

## RESEARCH ARTICLE

# SYNERGISING CUSTOMER-PRODUCT CENTRIC BUSINESS PARADIGMS TO LEVERAGE SUPERIOR MARKET PERFORMANCE OF THE SMALL AND MEDIUM SIZE MANUFACTURING ENTERPRISES

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**Abstract:** Using confirmatory factor analysis, this research examined the null hypothesis that a process synchronising customer- product centric approaches would certainly leverage the superior market performance of the small and medium size manufacturing enterprises. Findings revealed the integration of customer-centric ideologies in product-centric business approach to enhance innovation of ideas that subsequently match or even exceed customer expectations to turn into successful business concepts. Even though customer-centricity appears to play a central role throughout the process of a product development and marketing, linkage of product-centricity with customer-centric approach was still found to enhance strategic sensing and creative, imaginative and innovative thinking that enable product developers to develop new products or modify the existing products with limited inputs from customer-points-of-view. Although, all these may leverage a manufacturing enterprise's superior market performance, a major paradox was still found to arise from lack of a suitable business model that would aid the manufacturing executives' synergistic applications of customer- product-centric paradigms to achieve the desired business outcomes. Against this backdrop, the study proposed an integrated customer-product centric business model that can be emulated by the contemporary manufacturing executives.

**Keywords:** *Customer-driven business, Product- centric business, Small and medium size manufacturing enterprises, Superior market performance.*

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## INTRODUCTION

Success in the increasingly complex and constantly changing modern business terrains requires a multidimensional approach to doing business (Bendoly, Bharadwaj and Bharadwaj, 2012). An approach in which aggressive campaigns and innovative initiatives continuously undertaken to respond to the unfolding customer needs are accompanied by creative, imaginative and innovative thinking that invent novel solutions to problems hitherto perceived as unsolvable (Cooper and Edgett, 2012; Hellstrom, 2014).

Creative, imaginative and innovative thinking is a critical pedigree of a product-centric business approach (Castellion and Markham, 2012). In a product-centric business approach, what the customer thinks and perceives as the best are not spring

points that instigate innovations, but what the product developers think and perceive as the best solutions.

Creative, imaginative and innovative thinking is a cornerstone for a business' sustainability and continuity in the increasingly discontinuous contemporary modern business environment (Mallick, Ritzman and Sinha, 2013). It leverages a firm's sensing capabilities to emerge with novel solutions to tap new opportunities before competitors are able to do so.

However, as a purely product-centric business approach relies on the product developers' creative, imaginative and innovative thinking to craft products that customers ought to have and not what customers think, risks of misfiring causing

new innovations' market failures are often quite eminent (Castellion and Markham, 2012).

A business approach in which customer-points-of-views are not the pillars of its operation may also inherently be marred by poor quality of customer services and high costs of experimentations. In the increasingly competitive contemporary marketplace in which unique quality of customer services and cost advantages are used as points-of-difference, poor quality of customer services and high operational costs may certainly affect a firm's market competitiveness (Mallick *et. al.*, 2013).

In effect, synergistic utilisation of customer-product centric business paradigms seems critical for not only leveraging the quality of new innovations, but also the accompanying quality of customer services. Synergistic utilisation of customer-product centric approaches may also minimise risks of innovation failures, high costs of trials and re-trials during experimentation.

However, significant reliance on customer-centric business thinking may also constrain innovation on the basis that innovations may only be undertaken if the market does desire. In other words, just like a product centric business approach, customer-centric business approaches are also often marred by their unique inherent paradoxes. This signifies conceptualisation and application of strategies that aid synergistic utilisation of customer-product centric approaches is a pivotal prerequisite for leveraging a manufacturing enterprise's superior market performance.

It is these paradoxes that motivate this research to explore the business model that would leverage synergistic utilisation of customer-product centric approaches to bolster effective market performance of the small and medium size manufacturing enterprises.

## LITERATURE REVIEW

The argument that customer-centric and product-driven business two different lines of thinking causing inherent unique advantages and paradoxes that can be outplayed through synergistic utilisation of customer-product centric approaches is accentuated in most of the theories of product-centric and customer-

centric business approaches (Bendoly *et. al.*, 2012:653; Castellion and Markham, 2012:976).

## Product-Driven Business Model

A product-driven business model creates a business system in which its focus is not the customer, but the development of superior products. Through the development of superior products, the proponents of product-driven businesses argue that it would be easier for a firm to easily attract and retain significant chunk of the market (Homburg, Klarmann and Schmitt, 2010).

In product-driven businesses, marketing surveys and analysis are often not undertaken as preludes to the development of a product. Instead, the product developers that are often more experienced tend to use more of imaginations and creativity to develop products that are anticipated to certainly attract the attention and purchase from the target market segments.

That implies the overall skill fullness of the product development staffs may tend to be a critical determinant for a product driven enterprise's effective performance. Skilful and experienced product developers are most likely to display the necessary imaginations and creativity to develop product designs, features and quality at a cost most of the major industry players are unable to match.

Quite often, some of the executives argue that since profitability and growth are the critical strategic objectives that every business aspires to achieve, it does not matter whether the business is built on the product or customer driven approach. Even if a business is generating the desired levels of profits and growth, it is often still critical to understand whether the business is a product or customer centric enterprise.

The differences between the two business models influence strategic decisions on the operational and marketing strategies that the executives must develop and apply to ensure that the business performance effectively. In a product-driven enterprise, significant investments are committed on the development of better equipped laboratories (Mallick *et. al.*, 2013). This is often undertaken in conjunction with the allocation of sufficient funds for research and

experimentations that are conducted by more autonomous and empowered staffs.

As a product-driven business strengthens its internal production capabilities to ensure that it produces unique and distinctive products with higher potentials of being immediately adopted and used by a wider segments of the market, in customer-driven enterprises that is often not the case. Customer-driven businesses tend to rely on well researched customer views and perceptions. They often strive to ensure that that every design, feature, and quality attributes integrated in the product are derived from well researched customer information.

Customer-driven enterprises therefore tend to invest enormously towards bolstering their marketing efficiencies and capabilities as compared to the product-driven enterprises that prefer strengthening their research and superior production capabilities.

In other words, the identification of whether a business is product-driven or customer-centric is critical for understanding the nature and kind of the business that a firm is in. This enhances the identification of the associated critical coherent strategic decisions that can be undertaken to ensure the business performs more effectively.

The differences between the two business approaches also clarify the vision that the executives must pursue, and the accompanying structures and human resource strategies that can be used. Since product-driven businesses rely on innovations and constant proliferation of superior quality products, it often tends to encourage team and information exchange and sharing between more talented and skillful empowered and autonomous work teams. Several models have emerged on how to development a product-centric business.

West and Wildeman's (2009) "*Parameters for Designing a Product-Centric Operation that Drive Superior Value Creation*" seems to offer better insights on the critical steps that businesses can replicate.

West and Wildeman's (2009) herald the parameters for designing a product-centric operation that drives superior value creation to be associated with people, organisation, processes and management controls.

These four parameters for designing a product-centric operation that drives superior value creation often span across product governance, product management and product delivery to enable a business deliver exceptional superior quality to its customers.

However, most of the authors share similar views that the development of a product centric business is predicted by constructs encompassing people, organisation, process and strategic management control (Castellion and Markham, 2012; Lee, Kozlenkova and Palmatier, 2014; Xueming, Wieseke and Homburg, 2012).

### *People*

Product-centric businesses often rely on its skillful, talented, imaginative and creative staffs to facilitate the development and launch of more disruptive superior innovations. This is attributable to the fact that quite often product-centric businesses are usually industry leaders. As industry leaders, they often tend not to wait for new innovations to emerge, but instead initiate new innovation and product development.

In effect, it is the level of commitment, skillfulness, talents, creativity, thinking and imagination which are critical pedigrees of the requirements that are usually evaluated and considered during the recruitment process.

The acquisition of the right and skillful staffs is accompanied by creating the internal operational systems that offer favourable conditions for them to perform more effectively. This often requires the development of cross-functional teams constituting of staffs deeply knowledgeable about the business in terms of the product and the industry in which it operates.

Since these work teams are often highly empowered and largely autonomous, the management in product-driven businesses also emphasise personal attributes that foster personal accountability of the staffs for better business results, and the individual passion of the team members to initiate and develop a product into a successful business concept.

