhances the precision of retaliations, in most of the cases, it is important to constantly analyse, sense, read and anticipate the likely emergence of new disruptive innovations in the near future. This enhances the development of proactive innovative initiatives to thwart threats anticipated to emerge from disruptive innovations. Even if disruptive innovations do not emerge, significant shift in market trends often still instigate the need for the executives to re-think and innovate if they are to survive.

• Shift in Customer Tastes and Preference

Significant shift in customer tastes and preference creates the impetus for the business to innovate if it is to survive. Changes in customer tastes and preferences can affect sales, profitability and a firm's overall market share. It implies the products offered by the business and the way it is offered and delivered is no longer attractive to the customers. This could be related to the emergence of superior rival products in the market (Paap & Katz, 2004).

Quite often, if a firm has the requisite financial capabilities and competencies in R&D, relevant innovations can be undertaken to revitalise the product. Some of the strategies that can be used to revitalise the product may entail the analysis of the reasons why most mainstream customers no longer prefer the products of the business vis-à-vis those of its rivals.

If the reasons are linked to the inferior product functionality or quality, then innovations would center on the analysis of how the ingredients used in the development and manufacturing of the product can be

modified to leverage the quality and performance of the product to deliver the functions that it claims to deliver. If the analysis reveals the problem is not related to the functionality and quality of the product, but its features, design or the modes of delivery, then, that would pave way for analysis and evaluation of how such features, design and the associated quality of customer services can be improved (Hajhashem & Khorasani, 2015).

In other words, product innovations or modification are critical strategies for responding to the significant shifts in customer tastes and preferences that may favour competitors' products. However, quite often, the shift in customer tastes and preference may not only be related to the dislike that the customers have developed about the core products, but also the processes used in the delivery of such products. Delay in sourcing and production scheduling can affect the responsiveness of corporate customers to the demands and needs of their clients.

As suppliers delay to deliver the required input or as production processes are disrupted due to machine failures, riots or poor process control methodologies, the implications are often latent in the reduction of the efficiency at which products are delivered to their final destinations. This affects cycle time and lead time to subsequently affect customer satisfaction, attraction and retention.

If thorough analysis is not conducted, it often becomes easier for competitors to identify such gaps from customer complaints (Hajhashem & Khorasani, 2015). It is the identification of such gaps that cause trouble and the beginning of declining performance if competitors respond by developing innovative strategies to address such gaps and instigate improvement of customer satisfaction. Such a view suggests that shift in customer preferences and tastes may not only instigate innovations in the affected businesses but also in the rival businesses operating in the same industry. This is attributable to the fact that as customers begin to complain, very keen and innovative companies may begin investigating why such challenges are occurring. This instigates the identification of gaps that may have to be filled through new innovations.

The discovery that a competitor is responding to fill such a gap through new innovations may also provoke innovations in the affected company. It is the emergence of such circumstances that in certain cases may cause innovation wars. However, it is not only the shift in customer tastes and preferences against the business' product that may motivate the decision to innovate.

Instead, shift in customer tastes and preferences that favour the product of the company may also create enormous opportunities that motivate the business to invest in innovations that either develop new products, processes and strategies or modify the existing products,

processes and strategies (Habtay & Holmen, 2016). Even if a firm has got stronger prowess to continuously innovate, major determinants still often emerge from the common strategic approaches adopted by the firms in a particular industry.

In highly innovative industries such as electronics, mobile communication and automobile industries, major players are often influenced to develop better R&D capabilities and to continuously innovate to match or even surpass the performance of rivals. This is attributable to the fact that most firms often tend to copy and duplicate strategic approaches being undertaken by most of the rivals. In contrast, if the industry is less innovation driven, then, most of the executives may not consider investing much in research and innovations.

Reasons are associated with the argument that most executives are often concerned with short-term results. In that case, they are less likely to get involved in extensive R&D unless the circumstance demands. Instead of focusing on R&D, most of the executives would opt to utilize the periods of relative stability to recoup the costs of investments and accumulate adequate buffer funds or cash reserves that would be used in periods of instabilities (Habtay & Holmen, 2016).

As much as it is evident that it is these exogenous instigators that create the impetus for businesses to innovate or not to innovate, the capabilities of the business to innovate or not to innovate are also often still influenced by a combination of certain endogenous instigators.

2.1.2 Endogenous Instigators

Endogenous instigators may arise from the business' quests for growth, cost minimisation and differentiation to create impetus for a firm's strategic decisions to innovate or not to innovate if it's to survive in midst of the emerging and prevailing industry threats and imbalances (Chesbrough, 2010; Hajhashem & Khorasani, 2015).

• Quests for Growth

Quests for growth constitute part of the endogenous instigators that spur a business' strategic decision to innovate or not to innovate (Hajhashem & Khorasani, 2015). Quest for growth is a business philosophy or paradigm haboured by the executives. Every business aspires to grow, but not in the way that it is pursued and cherished as part of a business culture or philosophy.

In situations of relative stability, businesses that do not pursue growth as part of their critical business philosophies tend to relax and only consider innovations to grow in the existing industry or alternative industries in case their sustainability and growth potentials are significantly threatened. However, that is often not the case for businesses that

aggressively and consistently pursue growth as part of the defining business philosophy.

In line with the fundamental argument in Miles and Snow's (1978) typology, the analysis of whether or not a firm harbours significant quests for growth depends on whether it is a defender, prospector, analyser or reactor enterprise. Defender enterprises may tend to innovate to spur their growth potentials when attacked or threatened. However, that may not be the case with the prospector or analyser enterprises that tend to proactively analyse situations and undertake proactive innovative initiatives to curtail the identified threats before they occur (Hajhashem & Khorasani, 2015).

This contrasts with the reactor businesses that tend to also act like defenders that wait to be threatened before reacting. In other words, in businesses where growth is aggressively and persistently cherished as part of the defining business culture, consistent investments in R&D tend to be undertaken to leverage the development of new innovations or modification of the existing products.

Quite often, these innovations or modifications of the existing products are undertaken to spur improvement of customer attraction and retention to in turn catalyse increment of sales, revenue and market share. Even though it is often new innovations or modifications of the existing products that are undertaken to spur achievement of such objectives, in most of the cases, it is often not only new product innovations or modifications of the existing products that are undertaken. Instead, more keen executives tend to also consider innovations that create new values, improve the quality of customer services and process efficiency to leverage the improvement of a firm's overall competitiveness. To achieve the desired business effects, product and process innovations may also be accompanied by strategy innovations (Hajhashem & Khorasani, 2015).

