

**Optimizing the Synergy between Behind the Veil Activities and Commercialization in Product Development and Management; Focus – Nigeria Industrial Sector**

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**Abstract**

This study is on the optimization of the synergy relationship between activities in the behind the veil phases of product development and management and commercialization, thus investigated the extent to which product and portfolio strategy formulation and management aid efficiency in the management of the relationship between behind the veil activities and commercialization among other things. Data for this study were sourced at the Corporate Headquarter of selected firms, in the industrial sector of Nigeria using structured open and close ended questionnaire as well as interview. Questionnaire were administered at 5(five) copies per firm and were scaled based on the 5(five) scale modified likert ranking model and were analyzed based on the use of regression statistical model. The findings of this study revealed that; Product and portfolio strategy formulation and management; Technology and market potential assessments and Preliminary identification of customer needs, market segments, and competitive situation, and business prospects in alignment with corporate plans respectively significantly affect efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management. Based on the findings, recommendations are that organization in the Nigeria industrial sector should encourage team work relationship among personnel in all the phases (vertically or horizontally) in new product development and management; research work on market needs, size and trend; good quality information management, use of risk mapping devices as well as proper market segmentation policies as marketing management activities along the lanes of new product development and management in the industrial sector of Nigeria.

**Keywords:** Optimizing, synergy, behind the veil activities, commercialization, product development management, industrial sector-Nigeria.

**1. Introduction:**

Literature has it that of the total costs of the new product development and management exercise, 70% is committed based on the decisions made along the behind the veil phases-Oko (2016) known as front end phase; and only about 10% of these costs are realized along these phases-Luoma, Paasi & Nordlund (2008), Reid (2004) and Buggie (2002). Beyond these behind the veil phases is commercialization, that is considered the most costly phase, as substantial amount of money is needed to direct marketing activities that stimulate the closing of sales for the optimization of the economic benefits of new product development- Luoma, Paasi & Nordlund (2008), Kotler & Keller (2009), Narayanan (2000) and Hultink, Griffin, Hart & Robben (1997). It is the opinion of literature that most of the factors that influence commercialization are recognized and articulated into decisions at the behind the veil phases; inspite of the critical nature of these phases-Cooper, Edgett, & Kleinschmidt, (2001), kettunen, Ilomaks; & Kalliokoski (2007) and Hultink, Griffin; Hart; & Robben (1997), hence relationship exist between the behind the veil (activities) phases of new product development and management and the commercialization phase.

For the benefits of new product development and management to be optimized, in the face of numerous risks and uncertainties associated with the behind the veil phases through commercialization, the synergy existing between these phases ought to be optimized. The management of this synergy is the thrust of this presentation.

### **1.2. Statement of Problem:**

The process of new product development and management is made up of inter-related activities that commence with front end events and span through commercialization. Both ends are cost involving, however, more at the commercialization phase. Success in new product development and management is influenced quality in the execution of the pre-development decisions and activities-Cooper & Kleinschmidt, (1994), and proper definition of product as market offering, prior to the development phases- Cooper & Kleinschmidt, (1990). These decisions and activities produce the market offer for commercialization. When the relationship between input and output decisions and activities in new product development is not properly managed, (Fuzzy Front End and Commercialization), product failure is recorded. To reduce and possibly eliminate the incidence of product failure in the industrial sector of Nigeria, this relationship requires proper management; hence this study provides answers to the following questions:

- how does product and portfolio strategy formulation and management aid management efficiency in the relationship between behind the veil activities and commercialization management?
- how does a technology and market potential assessment influence relationship management efficiency between behind the veil activities and commercialization management?
- to what extent does preliminary identification of customer needs, market segments, competitive situation, and business prospects in alignment with corporate plans influence relationship management efficiency between behind the veil activities and commercialization activities?

### **1.3. Significance of the Study:**

Paucity of literature and study exist in the management of the relationship between the behind the veil (Fuzzy Front End) activities in new product development and management and the commercialization phase; hence the existing synergy between these two polar activities is often sub-optimized to the disadvantage of stake and shareholders. This is based on the fact of records of product failure and erosion in corporate profit. This study is considered significant given its potential solution to the identified inadequacies and inefficiency in the management of the relationship between behind the veil activities and commercialization.