Even though the staffs that work in such business environments are often self-driven, the management still often adopts a combination of monetary and non-monetary

motivating strategies to instigate the desired level of commitment (Evanschitzky, Groening, Mittal and Wunderlich, 2011). Monetary motivating strategies may require the development and application of gain-sharing or profit sharing schemes or bonuses for exceptionally superior innovations (Xueming *et. al.*, 2012).

Non-monetary motivational strategies may require providing staffs with required equipments, creating environments that foster employee psychological and structural empowerment, and opportunities for personal growth and development. These are often undertaken in conjunction with investment in relevant technologies that facilitate communication, information exchange and sharing between product architects and product managers (Chirumalla, 2013).

This leverages brainstorming, discussions and information exchange and idea generation and sharing which are often the key pre-conditions for effect operation of a product-driven business.

Since product-driven businesses significantly rely on the superiority of their products, critical quality control and management systems are usually put in place to minimise defects and ensure that all the products are defect free prior to market launch. This is attributable to the fact that any quality issues emerging may significantly cost the business sales, revenues and brand reputations and recognitions (Eggert, Thiesbrummel and Deutscher, 2014). In other words, these imply that the extent to which the staffs in a product-driven business are able to perform more effectively depends on the effectiveness of the organisation adopted by the executives.

### **Organisation**

Organisation refers to the management structure and systems reflecting roles and responsibilities of the staffs.

The development of appropriate organisational structures and systems is underpinned by the need to ensure improved level of synergistic relationships between related and support product development units and departments (Bendoly *et. al.*, 2012).

The appropriateness of the adopted organisational structures also leverages the level of activities' synchronisation to spur

smooth information flow and the elimination of silos that often emerge from the tendencies of most researchers and innovators to operate in isolation.

The development of organisational structures and systems that influence achievement of the desired long term strategic mission and goals of a product-driven business often requires the development of a management structure reflecting four sets of management roles and responsibilities (Lee *et. al.*, 2014).

These four sets of management roles and responsibilities include product governance board, product managers and architects, combined new development and maintenance teams, and product release managers. Product governance board is often entrusted with the roles and responsibilities of ensuring that the business' innovations either match or even stay ahead of the unfolding industry trends.

In effect, product governance board tends to be more engaged in constant environmental analysis and scanning as well as strategic analysis and sensing to ensure that the enterprise continually remains relevant and responsive to the emerging industry and market trends. Depending on the prevailing industry and market conditions, product governance board often initiate products just on the mere imaginations and sensing of what the need and perception of a reasonable and objective customer ought to be (Castellion and Markham, 2012).

This is followed by the allocation of the required resources to either motivate a business case for a new product innovation or just the approval of the road map for the review of the existing product. Deriving from the strategic decisions of the executives, product managers and product architects are usually directly involved in the planning and the allocation of the necessary resources for product development.

As product architectures get involved in idea generation, development and testing of the marketability of the product, product managers are often more concerned with the establishment of the conditions that influence effective performance of product architects and all the staffs involved in product innovation and development. Such conditions may require the development and application of systems that facilitate



improved collaboration and resource-sharing across all the cross-functional teams (Cantner, Kristin and Schmidt, 2011).

Combined new development and maintenance teams enhance the smooth management of resource replenishment to ensure that the process of innovation is successfully undertaken to achieve the desired strategic objectives and goals. In contrast, the product release managers are usually more concerned with the initiatives of ensuring that new products are released and delivered into the market without any emerging quality or process deficiencies.

In other words, the effectiveness of the organisational structures and systems put in place also influence process effectiveness as one of the critical parameters for the development of an effective product-driven enterprise.

### ***Processes***

Process is the strategic endeavour of establishing the necessary requirements and systems to enhance the production and delivering of products according to their specifications and designs (Jennings and Drake, 2013). It deals with three chronological processes encompassing sourcing, in-house management of the production processes, and distributions of the products to the final customers.

Sourcing entails the analysis and decisions that enhance the acquisition of products from the most reliable and cost effective suppliers. Reliability is judged by the suppliers' consistent commitment to quality excellence and on time delivery. This improves the extent to which production and deliveries are able to be accomplished as scheduled (Cooper and Edgett, 2012; Hellstrom, 2014).

As the in-house production system examines the extent to which necessary technologies and systems are put in place to ensure that products of the right specifications and designs are produced within the stipulated schedules.

Quite often, this is the most important aspect of the process of a product development because it is at that point that the product developers in a product-driven enterprise replicate and translate their thoughts and imaginations into tangible products.

The achievement of such strategic objectives may require investment in the appropriate research and development laboratories as well as reliable and dependable technologies and human resources (Jennings and Drake, 2013).

This must also be accompanied by the development and application of the appropriate quality management systems. Quality controls are often not only exercised at the source, but also during the manufacturing processes through testing and retesting of the product's performance to assess whether it not only meets the design specifications, but also that if introduced into the market, it would invoke immediate customer purchase emotions.

However, as systems are put in place to facilitate the production of the existing products, it must also be accompanied by the development of more flexible and agile manufacturing processes. This is attributable the fact that considering the constantly changing trends in the external business environment, investment in more flexible technologies, structures, resources and operational strategies would leverage the agility of an enterprise to immediately change and adapt to the emerging market and industry trends (Bharadwaj, Kapil and Andre, 2011; Goyal and Netessine, 201).

Nevertheless, as the manufacturing process ensures that the product is manufactured in the way that perfectly matches its prototypes, and design and quality specifications, distribution processes evaluate the cost-effectiveness and efficacy of the adopted processes.

This enhances necessary interventions to ensure that the costs incurred in the entire processes of manufacturing and delivering of the product to the final customers do not affect the price competitiveness of the product when subsequently introduced into the market. This implies the effectiveness of management controls is one of the inherent requirements for product development in a product-driven business system.

### ***Management Control***

Management control is a strategic process of evaluating and improving the process for the accomplishment of the required activities (Nnamani, 2013).

It often commences prior, during and after the actual process of a product development. It ensures that inputs of the right quality are used in the production of the required product. Since a product-driven enterprise relies significantly on the product developers' creativity, imaginations and sense to innovate products which are in

most of the cases new innovations, the effectiveness of strategic management control influences the extent to which products are able to accurately reflect such imaginations. Some of the management control methodologies that are used in such processes often include quality management and cost-effectiveness and process efficiency improvement methodologies such as statistical process control, histogram, Pareto Charts, cause-and-effects' analysis, scatter plots, defect concentration diagrams and control charts (Nnamani, 2013).

Statistical control often develops a model from which a control limit is extracted to determine the acceptable and the unacceptable output. Whilst using these control units, relevant analysis is undertaken to assess and identify the output falling within the acceptable limit and those falling outside the control limit that must be investigated or even discarded. As on the other hand, a histogram is often used to summarise the distribution of a univariate data set which may reflect a normal distribution or skewness of the data (Jennings and Drake, 2013).

Whereas a normal distribution would imply minimal defects as most of the data are located around the mean, right or left skewness of data are often treated as not reflecting good fitness. Right or left skewness implies most of the data are far from the mean to suggest as well that most of the products do not meet the defined quality specifications or standards (Jennings and Drake, 2013). Whereas histogram facilitates the statistical analysis of the extent to which most of the outputs meet the prescribed standard specifications, control charts explores the relationships between two variables.

In this instance, using the available statistical concept, control charts can be used to explore whether process failures are linked to poor maintenance, poor investment in machine replenishments, poor management

control, poor employee commitment or a combination of all such factors (Scott, Shafer and Moeller, 2012).

At the same time, using relevant available data, statistical control charts are also often used to assess whether increases in defective products are linked to poor integration of quality management during sourcing, poor storage facilities or defective machineries.

The use of control charts are often aided by the application of cause-and-effect analysis methodologies such as fishbone analysis to assess whether the identified quality challenges are linked to multiple problems arising from the operational methods, machines, manpower and materials and measurement systems used or the environment within which the production processes take place.

As the application of cause-and-effect methodologies enhance analysis of the multiple causes of a problem, the use of Pareto charts edify assessment and tackling of such problems according their relative magnitudes (Scott *et. al.*, 2012). This implies problems identified to cause significant negative effects on the product-driven enterprise may have to be tackled first as contrasted to the less significant ones. In such analysis, the areas of major quality or process challenges that cannot easily be identified using Pareto charts can be evaluated and isolated using a defect concentration diagram (Nnamani, 2013).