The essence for the application of strategy innovations often arises from the fact that as the executives explore different growth improvement strategies, the review and evaluation of the existing strategies may tend to be a critical prerequisite. That would imply the executives may have to evaluate the extent to which the existing strategies would aid a firm realize its desired growth potential.

In such analysis, some of the strategies that may have to be re-evaluated include the assessment of the effectiveness of the existing marketing and operational strategies (Chesbrough, 2010). Marketing strategies are critical pillars for growth improvement on the basis that as a firm seeks to capture more market shares from rivals, it is usually the marketing strategies such as pricing, advertisements and promotions as well as the use of the recent concept of experiential marketing that would leverage a firm's capabilities to achieve that.

As on the other hand, the analysis of operational strategies would explore the extent to which the existing operational approaches leverage a firm's cost competitiveness and differentiation anchored on superior process performance, efficiency and delivery of superior customer values. If these operational and market strategies are found to be ineffective, some of the strategies may require analysis of new innovations that can be undertaken to create new marketing strategies such as experiential marketing that extensively utilize most of the advanced contemporary social media technologies (Chesbrough, 2010).

Alternatively, such innovations may also modify the existing marketing strategies by eliminating marketing strategies such as newspaper advertisements which is considered to be less effective in the significantly changed contemporary business worlds. As newspaper advertisements are being phased out, alternative marketing strategies such as online marketing and advertisements that are more responsive to the demands of the cotemporary consumers may have to be integrated.

These imply that quests for growth, whether organic or inorganic lure firms to explore growth instigators across product, process and strategy innovations and modifications (Hull & Covin, 2010). However, it is not only quests for growth which is one of the endogenous instigators for the strategic decisions to innovate or not to innovate. Instead, the strategic decisions to innovate or not to innovate also tend to be instigated by quests for cost minimisation.

• **Quests for Costs' Minimisation**

In the increasingly innovation driven business world, cost management is pivotal in the strategic initiatives for leveraging a firm's competitiveness (Habtay, 2012). As major industry players engage in different forms of R&D to drive down costs so as to offer superior customer values at relatively lower prices, the survival of a business depends on the extent to which it is able to also equally engage in superior research and innovations.

Successes of such innovations are determined by the extent to which a business is able to identify and develop cost drivers that significantly lower its overall operational costs. It is the capabilities to consistently manage such cost drivers that may in turn instigate consistent competitiveness of its pricing. However, cost control and management are complex and dynamic aspects of operational management.

Changes in previously unpredictable demand may cause haste decisions that affect consistency of superior cost management and control. Sudden machine failures may instigate previously unintended costs of repairs, replenishments and machine redundancies causing wastes and costly interventions. Quite often, it is such quests to ensure consistency of

superior cost management and control that instigate innovations to control and reduce costs across all business processes and operations (Habtay, 2012).

Such quests may lure firms to consider using process control and improvement methodologies such as sigma analysis. As businesses apply sigma analysis or value chain analysis, areas where new innovations or modifications can be undertaken often include sourcing and movement of inputs to the points of manufacture, manufacturing and operational processes and movement of finished goods from the points-of-manufacture to the points-of-sale.

In the analysis of sourcing and movement of inputs to the points of manufacture, critical analysis may entail evaluation of costs associated with liaison and collaboration with suppliers to assess the levels of inventories and the scheduling of sourcing. This may require review of the technologies used, the number of staffs deployed, the costs of that technology and other equipments, risks and the time that it takes to accomplish each of the required activities. It may also instigate the need for the review and modifications of the technologies used.

That applies, if the technology presently used is found to curtail efficiency and cycle time required to accomplish relevant production activities (Howells, 2005). Poor and less coherent technologies often require more staffs that in turn affect labour costs and time to get the required activities effectively and efficiently accomplished. In such cases, the introduction of more superior technologies would certainly impact cost of labour, efficiency and inconveniences associated with the complexities of maintaining voluminous paper records.

Better and superior technologies also improve the collaboration and liaison between the business and the manufacturers. This subsequently bolsters effectiveness of quality evaluation and management to instigate delivery of more superior value offerings (Artz, Norman, Hatfield & Cardinal, 2010). However, it has often emerged that even if relevant new superior technologies are integrated, its impacts on cost control may still be minimal. This is attributable to the fact that quite often, there are other important aspects of sourcing such as transportation and the quality of trucks used that are ignored.

Yet, transportation and the nature of the trucks used play significant determining roles towards cost and quality controls. This implies the executives may have to evaluate whether considering the enormous transportation expenditures that they incur, they would not be able to develop their logistics and transportation departments with own trucks to handle the movement of goods from points of sourcing across the points of manufacture to the points of sale.

For such reviews and innovations of new

sourcing strategies to leverage a firm's quests for cost minimisation, it may have to be accompanied by the review of the existing operational systems and strategies (Isogawa, Kohei & Hiroshi, 2012). Such reviews would aid identifications of innovative initiatives such as automation of the production and manufacturing processes that can be undertaken to control labour costs, leverage efficiency, bolster manufacturing prowess and to reduce costs that often result from errors and wastes. Automation and use of information systems to deliver multichannel access points would not only bolster the quality of customer services, but also significant decline of costs to spur a firm's overall competitiveness.

Although quests for cost minimisation are often the major instigators of most business' decisions to innovate, in most of the cases, such quests may depend on the nature of the product and the industry that a business operates in. Businesses dealing in superior ostensible products manufactured for specific market segments may tend to take higher prices as the source of pride of the uniqueness and quality of the product that differentiate the product from other rival products (Isogawa et al. 2012). In such cases, cost minimisation quests may not arise to spur the need for innovations. Instead, it is the quests for differentiation that may instigate the decisions to innovate or not to innovate.

• **Quests for Differentiation**

Just like in cost driven businesses in which the executives often ponder on how to cut costs and leverage a firm's overall cost competitiveness, in differentiation driven businesses, innovations are often undertaken to create enormous points-of-difference that set the business apart from rivals (Damijan, Kostevc & Matija, 2011). This is attributable to the fact that the increasingly competitive contemporary business environments are characterised by constant proliferation of similar products and services being sold at almost similar prices. This causes a challenge of how to instigate a firm's superior performance above rivals. This implies research and innovations are critical for identifying areas that new values can be created to differentiate the business from its rivals.