### **1.4. Objective of the Study:**

The main objective of this study is to advance strategies, as a solution to the management of the synergy relationship between the behind the veil (Fuzzy Front End) activities in new product development and management and commercialization for possible benefit optimization. The subsidiary objectives are as follows:

- to determine the extent to which product and portfolio strategy formulation and management aid efficiency in the management of the relationship between behind the veil activities and commercialization.
- to assess the extent to which technology and market potential assessments influence efficiency in the management in the relationship between the behind the veil activities in new product development and management and commercialization
- to assess the extent to which preliminary identification of customer needs; market segments, competitive situation and business prospects in alignment with corporate plan influence efficiency in the management of the relationship between the behind the veil activities and commercialization.

### **1.5. Research Hypotheses:**

The study depends on the underlisted null hypotheses for solution to the identified problems.

- H0<sub>1</sub>:** product and portfolio strategy formulation and management do not significantly affect efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management
- H0<sub>2</sub>:** technology and market potential assessments do not significantly affect efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management
- H0<sub>3</sub>:** preliminary identification of customer need, market segments, competitive situation; and business prospects in alignment with corporate plans do not have significant effect on efficiency in the management of the relationship between the behind the veil activities and commercialization in new product development and management.

### **2. Review of Literature:**

Literature show that a strong and overlapping relationship exists between the behind the veil (phases) activities of the new product development and management and the commercialization phase-Kettunen, Ilomaki & Kalliokoski (2007). It is observed that this relationship is such that commercialization phase runs in parallel with concept development, new product development and market entry as activities-Khurana & Rosenthal (1998), Verworn & Herstatt (1999) and Ilomaki & Kalliokoski (2007); inspite of the fact that the processes of new product development and management are considered series of sequential activities-Oko (2016), Kotler & Keller (2010) and Kotler & Armstrong (2009). Based on the model of the front end of new product development as presented in Khurana & Rosenthal (1998), the ongoing product and portfolio strategy formulation and feedback stages show interaction between and among corporate personnel and stakeholders especially in the units of product research and development, product and marketing; the organized marketing intermediaries and logistic service providers; as vital parties to new product development and management. This shows coordinated human resources input management in the pre-phase zero (preliminary opportunity identification); idea generation, market and technology analysis and product portfolio strategy); in the front end (phase zero, product concept and phase one, feasibility and project planning) and new product development execution (specification and design, prototype test and validate, volume manufacturing and market launch)-Khurana & Rosenthal (1998) and Verworn & Herstatt (1999).

This co-ordinated human resource input management leads to the identification of business opportunities as idea generation, idea screening, business analysis, concept development, prototype development, tests, product development, test marketing and market launch (commercialization). It is right to state that the core issues of idea generation considered basic in new product development and management are sourced based on commercialization activities as interface with customers-Luoma, Paasi & Nordlund (2008). Contemporarily in practice and in theory, the walls of partition that separate and create independence between the different phases and activities of new product development and management have ceased to exist, hence the behind the veil (front end) activities and commercialization are linked based on personnel involvements in both phases as well as through the sharing of ideas and knowledge given inter and intra department/firm communication and information management-Luoma, Paasi & Nordlund (2008), Verworn & Herstatt (1999) and Khurana & Rosenthal (1998). Literature suggest that this link between the behind the veil phases in new product development and management activities and commercialization may sometimes be considered weak especially in the area of information exchange-Luoma, Paasi & Nordlund (2008), however it does exist based on this established relationship between the behind the veil activities and commercialization, synergy relationship exists between both.

## 2.1. Synergy Relationship:

Literature shows the areas of synergy relationship between the behind the veil phases and commercialization phase in new product development and management as: market needs; market environment; technology; idea/value proposition; business environment, management and collaboration network-Luoma, Paasi & Nordlund (2008).

These areas of synergy relationship are briefly x-rayed thus:

- **Market need:**

The purpose of business is the satisfaction of the defined or general market at profit. For a need to be satisfied, it must first be identified. This market need identification is made possible based on market and marketing research activities executed at the commercialization phase of existing market offer.