To identify the area of concentrated problems, defect concentration analysis is often undertaken according to four main steps encompassing defining the fault, mapping, marking on the map each time that the problem occurs to identify where it occurs, and undertaking relevant analysis after a certain period of time to identify the area in which the problem commonly occurs. In other words, the application of these quality control techniques influences the extent to which product-driven businesses that usually rely on superior value offerings as a way of enticing customer satisfaction are able to do so.

However, even if the application of such quality control methodologies is able to influence improvement of value offerings, it is also important that process control and improvement methodologies such as sigma

analysis, business process re-engineering, benchmarking and management-by-objectives also often induce the required level of process efficiency and cost-effectiveness (Nnamani, 2013). Nevertheless, some of the authors argue that as businesses develop products and focus on searching the market for the product, it is critical that the products are significantly unique to facilitate the positioning of the business as offering products with unique values that cannot easily be matched by competitors.

### Customer-Driven Business Model

Customer-driven businesses are developed as a result of the stronger needs to respond to the emerging needs and demands of the customers. It is the fundamental logic in customer-driven business models that the success and progress of a business depends on the extent to which it is able to delight customers by perfectly meeting or exceeding their needs and expectations (Lalit, 2016). In effect, value offerings as well as the structures and processes through which such values are delivered are often modelled in the way that facilitates effective meeting of the needs of the customers.

Although some of the contemporary product centric businesses have been successful just as customer-centric businesses, quite often most theories such as the Kotlerian marketing theories have strongly emphasised the essence for the development of more customer-centric businesses.

This is attributable to the fact that in today's value driven business environment, the establishment of effective customer centric enterprise is a prerequisite for effective performance of the modern enterprises (Sparrow and Hird, 2010).

Customer centricity enables enterprises analyse and track changes in customers' needs to determine how their structures, strategies and employees' behaviours can be reviewed and realigned to meet such needs more effectively (Lee, Shridhar, Conor and Palmatier, 2014).

When accompanied by the desired level of management commitment and creativity at all levels of the enterprise; the enormous positive results of customer centricity are often latent in the improvement of customer satisfaction, retention and loyalty.

Subsequently, these spur improvement of brand equity and the overall improvement of the competitiveness and the financial bottom-line of an enterprise (Lee *et. al.*, 2014; Sparrow and Hird, 2010). However, firms are often unable to gain such business values from their customer-centric business models unless certain critical four cyclical steps are used to streamline a business' customer-centric operation.

### Cyclical Four Steps for the Development of a Customer-Driven Business

It is common across different theories that the development of a more effective customer-driven business would require the application of a cyclical four steps process encompassing: market analysis, product development, business change and modifications, and monitoring and evaluation (Biggemann, Kowalkowski, Maley and Brege, 2013; Lee *et. al.*, 2014; Sparrow and Hird, 2010).

#### Market Analysis

Market analysis aimed at understanding the prevailing customer tastes and preferences is a prerequisite for a customer driven-business to develop products that perfectly respond to the demands and needs of the identified customer segments (Biggemann *et. al.*, 2013). Quite often, such analysis may require segmentation of the market according to gender, economic class, age or the geographical locations to highlight areas of high or less customer concentration.

Whereas the segmentation of the market according to gender, economic class and age influences the selection of the most lucrative segments that must be targeted, segmentation according to areas of high or less customer concentration influence the development of the appropriate structural strategies to improve a firm's overall responsiveness to the demands in the areas of high customer concentrations.

Such structural strategies may require modifications of the distribution networks and commitment of the sales force to improve the quality of customer services in such areas (Biggemann *et. al.*, 2013). Yet, as market analysis is being undertaken, it aids the accurate understanding of the needs and demands of the market.

This influences the development of a product that would perfectly respond to demands and needs of the market. Quite often, such analysis may however, only instigate a reactionary approach to the changes in customer tastes and preferences.

However, the constantly changing trends in the external business environment may render reactionary approach less effective for leveraging a firm's sustainability. Instead, marketing executives must be able to gather and analyse the available data to sense and anticipate the likely change in customer demands and needs.

This aids the development of proactive strategies to develop products that seek to respond not only to the present needs of the customers, but also their future demands and needs. As the analysis is being conducted, most of the enormous business opportunities are often most likely to emerge from the gaps unfilled by the existing industry and market players.

To identify such gaps, the analysis will have to focus on the identification of the factors taken for granted by the most of the industry and market operators that must be eliminated to reduce wastes and costs. Alternatively, the analysis may also identify the over offered values that customers pay less attention that must be reduced just to the required general industry standards, or the less offered values that customers attach significant importance that must be increased above industry standards.

Such analysis may also be accompanied by the evaluation and identification of the values that must be created to respond to the emerging customers' demands, but of which most of the industry players have been unable to do so (Kim and Mauborgne 2015).

Although such analysis would enhance the identification of the gaps that must be filled, the other unfilled gaps would also easily emerge from the analysis of the steps and process that customer undergo during purchase, delivery and use of the product.

This can be accompanied by the evaluation of the extent to which customers use such products with their accompanying supplements, as well as whether they find it easier to maintain and dispose the product after usage. Certainly, these theories imply

that market analysis would aid the extent to which the marketing executives are able to not only identify the prevailing customer needs and demands, but also the gaps unfilled by competitors that can be filled through new product development or modifications of the existing products.

### ***Product Development***

Depending on the nature of the identified changes in customer demands and needs, product development may take two perspectives. It may either involve the modifications of the features and attributes of the existing products or the development of completely new products to respond to the changes that have so far emerged or are predicted to emerge in the near future (Castellion and Markham, 2012).

Since strategic decisions of customer-centric businesses are driven by the identification and response to what customers prefer, the required responses may entail just the modifications of the features and attributes of the existing products. It may also involve the additions of new functions that the product can perform or subtraction of the products overloaded with multiple functions to improve the overall efficiency of its performance.

However, if the unfolding market changes require the introduction of new products, then, the customer-centric business may have to deploy the conventional process of a new product's development. Such processes often entail ideation, concept development and testing, product development and introduction into the market. Ideation is a process of generating an array of different product ideas against which the best ideas are selected for product concepts to be extracted and developed (Sorensen, 2012).

Quite often, idea is accomplished through brainstorming, idea game, morphological analysis, forced relationships, system approaches, varied perspectives, and archival analysis. Brainstorming uses shared problem solving techniques in which expert participants are invited to make submissions on the ideas of the products that they think must be developed. These ideas are criticised and questioned by the other expert participants in the group until the best ideas are selected (Maurer, 2016).



Even if the idea presumably perceived to be the best is selected, such ideas are still often subjected to idea gaming. Idea gaming uses an interlinking information system where the participants are expected to post ideas that they perceive to be the best on how a product must be developed (Salhieh and Mira, 2014).

In certain cases, such ideas are posted even to the general public or the potential consumers for them to criticise or express their views on whether they like or they don't like the product. This influences the analysis of whether if launched; the product would easily attract the desired level of market performance. It also edifies the acquisition of different information from the public as to whether the products that must be dropped completely or how such products must be modified to ensure that they are effectively responsive to the needs and demands of the customers.

However, for most of the customer-driven businesses, the application of brainstorming and idea gaming is often still not enough to aid the identification of the product idea that would thrill and delight customers (Cooper and Edgett, 2012). Instead, such businesses tend to use brainstorming and idea gaming in conjunction with morphological analysis to facilitate the understanding and identification of a combination of the attributes and features that would render the product more attractive.

In this process, analysis is undertaken on the factors such as colour, style, methods, benefits and the potential users so as to explore the extent to which the product would be attractive to the intended users (Hellstrom, 2014). In other words, morphological analysis aids the evaluation of forced relationships between the product ideas and some other ideas to determine how the two ideas can be combined into a single product to leverage the overall total values that the product offers.

Whereas system approach examines the extent to which the product effectively relates to the universe within which the user exists, varied perspectives explore the extent to which the product can be tailored to meet the different unique needs and demands of the customers. Quite often, to improve the overall attractiveness of the product if its developed, most product developers still often apply

archival analysis to evaluate the steps, processes and attributes that were integrated in such products when they were developed.

Certainly, the application of these techniques would influence the identification of the best idea from which product concepts are generated and tested. However, when the product has finally has to be developed, a combination of other techniques are often still used to bolster the extent to which the product is able to perfectly respond to the identified customer needs and demands. Such techniques may involve the application of conjoint analysis and value engineering. Conjoint analysis aids the identification and addition of a combination of product attributes that add values to the identified customer segments (Kuzmanovic, Martic and Gusavac, 2011).