Alternatively, it may also require the analysis and identification of the areas that can be modified to distinguish the business from its rivals. To identify such areas, it is not only product analysis which is of essence for assessing the areas that must be improved through new innovations. Instead, it is the analysis of the entire enterprise which is a prerequisite (Damijan et al. 2011).

The analysis of the entire enterprise would entail evaluations of the product, the manufacturing processes and the processes associated with delivering the product to the final customers. It may also require analysis of the critical exogenous strategies used to

create heterogeneity in the external performance of the firm. Product analysis would entail the analysis of the degree of customer satisfaction with the core and the augmented products. Core product analysis may require evaluation of customer perceptions about the functionality and performance of the product. It also encompasses quality analysis to assess the extent to which the product contains superior ingredients to deliver superior performance as compared to the rival products.

As the augmented product analysis would examine customer satisfaction with the features, design, colour, size and other complementary aspects of the product (Coad & Guenther, 2013). Even if the analysis of the core and augmented aspects of the product enhance identification of the areas that need to be improved, benchmarking the product with some of the best rival products in the market is still critical for identifying the innovative improvement initiatives that can be undertaken. Nevertheless, in differentiation driven businesses, constant analysis and improvement of the core and augmented aspects of the product often tend to be undertaken even if the product is performing well.

In situations where the product is performing well, innovative initiatives to create points-of-difference may entail researching and developing complementary products that are used together with the product. If such additional complementary products add values that do not cost much for customers to afford, then, it would create points of difference that catalyse improvement of a product's superior market performance.

Since the focus in differentiation driven businesses is creation of points-of-difference, improvement of the market performance of the product which is already performing quite superiorly may in certain cases move away from modifying the actual product, to evaluating and improving the processes used in the manufacturing of such a product (Coad & Guenther, 2013). Process evaluation and improvement may not minimise defects to leverage the quality of the product, but also influence efficiency improvement. Significant efficiency improvement spurs improvement of cycle time and lead time to create unique points-of-difference and knowledge repositories that distinguish the business from its rivals.

Quite often, the positive business effects of such process improvements are further spurred by innovative new technologies and processes that leverage the efficiency of the processes of delivering finished products to points of sale. As all these processes are analysed and modified, it is usually still critical to evaluate the processes that the customers undertake during the purchase, consumption and disposal of the product.

Such analysis is critical for identifying inconveniences in the features of the product or in such

a process that must be eliminated to unlock other customer values that would set the business apart from rivals. Even if quests for growth, cost minimisation and differentiation spur firms to consider innovations, the extent to which a firm is able or unable to successfully engage in innovations to achieve the desired business outcomes is further mediated by specific capabilities of the firm to innovate or not to innovate.

It is mediators such as financial capital, skills, R&D capabilities and marketing that influence the extent to which the undertaken innovations are able to influence achievement of the desired business outcomes that among others may include leveraging competitiveness, shareholder value and sustainability (Artz, Norman, Hatfield & Cardinal, 2010).

However, as firms seek to innovate to respond to these emerging exogenous or endogenous business situations, innovation does not necessarily imply the development of new products or the modifications of the existing products. Instead innovation may also involve just the innovation and introduction of new business processes or strategies or the modifications of the existing processes or strategies. Invention of new processes and strategies are often critical determinants of a firm's superior performance.

Business processes determine how inputs are efficiently and cost-effectively sourced, manufactured and delivered to the points of sale. Since, it has significant bearings on a firm's cost competitiveness, in most of the cases, the existing business processes may therefore either constrain or leverage a firm's superior performance. Better quality as well as the inducement of the desired brand reputation and image is often constrained by less effective business processes or the use of wrong market strategies.

Unfortunately, innovation is often significantly associated with new products' development or the existing products' modifications. Partially, this affects the strategic decisions on when innovations should or should not be undertaken. Poor business processes or strategies may require innovations that may not necessarily lead to new product development, but the improvement of the existing processes and strategies to support effective market performance of relatively superior products or services.

Yet, as most theories also focus on exploring the actual processes of product innovation, detailed elucidation of the process for undertaking other forms of innovations such as process and strategy innovations seems less evident in most of the recent studies. In the next section of the typology of innovations, we seek to address this gap.

3. TYPOLOGY OF INNOVATIONS

Pragmatic approaches emerging from the contemporary industry practices imply innovations

may entail product development or modifications, process innovations or modifications, and strategy innovations or modifications (Hervas, Ripoll & Mol, 2014; Nagasimha, 2015). In this section, we explore and elucidate on these types of innovations so as to offer insights that the contemporary business executives can emulate in the quests to adopt innovation as a pillar for sustainability in the increasingly precarious modern business environment.

3.1 Product Innovations

Innovations leading to new product or service development often entail the application of a six steps' framework involving ideation, conceptualisation, prototyping, testing, development and commercialisation (Cooper & Edgett, 2010). It is these six steps that constitute the heart and soul of innovation. Ideation refers to the strategic process of conducting relevant analysis of the existing market trends as well as customers' usage of the available products and services to extract a suitable product idea that must be developed to fill such a gap.

Ideation is an important and the most difficult step in the entire process of innovations. Irrespective of whether such innovations may require the development of a new product, process or strategy or the modifications of the existing products, processes or strategies. This is attributable to the fact that although it may tend to be easier for personnel employed in the product development units to easily develop a product, quite often that may not be the case with ideation.

Ideation requires higher levels of creativity and imaginations to enable relevant analysis and figurative imaginations of the how the product ought to be. Quite often, ideation involves extensive analysis of the existing products of the business or the competitors' products. It may also require the analysis of how customers use and subsequently depose the product vis-à-vis what the other industry players do with such residues.

Combined with the application of techniques such as Delphi methods and focus group discussions, ideation is often aimed at developing an array of ideas from which the best ideas are selected and passed to the conceptualisation stage (Bendoly, Bharadwaj & Bharadwaj, 2012). Quite often, the criteria used for assessing the best idea to be selected may include clarity, usability, stability, scalability, emotional appeal, integration and expected returns on investment. Clarity influences analysis of the competing ideas that offer real solutions without many assumptions of what to be expected from the product (Castellion & Markham, 2012). Whereas usability examines the extent to which the idea contains all the essential features that would render it competitive in the market, stability examines the trends on its market performance that it will offer before declines.