Market need is neither objective nor stable to the customer; hence need identification must recognize the rapid change in the tastes and preference of the customer as well as customer resistance to change following introduced new concepts. Commercialization as the clinical table for the diagnosis of the market need and marketing research as basic tool for diagnosis must be properly aligned with the market and marketing decision making mechanism; must segment the market based on acceptable criteria and must forecast reasonably the time frame within which the identified need must be satisfied. The information generated based on commercialization through marketing research efforts form input for product idea generation, screening, business analysis and others.

- **Market Environment:**

Given the fact that no product is actually new, but a development/improvement of existing products; the market environment of existing product as evidenced through commercialization activities form source of information for the structuring/alignment of and for new product in the process of development and management. This recognizes changes in market situation as market trend and market size; and the competitive structure based on substitute; complementary and competitive products; thus forms basis for the development of marketing strategies that are adaptable beyond market test; launch and commercialization. Information generated based on market environment are considered vital for market segmentation policies and strategies and for matching the identified market characteristics.

The market environment serves as source of information for reference group management with particular reference to influencing the attitudes and aspiration levels that aids the setting of consumers' standard; and exertion of influence on new product choice and usage. This is considered decision issue in the planning of product launch activities and timing as bedrock of commercialization activities.

- **Technology:**

Companies based on environmental scanning and research whose orbit is commercialization activities inter and intra firms, are able to assess corporate strengths and weaknesses given technological changes with inclination to declining cost and size of market offer; convergence, pervasive trend toward "connectedness" through world wide web; and the emergence of biotechnology as key component of the economy-Berkowitz, Kerin, Hartley & Rudelius (2000), hence are equipped to determines technology's impact on customer value. Based on this assessment, adjustments are made in respect to rapid changes in technology development as well; methods for monitoring changes in technology development for production and product consumption are conceived.

Information generated based on product commercialization activities serve as input in new product technical feasibility that is anchored on technology maturity, reliability and usability as well as for the identification of possible problems to the optimization of the benefits of the technology of new product development and management as well as usage. It is also important to note that information sourced based on the commercialization activities of existing product are considered input for new product consumers' adoption management especially the management of the blending of the inter and intra elements of marketing; along the product life cycle, given forecast of the new product life span as time based variable.

▪ **Idea/Value Proposition:**

Information sourced based in the commercialization activities of exiting market offers are vital for the creation of Unique Selling proposition in new products along the lanes of development and management, as such visible excellence and superiority concepts with outstanding novelties are introduced to meet the needs of the intermediate and end users of new product as envisaged. Based on same commercialization information, strategic alignments are made to optimize the attributes as characteristics and features of new market offer in samples, prototype and actual product for target market and stakeholders' acceptance and satisfaction; hence designs are created with the target market as focus. Consumer value proposition is also considered basis for new product branding and the management of the product given the blending of the inter and intra elements of marketing along the product life cycle. The possible time of demise of new market offer is envisaged based on the study of existing products along the lane of commercialization.

▪ **Business Environment:**

The business environments common at the behind the veil phases of new product development and management are often the same at the commercialization phase, hence information on the existing business environment of existing (current) market offer serve as basis for decision making for the marketing of new products, thus are relevant for the introduction of acceptable new product concepts and for identifying limiting factors to commercialization. These environments inclusive of regulatory and legislative; fiscal and monetary, economic and political, social development, ecological among others must be monitored for management and for the alignment of corporate internal environment along the lane of new product development and management and beyond commercialization to demise and corporate tool-up.

▪ **Management:**

Management activities that revolve around planning, organizing directing and controlling are commonly performed along all the phases of new product development and management from idea generation, screening to test marketing as behind the veil activities and beyond to commercialization. In all these activities are the setting of measurable objectives upon which performances are geded for variance determination and control. These activities are also considered bases (capacities) for resource allocation and funding as authority and responsibilities sub heads. Given this, managers in marketing are required to be equipped with knowledge and experience in financial management to move the organization from the point of behind the veil activities to product commercialization and for the realization of cost expended in each of the phases. Information management vertically and horizontally and inter and intra organization and departments is vital for effectiveness in management hence deliberate efforts must be made to source for and search information in its comprehensive form as it is also vital for efficiency in the management of network of relationship along the lanes of new product development and management.