As value engineering enhances the integration of customer and the organisation's views in the process of a product's development. It is the views of the customers that products comprise of a bundle of features and benefits resulting from its usage, as for the firm, a product constitutes of different parts and processes that have to be manufactured at a cost (Kuzmanovic and Obradovic, 2010). To integrate both customer views and a firm's views in the development of a product, the cost of manufacturing and adding a particular variable valued by the customers must be less than the values that the customers attach to that product.

Otherwise, the cost of integrating such values may either destroy the profitability of the product or pricing that affects its competitiveness. Certainly, such a process may lead to the development of a product that must be further tested and launched to the market (Kuzmanovic and Obradovic, 2010). However, as new products are introduced or the existing products are modified to ensure that they are responsive to customer needs and demands, several structural and strategic changes are also often undertaken to improve efficiency and effectiveness of the customer-driven business (Teece, 2010; Thomas and Chandrasekaran, 2013).

### ***Business Transformation***

Improving the effectiveness of a customer-driven enterprise may require the executives

to conceptualise and apply strategies that would change and transform the business from a product-centric approach and thinking to the approach and thinking that support better responsiveness to customer needs (Fang, Palmatier and Grewal, 2011). This is attributable to the fact that in certain cases, some of the businesses are often unable to discern whether their business is customer-centric or product-centric or both.

This creates confusion on the strategies that can be used as well as the direction that the application of such strategies must influence the business to achieve the desired business outcomes.

To eliminate such confusion, conceptualisation and application of strategies that support change and transformation of the business' structures, processes, capabilities and thinking to support customer-centricity is a prerequisite. Structural change and transformation would require the development and application of structural strategies that improve a firm's overall operational efficiency and responsiveness to customer needs and demands (Fang *et. al.*, 2011).

This implies instead of adopting bureaucratic and mechanistic structures, the business must opt for the development of more flat structures. Flatter structures often leverage operational efficiency on the basis that it often harbours few layers to facilitate the effectiveness of decision making (Gebauer and Kowalkowski, 2012).

In flatter structures, the lower level managers and employees are also usually well empowered psychologically and structurally to effectively respond to the needs and demands of the market. This implies that customer-centricity does not only require businesses to respond to customer needs and demands by developing products that meet or exceed their expectations, but also to constantly strive to develop structures and systems that support a firm's effective response to customer demands and needs.

The development of complementary structures and systems must also be accompanied by the development of complementary processes that are well synchronised with the other internal and external business processes (Lee *et. al.*,

2014). This improves the flow of activities along the value chains that may arise from sourcing, manufacturing and distribution to the final customers.

Change and transformation of the business processes and structure may be undertaken in conjunction with change and transformation of the business culture and way of thinking. Change and transformation of the business culture may be effective by developing more flexible policies and policies and rules that instigate improved organisational agility to respond to the emerging needs and demands of the market (Lee *et. al.*, 2014). This implies that training and development can be undertaken to offer the medium through which the expected new cultures can be explained to the managers and the employees.

Such training and development programmes may also encompass training and development programmes on customer excellence, market survey and analysis to improve the extent to which the business is constantly alert and tracking the unfolding market changes. Although the application of these change and transformational strategies would leverage the development of a customer-centric enterprise, it is still of significant importance that constant analysis and evaluation are undertaken to ensure that the business is constantly customer-centric in all its aspects and business approach.

### ***Strategic Control***

Strategic control aids the assessment of the extent to which the customers are satisfied with all the key areas of a business' operation. The commonly analysed key areas encompass customer satisfaction with product quality, features, design, and the operational systems such as deliveries and employees' responsiveness to customer needs and demands. It may also entail the analysis of the extent to which the support technologies adopted by the business is leveraging its effective performance as a customer-centric business.

Some of the methodologies to be used in this analysis may encompass customer survey, interviews and the analysis of sales data to discern whether a co-relationship exists between the levels of satisfactions expressed by customers and increment or decrease in sales.

In this process of monitoring and evaluation, the generated information tends to offer critical data that influence the determining of the improvement measures that can be initiated in the context of the identified challenges. It is through the effective response to the demands and needs of the customers that customer-centric businesses are often able to develop stronger brands that in turn edify improved brand loyalty and returns on shareholders' values.

Unfortunately, some of the authors argue that the quest for sales increment and profitability has often affected investment in relevant facilities and technology that leverage the development of a customer-centric business.

This is attributable to the fact that as the executives focus on seeking to attain the desired sales and profitability targets,

resources that could have been allocated for investment and acquisition of the necessary machineries and technology tend to get either not utilised or diverted towards the financing of activities such as advertising and promotions.

In other words, it is evident that the interplay between the synergistic application of customer-centric and product-driven business paradigms enables the extent to which the weaknesses of customer-centric business approach is able to be outplayed by the strengths of the product centric business approach and vice-versa. This creates enormous business values such as improved new innovations' market success and minimisation of the cost of innovations and improved quality of customer services to leverage the overall superior market performance of the small and medium size manufacturing enterprises.

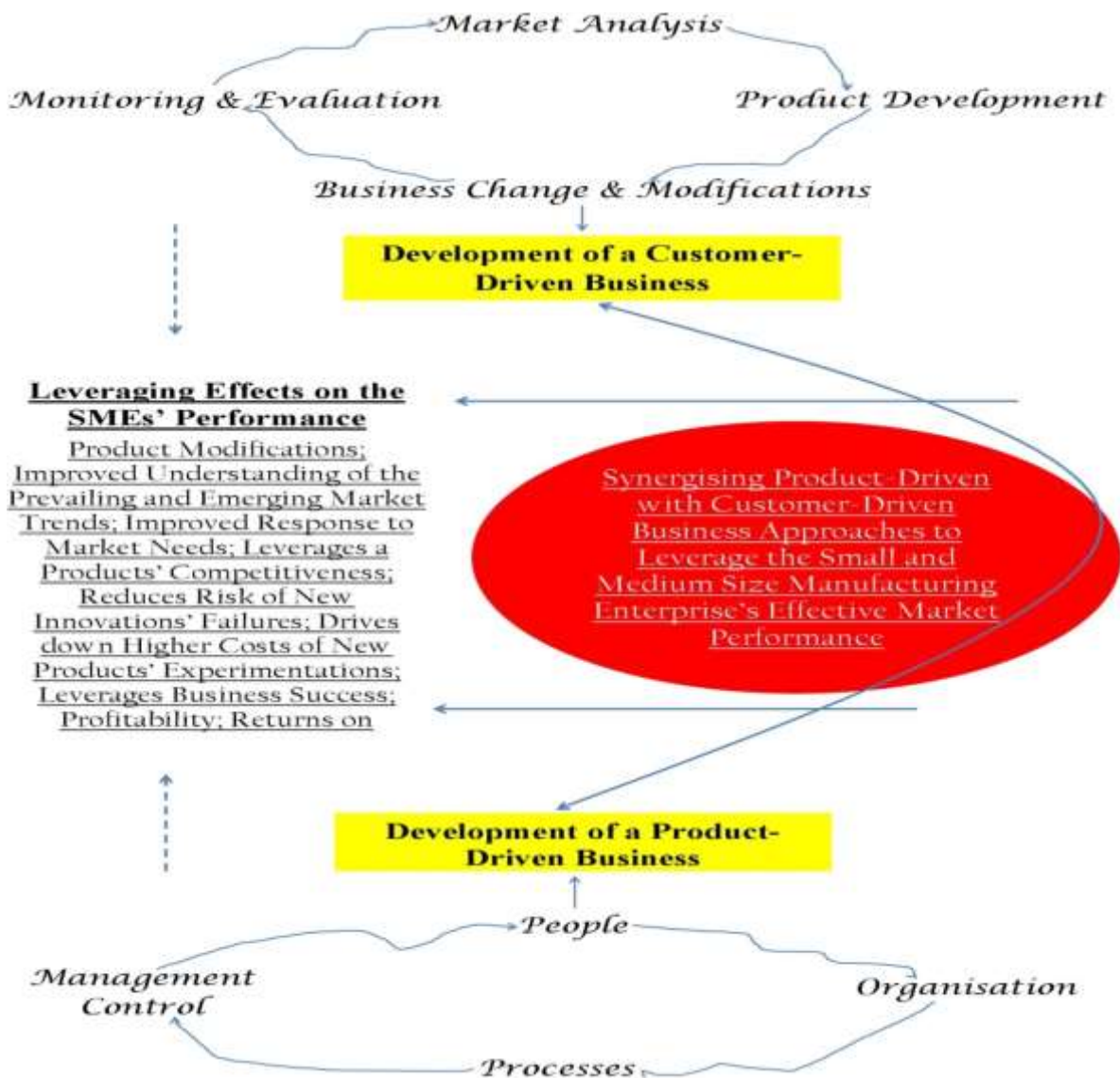


Figure 1: Null hypothesis-Integrated Customer-Product Centric Business Model for Effective Performance of the Small and Medium Size Manufacturing Enterprises

To develop an integrated customer-product centric business model that would spur effective performance of the small and medium size manufacturing enterprises, it is argued in the null hypothesis in Figure 1 that the synergistic application of the techniques in customer-centric and product-centric business paradigms would significantly leverage the improvement of the performance of the small and medium size manufacturers.