Quite often, most of the product developers are skeptical to engage in the development and production of products emerging from the ideas that receive immediate resounding market approval and die immediately (Nagasimha, 2015). Even if the product idea meets the criteria of stability, the scalability of the idea is still critical for evaluating the extent to which upon development, the product will easily be scaled to supplement or complement other products. Subsequently, this leverages the emotional appeal of the product, and its integration with the other products and strategies to induce the achievement of the desired business results.

Nevertheless, ideas meeting all these criteria may appear more attractive to render it easier for conceptualisation to be easily undertaken. Conceptualisation refers to the process of thinking and emerging with the version constituting of the relevant design and features that must be integrated in the product to ensure that it performs the functions that it claims to (Castellion & Markham, 2012). In certain cases, statistically driven hypothesis studies are conducted to test and confirm whether the ingredients to be integrated in the product would induce the desired quality and functions that the product claims to offer.

In addition to the use of the hypothesis driven studies, some of the product developers often use either user-driven or product-driven approach. In the user-driven approach, product developers tend to rely on the views from the market in the conceptualisation of what the product ought to be. It contrasts with the approach in product-driven approach in which product developers use the positions of customers to imagine and integrate what they feel and perceive would significantly entice customer satisfaction (Castellion & Markham, 2012).

Irrespective of the methodologies used, conceptualisation often leads to the generation of a prototype which is tested and developed into the final product. Subsequently, this leads to the commercialisation stage that deals with the process of marketing and selling the developed new products. If the market performance of the new product is successful, then, the business gains as compared to when the product fails.

Even if the product turns out successful, further modifications and re-evaluations of the product is critical for edifying and sustaining the superior market performance of the product. Unfortunately, it has often emerged that whether the product turns out successful or not, most of the businesses tend to abandon the product straight or leave the features of the best performing products until it is clear that they have reached a point that they are unable to attract the desired level of performance. It is at that stage that the application of relevant innovation methodologies would be critical for leveraging the market performance of the

product that has either failed or turned out successful.

In terms of the products that have failed, innovations influence the re-modifications of the features of such a product. This may in the first instance, require the analysis of the reasons why the product could have failed. Quite often, the reasons for poor product performance could be related to the poor competitiveness of its functionality. The other reasons may arise from the augmented aspects of the product such as its inferior quality and features or failure to complement or be supplemented by the other products (Cooper & Edgett, 2012).

This affects usability. Besides the inferior functionality and augmented aspects of the product, the other causes of a product's poor market performance may arise from cost related variables that may affect the competitiveness of its pricing strategies. In certain other cases, some of the turbulences may emerge from the fact that during the launch of the product, a new rival product is surprisingly introduced into the market.

The analysis of these variables influences the identification of the areas of challenges that would drive product modifications. If it is the quality of the product which is a challenge, then, it implies the quality ingredients and components used during the conceptualisation and development stages will have to be reviewed (Cooper & Edgett, 2012). The same applies if the challenge is linked to the functionality or the cost components of the product that affect its price competitiveness.

However, as the product which had previously failed is modified to appear as if it is a new product, then, extensive marketing and branding are critical for repositioning it as different from the product that previously failed. Otherwise, the general negative perceptions of the public about its previous failures may easily affect the extent to which its modified versions can easily be re-introduced into the market (Chirumalla, 2013).

Even though product modifications may influence the successful re-launch of a previously failed product, product modifications may be also undertaken in cases of impending decline of a product. In the event of the impending decline of the product that had performed well for years, innovations influence the generation of enormous information that enhances the determining of how such a product can be revitalised to serve not only the needs of the existing loyal customers, but also to attract new customers from new generations that have emerged over time.

Considering that effective performance of superior brands can be undermined by unsupportive business processes, it is often critical that accompanying process innovations are undertaken to develop either new processes or to modify the existing business processes (Augier & Teece, 2009).

3.2 Process Innovations

Process innovations refer to the process of mapping and configuring critical operational and production processes that would enable a firm accomplish activities required to deliver its desired business outcomes and credo. It is not influenced by R&D that influences new product innovation, but by R&D that generate the required knowledge repositories to edify identification of new ideas that can be created as new processes that define a firm's heterogeneous capabilities to perform all its relevant operational functions to deliver the desired business outcomes (Hervas, Ripoll & Mol, 2014). To accomplish this, process innovations may require utilisation of a five steps' framework of process innovation entailing configuration, segmentation, synchronisation, innovation, measuring and improving (Easterby-Smith, Lyles & Peteraf, 2009).

Configuration, mapping and analysis of the existing business processes may involve analysis and identification of the patterns of the flow of critical activities from outside world into the business and from the business to the external world (Easterby-Smith, Lyles & Peteraf, 2009). This would aid the configuration of the critical activities that the executives consider as a framework of the processes defining how different business activities are coherently accomplished to deliver the desired business outcomes (Cronemyr & Witell, 2010).

These patterns in the flow of activities may be latent in the pattern of repetitive-routine processes undertaken in the accomplishment of activities such as sourcing, transportation, storage, manufacturing, storage of finished products and distribution to the market. Configuration and mapping must be accompanied by analysis of the extent to which the identified patterns in the flow of activities edify a firm's capabilities to deliver the required business outcomes as efficient and cost effective way as possible (Easterby-Smith, Lyles & Peteraf, 2009).

Such desired outcomes are often associated with cycle time, quality, cost and lead time that it takes to produce and deliver the desired products. To identify the missing activities or new areas that must be added to spur process effectiveness, process configuration and mapping is often accompanied by process segmentation.

Process segmentation is the process of dividing the existing business processes according to the supplier, production, administrative, technological and customer dimensions (Dumas, La Rosa, Mendling & Reijers, 2013). The supplier dimensions of the existing business processes would aid the analysis of the cost effectiveness and efficiency of sourcing procedures and methods used in the accomplishment of different activities to aid the movement of inputs from the

suppliers to the business. Such analysis facilitates evaluation of whether the best further strategic decision can be undertaken to outsource as compared to internal production.

To leverage process innovations, such analysis may have to examine cost, efficiency, quality and the best other alternatives through which sourcing can be accomplished. Production segment of a business process may entail the analysis of the flow of activities arising from moving materials or inputs from storage, preparation, manufacturing and movement of finished products to the stores or distribution points.