▪ **Collaborate Network:**

Generally, inter and intra departmental and organizational relationships are needed in the course of the development and management of new product, hence partnerships of experts are vital. This may be inform of licensing, partnership of different forms, joint venture, outsourcing among others. On account of this, partnering exists between units involved in the behind the veil activities and those in commercialization that require commitment of individuals and the units, for reliable and effective networking. The personnel unit is always expected to provide skilled and experienced persons to manage different activities in the lanes of new product development and management and the Accounting and Finance departments are expected to provide and monitor fund administration for cost effectiveness and in some instances, consortium of finance houses are required to fund new product development and management activities. This discourse thus highlights the

importance of collaboration network between the behind the veil (front end) activities (phases) and the commercialization phase for the realization of the objectives of new product development and management. The management of this synergy relationship between the front end phases and commercialization phases of new product development and management for benefits optimization is the crux of this study.

### 3. Methodology:

The study has its base as selected firms in the manufacturing sub sector of the industrial sector of Nigeria that are quoted and do trade on the floor of the Nigeria Stock Exchange Market as at 15th February 2019, and data were sourced at the Corporate Headquarter these firms based on the administration of structured open and close ended questionnaire as well as interview schedules that were administered on Corporate Top Level Managers at research and development, business units and marketing management positions. Questionnaire were administered at five (5) copies per firm and were scaled based on the 5(five) scale modified likert ranking model and were analysed based on the use of regression statistical model.

### 4. Analyses:

The hypotheses projected for this study are analyzed this:

#### Test 1:

**H0<sub>1</sub>:** product and portfolio strategy formulation and management do not significantly affect efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management.

#### Test 2:

**H0<sub>2</sub>:** technology and market potential assessments do not significantly affect efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management.

#### Test 3:

**H0<sub>3</sub>:** preliminary identification of customer needs, market segments, competitive situation; and business prospects in alignment with corporate plans do not have significant effect on efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management.

Hypotheses 1, 2 and 3 have the same independent variable but different dependent variables at the ratio of 2:2: 4, totaling 8 (eight) dependent variables. Adopting the multiple regression model stated explicitly as:

$$y = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + b_6 x_6 + b_7 x_7 + b_8 x_8 + e_1$$

Where  $y$  = efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management

$b_0$  = the intercept of the regression line

$x_1$  = product strategy formulation and management

$x_2$  = portfolio strategy formulation

$x_3$  = technology potential assessment

$x_4$  = market potential assessment

$x_5$  = preliminary identification of customer needs

$x_6$	=	market segments
$x_7$	=	competitive situation
$x_8$	=	business prospects in alignment with corporate plans
$e_1$	=	residual or error term

and  $b_1$ ;  $b_2$ ;  $b_3$ ;  $b_4$ ;  $b_5$ ;  $b_6$ ;  $b_7$  and  $b_8$  are the co-efficient of the variables  $x_1$ ,  $x_2$ ,  $x_3$ ,  $x_4$ ,  $x_5$ ,  $x_6$ ,  $x_7$  and  $x_8$  respectively.

Based on the model specification, the regression analysis result for determinants of efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management is shown in table 1:

**Table 1: Regression Analysis Result for Determinants of Efficiency in the Management of the Relationship between Behind the Veil activities and Commercialization in New Product Development and Management**