To accomplish this, it is argued that the manufacturing executives will have to link the critical techniques for managing a customer-centric business that include market analysis, product development, business change and modifications, and monitoring and evaluation to the essential strategies for managing a product-centric enterprise that encompass development employees of the necessary skills, organisation, processes and frequent strategic management control to enhance achievement of the desired outcomes.

It is argued in the null hypothesis in Figure 1 that the interplay between these techniques for customer-product centric business paradigms spurs improved product modifications and improved understanding of the prevailing and emerging market trends. This enhances effective response to market needs, a product's competitiveness, and reduces risk of new innovations' failures. It also drives down higher costs of new products' experimentations to subsequently leverage business success, profitability and returns on shareholders' value.

## METHODOLOGY

To test the null hypothesis in the model in Figure 1, the study applies a positivist research paradigm and quantitative research method that mainly entailed confirmatory factor analysis (Kline, 2011).

The rationale for the application of confirmatory factor analysis to test the model in Figure 1 is accentuated in the fact that although enormous studies have been conducted on customer and product centricity, the extent to which the integration of the techniques in the two paradigms would spur improvement of a business' performance has not been widely explored by most of the contemporary studies.

In such studies, the Kotlerian marketing comes closer to evaluating such a linkage, but instead over-emphasises the importance of customer centricity. Yet, in the context of the changing modern business environment, it has emerged that relying significantly only on customer-centricity constrains innovation on the basis that unless the market demands, innovations that introduce new products or modify the features of the existing products may not be undertaken.

This limits strategic sensing and proactive innovations to develop new products that instead disrupt the existing industry structures to create conditions that cause a business to lead industry innovations.

Strategic sensing and proactive innovations not instigated by what the customer thinks is a critical phenomenon in product-centric business paradigms. However, failure to create a linkage between customer-product-centric paradigms limits the extent to which businesses are able to gain from the enormous business advantages often associated with each paradigm to minimise the weaknesses of the other and vice-versa.

It is such a gap that motivates this research to use confirmatory factor analysis to test the integrated customer-product centric business model that would leverage improvement of the market performance of the contemporary small and medium size manufacturing enterprises.

To accomplish this, the study draws 100 sample respondents comprising of senior and middle managers working for the small and medium size manufacturing enterprises in three major cities in Barbados that include Speights town, Carrington and Bridgetown.

The decision that the sample population of 100 respondents is adequate for confirmatory factor analysis was based on the statistical criterion that confirmatory factor analysis cannot be undertaken unless  $n > 50$  (Kim, Boncho, Kim, Park and Park, 2016). Primary statistical data from these 100 sample population was collected using a survey questionnaire design according to the three sections aligned to the three constructs in the null hypothesis in Figure 1. The first section examined the techniques for the development of a customer-centric



business that included market analysis (MA), product development (PD), modification of the internal capabilities (MI), business change and modifications (BCM), and monitoring and evaluation (ME). The second section evaluated the techniques for the development of a product-centric business that encompassed people (P), organisation (O), innovation (I), processes (Pr) and management control (MC).

The third section analysed how a synergy between customer-centric and product-centric businesses would leverage product modifications, improved understanding of the prevailing and emerging market trends, improved response to market needs, a product's competitiveness, and reduction of the risks of new innovations' market failures. It also examined how such a nexus would drive down higher costs of new products' experimentations, business success, profitability and returns on shareholders' value.

The obtained statistical data was analysed using Amos to assess whether the specified sample covariance matrix in Figure 1 matches SEM estimated covariance matrix (Byrne, 2010:19). To examine this and reach relevant logical conclusions, we analysed the results of chi-squared analysis, chi-squared/degree of freedom, root mean square error of approximation, comparative fit index, Tucker Lewis Fit Index and normed fit index (Hair, Black, Babin and Anderson, 2010:223).

This analysis was accompanied by the evaluation of the results of standardised regression weights and squared multiple correlation coefficients. The details of the findings are as presented and discussed in the next section.

## RESULTS

The results of confirmatory factor analysis are presented and discussed in this section according to the two subsections that include;

- *beta and  $r^2$*
- $\chi^2$  and Modification Indices

The details are as follows.

### Results: *beta and $r^2$*

Theories imply a business may be customer-centric or product-driven. Customer-centric businesses are often driven by the stronger

quests to understand and respond to customer needs. In contrast, product-driven businesses often construe that research and innovation of better quality products would certainly leverage its superior market performance even without prior intense analysis and understanding of the prevailing market and industry trends. Quite often, there are businesses that also pursue such parallel business ideologies.

However, the analysis of the results of confirmatory factor analysis indicated that a process that synchronises customer- product centric approaches would certainly leverage the superior market performance of the SMEs that strive to do so.

This is illustrated in the results of standardised regression weights that imply that the interaction between customer-driven business models and product-centric business approach would spur superior market performance of the SMEs. Such a view is accentuated in the fact that Figure 2 indicates the co-relationship between customer- driven business approaches (DCDB)and product-driven business approach (DPDB) is significant at .83.

This suggests that as businesses strive to develop new products in a customer-driven approach, it is also critical to pay critical attention to the factors and features that would enable the product respond to customer expectations and demand.

This implies that even if some of the proponents of product-driven business approaches argue that product-driven business approaches are often undertaken without the evaluation of the prevailing customer needs and expectations and how such needs and expectations can be met, in most of the cases, product-driven business approaches are motivated by the need to respond to the unfilled gaps in the market.

In such instances, the initial development of the product springs from the need to respond to the unfilled gap in the market and in the later stages, changes in the market still play significant roles in the modifications of the product to ensure that it does not fall into obsolence and remains relevant to the prevailing market needs. This is reflected in the fact that it is illustrated in Figure 1 that as much as the needs of the customers

influences the process of a product development, attractive product features and design may also attract customer needs.

In other words, these interactive relationships subsequently spurs improvement of the synergistic application of product-driven and customer-driven business approaches to leverage the small and medium size manufacturing enterprise's effective market performance. However, in the development of a customer-centric business system, the results of confirmatory factor analysis confirmed the arguments in most theories that the process is predicted by market analysis (MA), product development (PD), modification of the internal capabilities (MI), business change and modifications (BCM), and monitoring and evaluation (ME).

Such a view is substantiated in the fact that market analysis (MA) loaded at .53 on to the process of developing a customer-centric business as a common construct.

As on the other hand, product development (PD) loaded at .62, modification of the internal capabilities (MI) scored .78, business change and modifications (BCM) loaded at .54, and monitoring and evaluation (ME)

scored .67. Just as  $\beta > .50$  would signify factor loadings are significantly associated with their common constructs,  $r^2 > 30\%$  also imply that most of the indicators were also significantly explained by the variance in the common factor (Hair *et al.*, 2010). Using these statistical criteria, it is quite evident that the illustrations in Figure 1 suggest that all the indicators measuring the process for the development of a customer-centric business are significantly associated with their common constructs. This view is also echoed in the results of standardised regression weights that indicated all variables to have met the criteria of  $r^2 > 30\%$ .

In the analysis of the results of squared multiple co-relation coefficients in Figure 1, it is evident that whereas market analysis

(MA) was explained by 28% of the variance in the common factor, product development (PD) scored 38%, and modification of the internal capabilities (MI) scored 61%. Subsequently, Figure 2 indicates that business change and modifications (BCM) and monitoring and evaluation (ME) were respectively explained by 29 % and 45 % of the variance in the common factor.