This enhances the analysis of the extent to which such internal production process aids or does not aid the creation of repositories of unique heterogeneous capabilities that in turn influence a firm's heterogeneous market performance (Boehner & Gold, 2012). Questions that may instigate the need to innovate or not to do so to create new production processes may rotate around the extent to which the existing production processes enhance cost, quality and efficiency controls.

Production processes are also influenced by the administrative segment of a business' processes. Administrative segment offers architecture of critical procedures, policies and regulations put in place to influence effective accomplishment of different internal activities and linkage of the business with its external world. It also aids the management of unfinished and finished inventories as well as the management of activities across different internal business processes to enhance harmonization and creation of environments that favour the smooth flow of activities across all the segments.

Administrative segment 's evaluation is undertaken by the analysis of the extent to which relevant technologies are integrated in all the segments to spawn the overall effectiveness of the business processes put in place (Augier & Teece, 2009). This implies analysis may have to center on the extent to which relevant technologies are integrated in the processes of sourcing, production, administration and distribution of the finished products to the deliver the desired customer values (Augier & Teece, 2009).

The analysis of administrative segment may be accompanied by the evaluation of customer dimension of a business process to evaluate the extent to which the internal business processes facilitate the development and delivery of superior customer values. Customer values may be measured by the lead time, cycle time, efficiency, quality and cost associated with the processes of procuring inputs, manufacturing and distributing the finished products to the final customers.

However, the decision to undertake or not to undertake process innovations may arise from the fact that missing aspects in each of the evaluated dimensions of a business process may require investments in

relevant research and innovations to identify the additional processes that can be added and the ones that can be deleted to bolster the overall effectiveness of that dimension.

Innovation decisions are also instigated by how the segments are coherently synchronised and integrated to offer an organisational process framework that leverages a firm's capabilities to efficiently and effectively accomplish all the required activities. It is also measured by the extent to which the available processes aid the delivery of the desired outcomes in as much more flexible and agile way as possible (Easterby-Smith et al. 2009). Process analysis indicating a business to have all the critical business process dimensions that are coherently integrated and linked to each other would certainly not require investments in relevant process innovations.

If the results of process configurations indicated missing dimensions and poor linkage between the identified dimensions, some of the innovative process improvement initiatives may require the development of new processes or significantly modifying the existing processes to leverage superior flow of goods from the points of sourcing, manufacturing and distribution to the markets (Easterby-Smith et al. 2009). Such new process innovations or modifications may also require investment in relevant technologies, new equipments, software, techniques and systems such as supplier information system or enterprise resource planning system to bolster the overall level of process integration and synchronisation.

Besides investments in advanced machineries and computer hardware and software, process innovations or modification may also entail investment in relevant industrial robots and automation of major key processes (Eggert, Thiesbrummel & Deutscher, 2014). These often not only instigate improved production efficiency, but also the quality of customer services. As the administrative aspects of process innovations may require review of the effectiveness and compatibility of the existing policies, operational standards and guidelines to introduce new policies or changes that leverage the effectiveness of a firm's overall operational process efficiency (Nagasimha, 2015).

As new policies are being developed, it is also often critical to develop new culture or modify the existing ones to support the overall process and operational flexibility and agility of the business to respond to the identified business needs. This is attributable to the fact that quite often; some of the major hurdles constraining process effectiveness and efficiency are often associated with incompatible organisational culture, policies and operational guidelines (Afflerbach, Kastner, Krause & Roglinger, 2014). The analysis of the administrative aspects of process innovations aids

therefore the evaluation of the compatibility of not only the policies but also review of processes linked to areas such as quality management. Processes constraining effectiveness of quality management would certainly call for review and introduction of either new quality management processes or the modifications of the existing ones.

However, the challenge of process innovations may still arise from the fact that innovations or modifications undertaken according to different dimensions of process innovations tend to cause mismatches and incompatibility between the newly created processes (Afflerbach, Kastner, Krause & Roglinger, 2014).

This implies upon the completion of the process of process innovations or modifications, relevant analysis must be undertaken to assess the extent to which the newly introduced changes do not affect operational efficiency, cost, quality, competitiveness and the capabilities of the business to deliver superior customer values (Easterby-Smith, Lyles & Peteraf, 2009). Quite often, risks of mismatches and poor process integration and synchronisation are some of the hurdles of process innovations that may constrain the achievement of the desired business outcomes (Eggert et al. 2014).

This can be addressed through the application of techniques such as sigma analysis, business process re-engineering and value chain analysis. Sigma analysis would aid the evaluation of the sigma level indicating as minimal defects and wastes at which a firm would operate given the new process changes and innovations.

Business process re-engineering would facilitate radical analysis and review of the existing business processes to identify areas of incompatibilities and radical process improvement or new innovations that can be introduced to improve the overall level of inter-process integration and synchronisation. Such radical analysis not only leverages compatibility of the internal business processes, but also the synchronisation of the internal business processes with the processes in partner businesses such as suppliers, distributors and corporate customers (Eggert et al. 2014).

As on the other hand, value chain analysis would aid holistic analysis of the efficiency of the newly developed or modified processes to facilitate effective flow of activities from the points of sourcing, manufacturing to the points-of-sale. In other words, all these influence the identification and correction of areas of defects to bolster improvement of a firm's overall superior performance.

Product innovations leading to the creation or recreating and modifications of the features and attributes of the existing products may not only instigate the need for process innovations or modifications, but also strategy innovations if the new product or the modified versions of the existing products are to thrive.

3.3 Strategy Innovations

Just like process innovations, strategy innovations influence the market success of product innovations. Strategy innovations refer to the process of conducting relevant market analysis to gain insights that enable a firm to either develop new strategies or to modify the existing strategies to leverage the improvement of a firm's overall market performance (Ansoff, 1957:113; Lee & Kang, 2015). That implies strategy innovation is critical for inventing new strategies or modifying the existing strategies to spur new innovations' success along the entire product life cycle curve.

In the initial stages of new innovation's market introduction, strategy innovations tend to influence the determining of the appropriate market strategies that can be conceptualised and applied to ensure the product performs more effectively. Quite often, this may entail the analysis of whether to apply market penetration, product development or market development strategies (Ansoff, 1957:113; Lee & Kang, 2015). For new innovations of unknown brands, the use of market penetration strategies is often engaged in the initial stages of the product's market introduction. Market penetration requires the application of strategies aimed at improving the volume of a firm's sales to its present customers.