<b>Variables</b>	<b>Linear</b>	<b>Double</b>	<b>Semilog</b>	<b>Exponential</b>
Constant	16.873 (10.983)	-2.820 (12.862)	-8.164 (-16.113)	3.004 (34.266)
Product strategy	1.962 (3.224) <sup>x</sup>	0.576 (1.225)	0.545 (2.616) <sup>xx</sup>	0.032 (24.308) <sup>x</sup>
Portfolio strategy	-0.826 (-3.156) <sup>xx</sup>	-0.256 (0.191)	-0.665 (-2.468) <sup>xx</sup>	-0.021 (-13.115) <sup>x</sup>
Technology potential	-0.078 (-0.596)	-0.072 (0.483)	0.169 (1.224)	-0.000066 (-0.561)
Market potential	2.164 (9.131) <sup>x</sup>	0.826 (21.138) <sup>x</sup>	1.663 (6.616) <sup>x</sup>	0.133 (120.336) <sup>x</sup>
Customer needs Identification	1.922 (6.983) <sup>x</sup>	1.406 (59.126) <sup>x</sup>	2.186 (8.268) <sup>x</sup>	0.064 (96.321) <sup>x</sup>
Market segments	-0.846 (-1.662)	0.099 (0.613)	0.963 (2.662) <sup>xx</sup>	0.009 (-9.139)
Competitive situation	-0.066 (-0.422)	-0.058 (0.351)	0.031 (0.228)	-0.0010 (-5.163)
Business prospects alignment	2.042 (-2.469) <sup>xx</sup>	1.201 (0.256)	0.783 (5.536) <sup>x</sup>	0.388 (-5.027) <sup>x</sup>
$R^2$	0.422	0.401	0.316	0.252
Adjusted $R^2$	0.415	0.394	0.302	0.237
F-ratio	28.129	145.023	831.022	14.176

Note: <sup>xx</sup> significant level at 5%, <sup>x</sup> significant level at 1%. Values in parenthesis are t-test estimates

Source: *Field Survey 2019.*

The four functional forms of multiple regression analysis were adopted for the estimation of the determinants of efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management.

The computation result for the linear regression best line of fit is given as:

$R^2 = 0.422$  and the adjusted  $R^2 = 0.415$  showing that 42.2% of the total variation in efficiency in the management of the relationship between the independent variable is explained by variation in the dependent variables as listed

The F-ratio as 28.129 is significant statistically at 0.01 (1%) level of significance. This shows that the model specification is current, thus qualifies to be adopted in the explanation of variation in the efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management.

Based on the analysis, the null hypotheses are rejected.

Accepted are:

- i. Product and portfolio strategy formulation and management significantly affect efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management.
- ii. Technology and market potential assessments significantly affect efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management.
- iii. Preliminary identification of customer needs, market segments, and competitive situation, and business prospects in alignment with corporate plans significantly affect efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management.

## **5. Discussion of Findings:**

The findings of this study are expounded thus:

- Product and portfolio strategy formulation are strategic management functions that communicate the strategic vision concerning the new market offer as envisaged. They highlight the planned portfolio of the new product, and cross-functional sharing of responsibilities based on well-designed information system. Embedded in these are authority and responsibility relationships, (inter and intra firm and department) along all the phases in the new product development and management activities, inclusive of commercialization-Verworn & Herstatt (1999). These systematic processes that create synergy relationship between the behind the veil activities and commercialization have the ability of enhancing efficiency and success in the management of the activities of new product development and management-Cooper (1988, 1994, 1996) and Cooper & Kleinschmidt, (1988, 1990 & 1994). This assertion is anchored on the factor that product and portfolio strategy formulation as corporate planning and control devices have the capacity of managing the different degrees of risks and uncertainties common at the behind the veil phases in new product development and management for risk reduction at the commercialization phase-Lynn & Akgun (1998).

Information sourced, obtained and collated based on external market forecasting techniques (inclusive of customer interviews and surveys) are considered input for strategic planning. These information as customer based are commonly obtained at the commercialization phase.



- Commonly, preliminary opportunity identification and idea generation for new product development and management are based on the assessment of the past, current and future market for satisfaction gap identification as market potential. Ideas are also sought in the technical sphere of operation. Hence, there is always need to integrate the technology push and the market pull information for efficiency in the management of the relationship between behind the veil activities and commercialization in new product development and management. This information is based on the qualitative screening of the product and portfolio strategy formulation variables for reliability and uncertainty reduction in decisions –Verworn & Herstatt (1999).

The technology push and market pull variables consider all functions and activities that span between the behind the veil phases and the commercialization phase in new product development and management, hence must align with existing product and corporate product portfolio for success actualization –Verworn & Herstatt (1999) and Dolezel, Machal & Lacko (2009).

It is important that preliminary identification of customer needs, market segments, competitive situations and business prospects be aligned with corporate plans, as condition for efficiency in the assessment of the business and technical feasibility of the envisaged (new) product. This allows for proper definition of the product concept and the product plan, as pre-requisites for product concept approval and commencement of the execution of new product development and management activities-Verworn & Herstatt (1999).