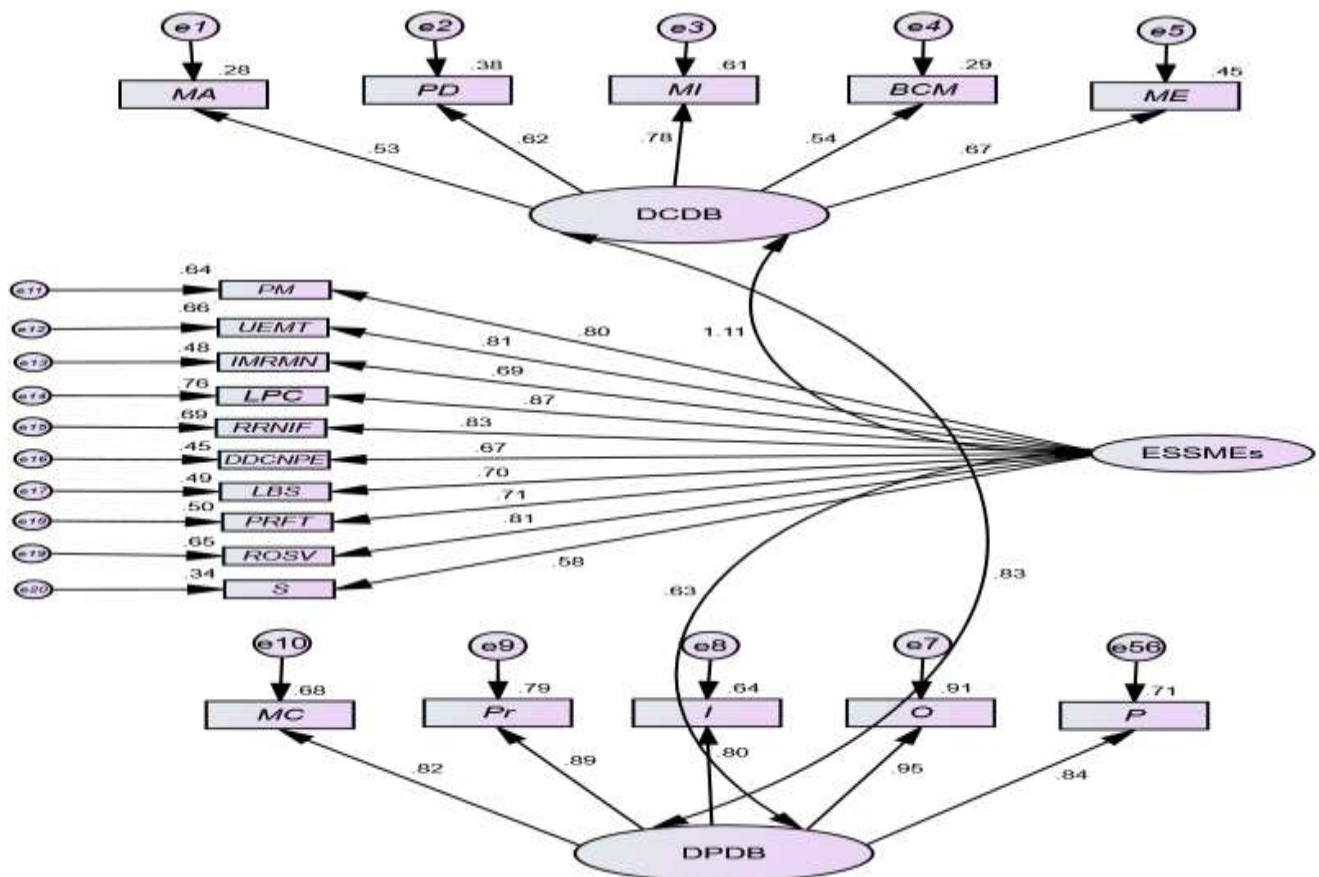


Figure 2: Results: beta and  $r^2$

In other words, findings suggest that the process for the development of a customer-centric business is only predicted by market analysis, product development, modification of the internal capabilities, business change and modifications, and monitoring and evaluation.

However, the significance of these findings is not whether or not these indicators predict the effectiveness of the process for the development of a customer-centric business. Instead, the emphasis is on how such findings demonstrate the process for the development of a vibrant business commences with market analysis, product development, modification of the internal capabilities, business change and modifications, and monitoring and evaluation.

This implies that even for the businesses that pride themselves as product-centric, the overall process of attaining superior market performance often still commences with market analysis. Market analysis improves the executives' understanding of the prevailing market trends and the identification of the gaps that must be filled either through the development of new products or modifications of the existing products. As demonstrated in Figure 2 that the co-relationship between customer-centric and product-driven business approaches is significant at .83, it seems it is this process that flows to influence the effectiveness of product development.

It suggests the integration of customer-centric thinking in the development of a product-centric business model enhances the acquisition of relevant market knowledge. Following the acquisition of sufficient market knowledge, the process of the development of a product-centric approach is just an organisational process of putting in place the necessary systems and processes to develop ideas drawn from the gaps in the market into the final product.

This is illustrated in the fact that the process for the development of a product-centric business tends to be predicted by a combination of resources and organisational factors encompassing people, organisation, innovation, processes and management control. This is reflected in the fact that it is illustrated in Figure 2 that whereas people (P) loaded at .82 and organisation (O) scored

.89, innovation (I) and processes (Pr) loaded respectively at .80 and .95, as management control (MC) scored .84.

However, of all these indicators, process, organisation and management control that scored 91%, 79% and 71% respectively were identified in the results of squared multiple co-relation coefficients as more important in the process of the development of a product-centric business.

This contrasts with people and innovation that were respectively only explained by 68% and 64% of the variance in the common factor. This implies that the roles of people in terms of the skills and creativity required to leverage new innovations may only be critical in the initial stage of market analysis and interpretation.

In this process of market analysis, the people aspect of the process for the development of a product-centric business may tend to be critical for creative analysis and identification of new gaps that can be creatively filled through new innovations. This implies that the argument that there are businesses that are product-centric, as others are customer-centric is just a fallacy.

Instead, findings suggest that the interplay between the techniques and processes in customer-centric and product-centric businesses would leverage the development of better products that in turn spur a firm's superior market performance. This is reflected in the fact that it is illustrated in Figure 2 that the co-relationship between a product-centric business approach and a firm's superior market performance is significant at .63.

As on the other hand, the co-relationship between a customer-centric business approach and a firm's superior market performance is significant at 1 (Alarcon & Sanchez, 2015:19). All these suggest that improved synergy between a customer-centric and a product-centric approach would significantly leverage product modifications to improve a business' responsiveness to the prevailing and emerging market trends.

It would also bolster improved responsiveness of a product to market needs and its improved competitiveness that would in turn minimise risks of new innovation's market failures.

As the integration of customer-centric business approaches improves the understanding of market dynamics, it also tends to reduce the costs of experimentations that often tend to be higher in product-centric businesses. Such higher experimentation costs often arise from several undertaken trials and errors before the final acceptable version of the product is developed. This interplay between the enormous business values of customer-centric and product-centric businesses tends to subsequently leverage a business' success, profitability and enormous returns on shareholders' values.

Such a view is accentuated in the fact that in the illustration in Figure 2, the leveraging effects of the synergistic application of customer-centric and product-centric business approaches on SMEs' superior market performance are often derived from improved product modifications (PM) that loaded at .80. It also drives improved understanding of the prevailing and emerging market trends and response to market needs that respectively scored .80 and .69.

Besides its leveraging effects on a products' competitiveness that loaded at .87, and reduction of the risk of new innovations' failures that loaded at .83, the other values of the synergic application of customer-centric and product-centric business approaches were found to drive down higher costs of new products' experimentations that scored .67.

As the other business values often leverage business success, profitability, returns on shareholders' value and sustainability that respectively loaded at .70, .71, .81 and .58. In other words, the argument that the synergistic application of customer-centric and product-centric business approaches leverage SMEs' superior market performance is not only confirmed in the results of standardised regression weights and squared multiple correlation coefficients in Figure 1, but also in the results of modification indices.

### Comparative Fit Index

$$Cfi = \frac{d_{null}=[x_{null}^2(188.877)-df_{null}(27)]-d_{model}=[x_{model}^2(39.811)-df_{model}(24)]}{d_{null}=[x_{null}^2(188.877)-df_{null}(27)]}$$

$$\text{Comparative Fit Index} = \frac{(161.877)-(15.811)=146.066}{161.877} = 0.90233$$

### Results: $x^2$ and Modification Indices

It is evident that  $x^2 = 39.811; df = 24; p - value = .000 < .05$  does not suggest the synergistic application of customer-centric and product-centric business approaches would leverage SMEs' superior market performance.