To increase the rate of consumption of the product in the existing markets, strategy innovations often entail devising the best ways through which firms can use market skimming prices, and aggressive promotional strategies. Other strategies involve intensive advertisement and use of coupons to retain the existing customers whilst also attracting new ones.

As the new innovation diffuses into the market, the use of market development strategies would be required to expand the overall market outreach of the product into other segments. In market development, a firm approaches new market segments with its existing products. It is often accomplished by conducting relevant analysis and targeting non-users in selected market segments with relevant promotional messages. This is often accompanied by modification of product features and characteristics to suit the needs of the identified market segment (Ansoff, 1957:113).

Although these innovative approaches may influence improvement of a product's effective market performance, with time, enormous returns associated with the product often lure competitors to engage in copying and duplicating the product. Such actions often even entail modifying duplicates to offer superior values exceeding the values offered by the product's original version. This increases spate of the competition heat and a firm's overall vulnerability. To survive, the application of product development strategies is a critical prerequisite (David & Jemison, 2011).

Product development strategy entails investment

in the innovation and development of new products or modifications of the existing products to respond to the changes in the needs of the existing and new markets. It avoids risk of product obsolescence by modifying the existing products to either respond to the tastes and preferences occurring in the existing market or to extend the outreach of the product into new markets. If a firm is unable to perform well even after undertaking these product development strategies, then, diversification is often the other methodology for strategy innovations (Nwaiwu, Iwueze & Chukwudi, 2014).

Diversification strategies may either be concentric, horizontal or conglomerate diversification. Concentric diversification may require innovation and development of products not only similar to the existing products, but also that use similar production and commercialisation strategies. Whereas horizontal diversification may require investments in the production of different products that fall in the same realm of a firm know-how and experience, technology, finance and marketing, conglomerate diversification may require investments in completely different products meant for completely different industries and markets (Ansoff, 1957:113; Lee & Kang, 2015).

Quite often, the production of such products require knowledge, experience, technology, financials, skills and marketing approach completely different from the resources and approach used by the business in the existing industry and market. In other words, it is quite evident that innovation may not necessarily entail product innovations or modifications, but also innovations or modifications of the existing processes or strategies to leverage superior performance of a firm in the context of the emerging industry and market trends.

However quite often, the challenge has not only been difficulties of linking relevant product innovation to relevant process and strategy innovation, but also paradoxes arising from whether or not the executives are able to link and match the right type of innovations to the right business situations. Investments in wrong innovations to respond to wrong business situations causes wastes and the application of strategic solutions that do not directly deal with the actual nature of the problem.

Quite often, this has been latent in the fact that in the event of increasing cost competitiveness, attempts to develop new products to leverage performance in the existing markets may not enable a firm recoup the costs of investments incurred in the development and marketing of the existing products. To leverage the performance of the existing products in the existing markets, firms may instead have to opt for process innovations as compared to product or strategy innovations to create advantages that drive down costs to bolster the overall price competitiveness of

the product. Unfortunately, that is often typical of the paradoxes of matching innovation type to different business situations that we seek to deal with in the next section.

4. MATCHING TYPOLOGY OF INNOVATIONS TO DIFFERENT BUSINESS SITUATIONS

Utilisation of appropriate product, process and strategy innovation strategies aid a firm's effective response to the diagnosed business situations. Yet, it has often emerged that matching product, process or strategy innovations to suitable exogenous or endogenous situations is a paradox of most of the contemporary businesses. To address that, we examined how a combination of relevant product, process or strategy innovation strategies can be tailored to the emerging exogenous or endogenous business situations to leverage improvement of a firm's overall capabilities to thrive in the midst of all discontinuities.

4.1 Exogenous Business Situations

Exogenous business situations are created by the changes emerging from the external business environment. Such changes often arise from the degree of industry or market saturation, competitors' actions, and significant shifts in customer tastes and preferences. These changes create new industry and market conditions and circumstances that require firms to act using a combination of different strategies if the business is thwarted by the emerging threats or take advantages of the emerging opportunities.

One of such strategies would require firms to invest in activities that leverage a business' innovation capabilities. However, it is not any innovation that matches every situation. To accurately respond to the emerging threats or opportunities, the executives have got to evaluate and identify situations that require either product innovations, process innovations or strategy innovations or a combination of all the strategies. As firms ponder how to match the respective type of innovation to the emerging situation, intense degree of industry rivalry or market saturations would require the executives to consider conceptualizing and applying a combination of product and strategy innovation strategies.

•Degree of Industry or Market Saturation-(Product and Strategy Innovations)

Intense industry rivalries are often characterised by high levels of industry and market saturations and declining opportunities and prospects for growth. That implies conceptualisation and application of innovation strategies that would lead to the modifications of the features and attributes of the existing products may tend to be costly without inducing the desired much business outcomes. At the same time, it also suggests that the use of process innovations to create new

processes or to modify the existing processes to spur cost reductions and efficiency improvement may not be feasible (Hajhashem & Khorasani, 2015).

Instead of therefore focusing on improving the features and attributes of the existing products and processes, it is instead important for the executives to opt for the use of product innovations that lead to the development of new products to tap opportunities in the existing or new markets. This contrasts with the undertaking of the product innovation strategies that would lead to concentrating on costly modifications to enrich the features and quality of the existing products.

As compared to the use of process innovations, the application of strategy innovations would also be suitable. This is attributable to the fact that the application of strategy innovations would influence the extent to which businesses are able to assess the suitable existing strategies that must be modified or new strategies that have to be conceptualised and applied to leverage the performance of a business in the midst of such intense industry rivalries (Hajhashem & Khorasani, 2015).

As the executives ponder on such strategies, some of the strategic options that can be selected may entail harvesting, divesting, cooperation with rivals or mergers and acquisitions of rivals to reshape the prevailing business situations to a firm's advantage. In other words, through new product development and cooperation with rivals or mergers and acquisitions of rivals, businesses can be able to develop initiatives and capabilities that would enable them to reshape the prevailing business situations to their advantages or to exit the industry before the effects of the increasingly intense competition turn to be quite devastating.