- Literature support the need for all areas and functions of behind the veil activities through commercialization to be exposed to extensive learning in integrated form for harmony in operation rather than each field operating based on trial-and-error-Lynn & Akgun (1998), Lynn & Green (1998) and Rice, O’Conner, Petter & Morone (1998). This is due to the fact that the market structure and trend like technology as basis of the integration of corporate plans for new product are dynamic, hence conventional approaches and sophisticated analytical methods for evaluating new product opportunities are often considered inaccurate predictors of success, especially given the dynamisms and dynamics of customer tastes. This system integrated process based on learning has high success yielding propensity –Cooper (1996) and Veryzer (1998).

## **6. Recommendations:**

The need to optimize the relationship that exists between the behind the veil phases and commercialization phase in new product development and management is considered strategic given the low rate of capital formation and development that are incidental to poor rate of economic development and decline in corporate stake and shareholders welfare in Nigeria.

To manage this relationship are the following recommendations as fall outs of this study.

- Firms in the industrial sector of Nigeria must be corporate planning and control oriented, hence ought to be strategic rather than tactical in plans and plans execution. Management team must be made up of qualified and skilled personnel who have diversified experience across difference phases in new product development and management. The use of external consultants may be necessary where the organization is internally deficient.

These personnel at the corporate level will be expected to develop plans for easy recovery from new product development and management crises (internal and external) based on quality information management system that encourage vertical and horizontal and intra and inter organization communication –Susterora, Larin and Riives (2012), Riives, Karjust, Kiitner, Lemmick, Koor & Lavin (2012).

- Firms must operate based on technology and market match principles as information concerning the market in trend and size, the blending of the inter and intra marketing mix elements and other supporting variables must be made available; marketing research exercise must be accorded proper position in corporate schemes; and competitive analysis must be regularly carried out for performance evaluation-Kamie & Reich (2011),

and <http://www.en.wikipedia.org/wiki/new-product-development>. Accessed on 2012/09/04. Technologically, literature on innovations must be up to date and regularly consulted and summary information on technological development maintained. Firms should be encouraged to budget for and be involved in seminars, conferences, exhibitions and business meetings and participation must cut across personnel and activities in all the phases in new product development and management – <http://www.product.co.uk/download.risk%20assessment%20Bip.pdf>. Accessed on 2012/09/29.

- Management at the corporate level must develop strategic plans to envision the organization on its new product development and management activities across the line and staff and periodically review directions and set priorities as means of achieving control over all affairs. The legal unit of the organization must be in tune with legal developments that encourage the introduction, marketing and commercialization of new products.
- Vertical and horizontal information and communication network, which permits the rapid identification of customers' needs, market segment adjustments, market structure changes in terms of competition, ownership and leadership of market and available market opportunities as encouraged. This will aid the alignment of these with corporate plans for harmonization of activities across the different phases of new product development and management.
- Organizations in the industrial sector of Nigeria and encouraged to adopt the commercialization risk map tool as means of supporting decision making at the behind the veil phases of new product development and management especially on issues influencing the actualization of the objectives of commercialization-Luoma, Paasi & Nordlund (2008) especially uncertainties, risks and opportunities management from the point of concept design through product launch and commercialization.
- Excess segmentation of the phases in new product development should be de-emphasized, visualization and communication of product concept are capable of strengthening top management support and have the potential of linking together all the phases in product development and management in an acceptable portfolio for enhanced decision making for actual implementation of the development and management activities – Rice, O'Connor Peters & Morone(1998) and Verworn & Herstatt (1999).

## **7. Conclusion:**

It is common to discuss the behind the veil phases of new product development and management activities in isolation of the commercialization phase, but they are inter-related for synergy and are inseparably core to corporate goals and unit objectives actualization. Both phases depend on each other as bases for product and portfolio strategy formulation and management, for the matching of technology and market forces and for the alignment of internal organizational forces with corporate plans, hence ought to be managed systematically and strategically based on corporate planning and control principles anchored on good quality personnel, improved information management system and efficiency internal resources utilization.

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