However,  $x^2 = 39.811/df = 24 = 1.6$  certainly fall within the acceptable limit of  $x^2/df < 3$  to imply that the interplay between the application of customer-centric and product-centric business approaches influence the development of better value offerings that subsequently spawn improvement of a manufacturing SME's effective market performance.

Such a finding is also supported in the results of root mean square error of approximation. Root mean square error of approximation  $< .08$  implies the observed sample covariance matrix matches SEM estimated covariance matrix (Henseler *et. al.*, 2015).

### Root Mean Square Error of Approximation

$$\sqrt{[(x^2 = 39.811) - (df = 24) = 15.811] / \sqrt{[(df = 24)(n = 100 - 1) = 2376]}}$$

$$\sqrt{15.811/\sqrt{2376}} = 3.9763/48.74423 = 0.08157$$

Using such statistical reasoning, it can be interpreted that root mean square error of approximation  $= 0.08157 < .08$  perfectly indicate good model fitness, though values closer to zero would have signified better model fitness.

Nonetheless, it is not only such a finding that suggests the specified sample covariance matrix in Figure 1 matches SEM estimated covariance matrix, but also the results of comparative fit index that compared the proposed model in Figure 1 with the baseline or null SEM estimated model (Byrne, 2010).



**Table 1: Results:  $\chi^2$  and modification indices**

$\chi^2$ & Modification Indices		
Category of Indices	Value	Interpretation
<b>Chi-Squared (<math>\chi^2</math>)</b>		
$\chi^2$ (Sig.; p-value > 0.05); $\chi^2/df$ (Sig. $\chi^2/df$ falls in the ratio of 1 to 3)	$\chi^2 = 39.811$ ; $df = 24$ ; p-value = .000; [ $\chi^2 = 39.811 / df = 24 = 1.6$ ].	Sig.-reject the model $\chi^2 = 39.811$ ; p-value = .000 < .05); accept, $\chi^2/df = 1.6$ falls in the ratio of 1 to 3).
<b>Non-centrality-based Indices</b>		
RMSEA - [ $\sqrt{(\chi^2 - df) / (df(N-1))}$ ]; (Sig.-RMSEA < 0.08 with Pclose > 0.05).	RMSEA = 0.08157 (with a Pclose = 0.1001)	Accept the Model, RMSEA= 0.08157 < 0.08 (with a Pclose = 0.1001 > 0.05)
CFI = $d_{null} = [(x_{null}^2 - df_{null}) - d_{model} = (x_{model}^2 - df_{model}) / (x_{null}^2 - df_{null})]$ ; (Sig.; CFI > .95).	CFI-Comparative Fit Index = 0.90233	Marginally Significant (CFI= 0.90233 falls in between .90 & .95).
<b>Relative Fit Indices</b>		
TLI = [ $x_{null}^2 / df_{null} - x_{model}^2 / df_{model} / x_{null}^2 / df_{null}$ ] (Sig.; TLI > .95).	TLI- Tucker Lewis Index = 0.90012	Marginally Significant ( TLI= 0.90012 falls in between .90 & .95)
NFI-Normed Fit Index; [ $x_{null}^2 - x_{model}^2 / x_{null}^2$ ] (Sig.; NFI > .95).	NFI-Normed Fit Index = 0.78922	Insignificant (NFI= 0.78922 < .95)

In the comparison of the proposed model in Figure 1 with the baseline or null SEM estimated model, comparative fit index > .95 is construed to imply good model fitness as compared to if CFI falls between .90 and .95 to indicate only marginal fitness of the model(Kline, 2011:55).Using this formula and statistical criteria, it is quite evident that although  $CFI = 0.90233$  suggest only marginal fitness of the model in Figure 1, it still echoes the null hypothesis in Figure 1

that the synergistic application of customer-centric and product-centric business approaches would leverage SMEs’ superior market performance.

Just like CFI that indicated only marginal fitness of the model, it was also apparent that Tucker Lewis Index = 0.90012 also only indicated marginal fitness of the model in Figure 1(Kline, 2011:55).

**Tucker Lewis Index**

$$Tli = \frac{\left(\frac{x_{null}^2=188.877}{df_{null}=27} = 6.99544\right) - \left(\frac{x_{model}^2=39.811}{df_{model}=24} = 1.65879\right)}{\left(\frac{x_{null}^2=188.877}{df_{null}=27} = 6.99544\right) - 1} = 5.33665$$

Tucker Lewis Index (TLI) = 5.33665/5.99544= 0.90012

As on the other hand, Normed Fit Index = 0.78922 < .95 did not indicate good model fitness.

**Normed Fit Index**

$$nfi = \frac{x_{null\ model}^2(188.877) - x_{proposed\ model}^2(39.811)}{x_{null\ model}^2(188.877)} = 149.066 = 0.78922$$

In other words, the results of confirmatory factor analysis imply that although  $\chi^2$  and Normed Fit Index did not support the null hypothesis in Figure 1, it was still apparent across the results of  $\chi^2/df$ , root mean square error of approximation, comparative fit index, Tucker Lewis Index as well as the results of standardised regression weights and squared multiple co-relation coefficients that the synergistic application of customer-centric and product-centric business approaches would leverage SMEs' superior market performance.

## DISCUSSION

Complexities in the sophistication of the tastes and preferences of the contemporary consumers require businesses to adopt a combination of equally sophisticated approach and strategies to delight customers. However, that does not imply the development of a customer-centric business approach is the solution. Instead, it signifies the application of a mixture of customer-centric and product-centric approach may offer more accurate solutions.

Whether it is a product-centric or customer-centric business approach, some intense understanding of the unfolding market trends is often a prerequisite. Detailed understanding and identification of the current challenges that customers presently face is often a driver of ideation, conceptualisation and innovation of new products in a product centric-business. It is such ideas that bolster the creativity of a business to undertake imaginative innovations to respond to the presently unmet customer needs.

Market analysis is a pillar for diagnosing changes and complexities in market trends. Even for firms or products that are considered to have emerged as a result of the embracement of a strong product-centric approach, it is often still highly evident that the evolutions and success of such businesses were edified by the extent to which they were able to emerge with new products offering novel solutions to the needs that had been unmet for a long time.

The emergence of Tesla's electric cars was attributable to the long time understanding among industry players that energy efficient cars were what every customer was yearning for.

When Motorola developed the first version of cellphones, their novel innovations were mainly driven by the unmet needs for distant communication. The same applies to the emergence of internet that influenced innovation and use of electronic mail communications. In other words, quite often, there is a gap in the market motivating the need for a product development irrespective of whether a business is customer-driven or product-driven.

This implies synergistic application of a combination of customer-centric and product-centric approaches is critical for edifying a firm's superior market.

Such a synergy leverages the extent to which the strengths of customer-centric approach is able to outplay the weaknesses of product-centric approach and vice-versa. Quite often, businesses strongly espousing product-centric business paradigm tend to be more reluctant towards improving the quality of customer services. The rationale for the adoption of such business approach is often latent in the fact that for as long as the product offers solutions that the customer finds to be superior, the quality of how the accompanying services are offered may not matter.

However, in the midst of the increasing spate of modern industry and market rivalry and competition, no firm enjoys monopoly for superior core product offerings for a long time. As the competitors begin copying and pasting novel innovations, the use of other ancillary aspects of the business such as the offering of the accompanying superior quality of customer services is often what some of the businesses use to prevent rivals from making further inroads into their market space (Cronemyr and Witell, 2010; Kindstrom and Kowalkowski, 2014). In most product-centric businesses, there are also often the risks of some of the innovations to fail.

As product-centric businesses rely on imaginations and guesswork as to what the customer ought or ought not to have, high risks of mis-scoring what customers exactly ought to have tends to be more eminent. Even if the business does not misfire on the exact customer expectations, high costs of research and experimentation often still tend to affect the price competitiveness of the business as well as the profitability of the enterprise. Since, product-centric businesses

rely on imaginations rather than intense analysis and response to the identified customer needs, product development processes often tend to be characterised by cyclical processes of development, trials and re-trials and experimentations and re-experimentations until the final version of the product is developed.

This tends to affect product development costs that would have been halved if the business was to seek customer opinions from the first stage of a product's ideation and conceptualisation. Just like product-centric businesses that are prone to limitations, customer-centric businesses are also often inherently ingrained with limitations associated with the fact that they tend to be reactive rather than proactive. Customer-centric businesses rely on the emerging customer needs as the basis of a product development.