However, as contrasted to the situations in intense industry and market competition where process innovations may only tantamount to wastage of resources, in cases of sporadic disruptive competitors' actions; the executives may have to instead consider the coherent application of product, process and strategy innovations (Hull & Covin, 2010).

• Competitors' Actions-(Product, Process & Strategy Innovations)

Sporadic competitors' actions causing new innovations that disrupt the existing industry and market conditions to the rivals' advantages require a multidimensional approach. Unfortunately, in most of the cases, situations of competitors' disruptive innovations have been confronted only by retaliating with innovations of better and superior counter-products (Hull & Covin, 2010).

Without undertaking the accompanying process innovations to modify the existing processes or to create new processes, it has often not been quite easier for such new innovations to diffuse the disruptive effects of competitors' superior new innovations. Process innovations edify efficiency improvement,

cost minimisation and quality improvement to spur improvement of enormous values that the business is able to offer its customers.

It is these superior customer values that if combined with superior innovations would catalyse effective market performance of such new innovations to diffuse the devastating effects of the competitors' disruptive innovations. This implies as the executives strive to counter the devastating effects of competitors' disruptive new innovations, they will also have to adopt a product innovation strategy (Chesbrough, 2010).

Such product innovation strategies will have to focus on the application of counter-proactive product innovations to develop superior multifunctional and featured new products to counter the proliferation of an array of equally superior products. As such new innovations diffuse into the market, consistent R&D to modify and enrich points-of-difference in its features and quality is also certainly a prerequisite. Although this would instigate continuity of such new products, the application of relevant accompanying process innovation strategies is also often a prerequisite.

To improve the quality of customer services and the overall value offerings, process innovation must be directed towards research and introduction of new structures and units to ease pressure on the existing processes. Such new process innovations may be undertaken in conjunction with new technologies to automate key processes to create heterogeneous cost and efficiency advantages that spur customer satisfaction, attraction and retention.

Such process improvement would certainly create advantages that spur improvement of a firm's competitiveness (Chesbrough, 2010). However, it is still often critical that when superior innovations are introduced in the midst of intense industry conditions that relevant review of the existing strategies are undertaken in conjunction with the conceptualisation and application of new strategies.

In this instance, strategy innovations that would leverage the performance of new innovations in the midst of enormous proliferation of new innovations would necessitate modification of the existing marketing and promotion strategies to support the application of new market techniques such as the use of experiential and online marketing. Considering the disruptive effects of competitors' actions, change in marketing strategies may have to be accompanied by the change of corporate strategies to support gaming entailing cooperation with rivals or strategic alliances to aid vertical backward and forward integration.

It may also require mergers and acquisitions of rivals to reconstruct the existing industry and market conditions in a way that disadvantages rivals. In contrast to the response to competitors' actions

causing disruptive innovations that may require use of a combination of product, process and strategy innovations, in circumstances of significant shift in customer tastes and preferences, process innovations may not be required as compared to product and strategy innovations that may tend to be critical prerequisites.

• **Significant Shifts in Customer Tastes and Preferences (Product Innovations & Strategy Innovations)**

Unless the analysis by the executives reveal that shifts in customer tastes and preference are induced by customer dissatisfactions with poor quality of the accompanying processes, it is often not advisable to look into how process innovations can be undertaken to reverse such shifts in customer tastes and preferences. Instead, in most of the cases, shifts in customer tastes and preferences may arise from the competitors' introduction of new rivals offering values that perfectly match the changes in customer tastes (Habtay, 2012). This implies product innovations may have to be prioritized to assess the extent to which it would enhance the modifications of the core function and augmented aspects of the product such as its features, design, usage, disposal and quality.

As contrasted to the costly innovations of wholly new products, it is such product modifications that would certainly revitalise and optimise the existing brands until it is clear the product has fallen into irreversible state of obsolence. However, it is still of essence that the accompanying proactive new product developments are undertaken to avoid discontinuities in case shifts in customer tastes and preference turn perpetually irreversible (Habtay, 2012).

As new brands or the modified versions of the existing brands are introduced in the market to cause reversal in the shifts in customer tastes and preferences, relevant accompanying strategy innovations may require modification of the existing marketing strategies to facilitate promotion and branding of the modified product as offering new functions and values significantly different from the functions and values offered by the previous brand. Such strategies may be undertaken in conjunction with new marketing messages repositioning the modified brand in new market segments.

In other words, it is quite evident that the emerging varying industry and market conditions may not be addressed using only product innovations, but also through the accompanying relevant process and strategy innovations and modifications (Hajhashem & Khorasani, 2015). Such approach is not only required in cases of different emerging industry and market conditions, but also in the cases of different endogenous business situations and circumstances that a business faces.

4.2 Endogenous Business Situations

In most of the cases, changes in the exogenous business situations impact the endogenous business situations to influence the extent to which the endogenous business situations can be modified to create capabilities that leverage a firm's potential to match the unfolding exogenous business situations.

However, whether or not the endogenous business situations are impacted by the changes in the exogenous business situations, businesses often have unique business credos, goals and objectives that influence a combination of the innovative strategies that they are able to conceptualise and apply (Golovko & Valentini, 2011). These unique business credos, goals and objectives are often reflected in the quests of whether it is growth, costs' minimisation, differentiation or a combination of all these quests that the business aspires to achieve.

Whether the business aspires to achieve all these quests or just one of them, the types of innovations to apply would differ with each quest. Unfortunately, the major failures of most innovations as well as the inability of most of the businesses to achieve all their aspirations are often reflected in the tendencies of most of the businesses to adopt product innovations in all situations. Even though product innovation is central in the all the strategic endeavours of a firm's aspirations to achieve what it aspire to achieve, we demonstrate in this discussion that it is often not only product innovations that matter (Artz et al. 2010).

• **Quests for Growth-(Product, Process & Strategy Innovations)**

If it's the quests for growth that has instigated the need for innovation to bolster a firm's growth potential and capabilities, then, it is not only product innovations that matter. Instead, the executives may have to devise a coherent strategy of conceptualizing and applying a combination of relevant product, process and strategy innovation strategies. In terms of product innovation, a firm's growth potential would significantly be leveraged by new product development and modifications that enrich the features and attributes of the existing products.

New product development would also enrich the existing product portfolios (Isogawa, Kohei & Hiroshi, 2012). It may also spur attraction of new customer segments and improved capabilities of the firm to tape opportunities in new markets. It is the enrichment of the existing portfolios that widens the sources of revenues to spur profitability increment and enrichment of shareholders' values. Increase in product portfolios induce economies of scale and improved brand image that bolster a firm's overall competitiveness to spur growth of sales, revenue and market share.

Even though enrichment of the features of the

existing products to attract the existing or new customer segments may also instigate increment of sales, revenue, market share and growth, it is often still of essence that relevant cost and efficiency driven process innovations are undertaken to create cost and efficiency advantages that leverage quality of customer services and the overall value offerings to catalyse a firm's overall competitiveness (Hashi & Nebojsa, 2013).

As all these advantages catalyse growth, further growth momentum of a business is often still spurred by strategy modifications and development of new suitable strategies. Such a view is accentuated in the fact that modification of marketing strategies may tend to support innovation and application of aggressive marketing and promotional strategies. Successful marketing and promotional strategies instigate increment in the rate of customer attraction to in turn cause increment in sales, revenues and market share.

Even if it is at that angle that marketing and promotion may promote growth of a business, quite often greenfield investments and establishment of new branches and distribution centers may also tend to be critical for supporting organic growth. As on the other hand, mergers and acquisitions, strategic alliances and partnerships as well as franchising are often of essence for supporting a firm's inorganic growth quests.

• **Costs' Minimisation Quests-(Process & Strategy Innovations)**

Although innovations instigated by quests for growth may require the application of product, process and strategy innovations, in business situations instigated by quests for cost minimisation, it is often only process and strategy innovations that matter. Process innovation may require the use of technologically-driven process innovations and modifications as well as automation of all critical business processes to reduce costs and wastes (Lisboa, Skarmeas & Lages, 2011).

Subsequently, this may impact on the extent to which cost minimisation is able to significantly influence resource optimisation. As on the other hand, strategy innovation may require the application of cost-driven sourcing, production and marketing strategies as well a suitably cost-effective strategies for managing the quality of customer services. In contrast to quests for cost minimisation that require the application of a combination of process and strategy innovation strategies, quests for differentiation may instead require the use of a combination of product and process innovation strategies.

• **Differentiation Quests-(Product & Process Innovations)**

In quests for differentiation, product innovations are often directed at creating enormous points-of-difference in the features, design, usage, disposal and quality of the existing and new products. Quite often, these are accompanied by efficiency-driven process

innovations to create modes of operation and customer values that significantly set apart the business from its rivals.

5. CONCLUSION

Innovation is a pillar for sustainability of the contemporary businesses. Innovations enhance modifications of the existing product features and attributes to leverage the revitalization of the market performance of poorly performing brands. This enables businesses prevent most of their products from falling into irreversible state of obsolescence. Increasing spate of products falling into state of obsolescence erodes a firm's portfolio of businesses, sources of revenues and brand image to affect its overall growth potential. This undermines a firm's future sustainability.

As a firm suffers a dented brand image resulting from the inability to reverse shifts in customer tastes and preferences, customers' believability in the capabilities of the business to successfully initiate and launch future innovations also tend to be affected. It is the emergence of these dynamics and complexities in the linkage between brand revitalisation, a firm's innovation capabilities and customer confidence that subsequently affects a business' future successes and sustainability.

Yet, as innovation modifies and integrates new features and attributes to revitalise the appeal of the existing poorly performing products, the other leveraging effects of innovations are often latent in the creation of new products. Successes in the development of an array of new products also instigate enrichment of the existing portfolio of products. Quite often, enriched product portfolios tend to enlarge sources of revenues and profitability to subsequently spur overall enrichment of shareholders' values.

In other words, innovation is certainly pivotal in all the strategies conceptualised and applied to leverage sustainability in the increasingly precarious unpredictable business world. Even if it so, innovations by some of the businesses have still often not resulted into the achievement of the desired business outcomes. Most innovations often fail due to the misconception of what innovation actually entails.

Quite often, innovation is largely associated only with product innovation. Yet, innovation is not only dynamic, but also multidimensional. It is a multidimensional concept that does not only entail product innovations, but also innovation and modification of complementary processes and strategies. Even if product innovations are not being undertaken, a particular business situation may however require review and innovation of relevant new processes or modifications of the existing processes to aid turning around the overall performance of a process-constrained business.

If it is not process innovation being undertaken, other business situations may require strategy innovations or modifications to spur the overall market performance and survival in the midst of intense proliferations of competitors' disruptive innovations. However, it has often emerged that if it is not linking product innovation strategies to process or strategy innovation strategies which is an hurdle, paradoxes may still arise from the need to match product, process and strategy innovation strategies to different situations.

Understanding the link between the three types of innovations enhances the minimisation of wastes and costs. Mismatch between the adopted innovation strategies and the prevailing exogenous or endogenous business situation can significantly affect the extent to which the executives are able to effectively deal with such business situations or circumstances. Whereas in situations of intense industry rivalries or market saturation, the application of a combination of product and strategy innovation strategies would be suitable, in cases of competitors' actions causing enormous proliferation of disruptive innovations, the use of a combination of product, process and strategy innovations would certainly enable a business recreate the existing industry conditions and circumstances to its advantages.

That contrasts with the circumstances where a business is experiencing significant shifts in customer tastes and preferences. In such situations, the use of product and strategy innovation strategies would integrate new value offerings in the existing products to reverse the shifts in customer tastes and preferences. If it is not the emergence of different industry circumstances dictating the application of a combination of matching innovation strategies, then, business circumstances caused by quests for growth, cost minimisation and differentiation may do so. In quests for growth, the use of a combination of product, process and strategy innovation strategies would be a prerequisite as contrasted with cases of quests for costs' minimisation where only the use of process and strategy innovations would be required.

It also contrasts with the circumstances caused by quests for differentiation where only product and process innovation strategies would be critical for aiding a firm achieve its business credo. In other words, these findings imply that for innovation to influence improvement of a firm's superior market performance, it is critical to conduct relevant analysis and identify the emerging business situations. Such analysis would aid discerning how a combination of product, process and strategy innovation strategies can be used to respond to the diagnosed business situations and minimise a firm's exposure and vulnerabilities to the emerging volatilities and discontinuities in the external business environment.

Acknowledgement:

Thanks to The Business School, Edinburgh Napier University-Scotland for availing resources and support that rendered this research a success.

Funding

No funding was received to carry out this study.

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