That implies unless the identified market conditions would require new product development or modifications of the existing products, initiatives are often not undertaken to do so. Although such approach minimises wastes, it may also affect the capabilities of the business to sense and undertake innovative initiatives to gain from first mover advantages before rivals firms are able to do so. In other words, customer-driven businesses are less innovation driven and may therefore tend not to invest much in innovation as they rely on the changes in the market to change.

Considering the pace at which the contemporary business environment is changing, this implies as compared to customer-centric businesses, product-centric businesses may tend to be more proactive by sensing to undertake new innovations to tap new opportunities before other businesses react. Certainly, it has often emerged that most of the contemporary industry leaders are mainly innovatively product-driven businesses.

In effect, the synergistic use of a combination of customer-centric and product-centric business approaches is therefore key to using the strengths of one approach to outplay the weaknesses of the other approach and vice-versa. Subsequently, this would leverage the market performance of the SME manufacturing businesses that dare to apply such approach.

However, findings suggest that the synergistic use of a combination of customer-centric and product-centric business approaches to leverage a manufacturing enterprise's superior market performance would still raise some managerial implications for the contemporary manufacturing executives.

## MANAGERIAL IMPLICATIONS

The managerial implications of the findings of this study are associated with the argument that for the manufacturing enterprises to get the best business results, the synergistic application of the ideologies in the product and customer-centric business approaches is a prerequisite.

To accomplish this, the application of the Kotlerian marketing orthodoxy that places customer at the centre of a business' operation would aid intense market analysis. Such market analysis would leverage the extent to which the products to be developed are responsive to the demands and needs of the customers. In this process, business change and modifications, and monitoring and evaluation must be undertaken to ensure that the business adopts an appropriate business structure and operational systems that would aid its capabilities to deliver on its business credo.

As the business develops a system that would bolster its customer-centric approach, they will also have to develop a business system that ensures that the right products are developed and developed at the right time. To accomplish this, the manufacturing executives will have to ensure that they have the right business system, people, organisation, resources, innovation and research capabilities and processes.

Inherently, the use of the customer-centric business paradigm will enable the manufacturing enterprises to analyse and respond to the emerging changes in the market trends, as the application of product-centricity would leverage improvement of the manufacturing enterprise's creativity and imaginations to undertake aggressive innovative initiatives to develop novel ideas and products to respond to new trends before they emerge.

Since product-centric businesses are not customer-centric, the use of product-centric ideologies will lure the manufacturing



executives not to wait, but to be proactive by sensing and imagining the industry and market conditions that may easily emerge in

the future and undertaking innovative initiatives to develop new products to respond to such predicted trends before they occur.

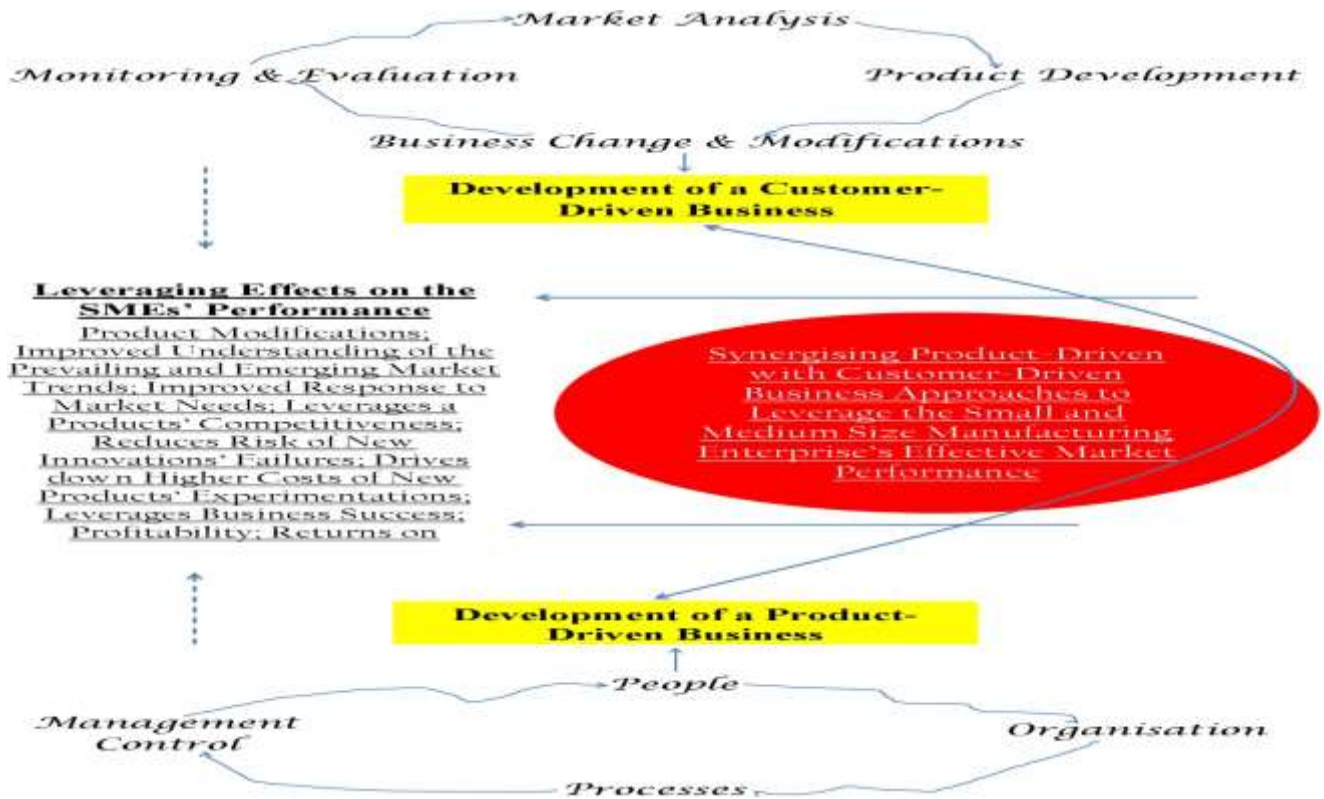


Figure 3: Integrated customer-product centric business model for effective performance of the small and medium size manufacturing enterprise.

In other words, the integration of product-centric in customer-centric approach will enable the manufacturing enterprises that dare do so to proactively lead industry innovations, whilst also responding more effectively to the unfolding changes in customer needs and demands by modifying the features of the existing products as well as the quality of the associated services. As indicated in Figure 3, this will certainly spur improvement of a firm's effective market performance and its sustainability in the long run.

This is attributable to the fact that in the integrated customer-product centric approach, risks of the failures of new innovations emerging from pure imaginations based on less market analysis may be eliminated by virtue of the fact that at some stage, the analysis of customer perceptions are undertaken to ensure modifications of the areas of customer dissatisfactions. Such approach also improves the precision of innovations that in turn reduce the high experimentation costs and

delays arising from trials and re-trials that usually affect costs and price competitiveness of new innovations. In the long run, integrated customer-product centric approach may tend to leverage improved business success and sustainability of the manufacturing enterprise.

### SUGGESTION FOR FUTURE RESEARCH

A process that synchronises customer-driven approach with product-driven centric approaches would certainly leverage the superior market performance of the SMEs that strive to do so. This is illustrated in the results of standardised regression weights that imply that the interaction between customer-driven business models and product-centric business approach would spur superior market performance of the SMEs. Such a view is accentuated in the fact that Figure 2 indicates the co-relationship between customer-driven business approaches (DCDB) and product-driven



business approach (DPDB) is significant at .83.

As businesses strive to develop new products in a customer-driven approach, it is also critical to pay critical attention to the factors and features that would enable the product to respond to customer expectations and demand. Even if some of the proponents of product-driven business approaches argue that product-driven business approaches are often undertaken without the evaluation of the prevailing customer needs and expectations and how such needs and expectations can be met, in most of the cases, product-driven business approaches are motivated by the need to respond to the unfilled gaps in the market.

In such instances, the initial development of the product springs from the need to respond to the unfilled gap in the market and in the later stages, changes in the market still play significant roles in the modifications of the product to ensure that it does not fall into obsolescence and remains relevant to the prevailing market needs. Unfortunately, previously, lack of a suitable business model seems to have undermined the extent to which the manufacturing executives were able to create a linkage between customer-centric and product-centric paradigms to gain from the enormous business advantages associated with each paradigm to minimise the weaknesses of the other and vice-versa.

By suggesting the integrated customer-product centric business model in Figure 1, we attempted to address such a gap. However, future studies can still explore the organisational, human resource and operational factors that would predict the effective application of such a model.

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