**ISSN: 4651 – 4806**
**Volume 10, Number 2, 2024**
**International Journal of Advancement in Marketing and Management**

# PRODUCT DEVELOPMENT AND ORGANIZATIONAL PERFORMANCE IN MANUFACTURING COMPANIES IN BENIN CITY, NIGERIA

**Azuonwu Benneth Elekwachi (Ph.D) and Akenbor, Lucy C. (Ph.D)**
**Department Of Marketing, Entrepreneurship and Procurement, Faculty of Management Sciences, Federal University, Otuoke, Bayelsa State, Nigeria**

*Email: azuonbenneth12@gmail.com*

## ABSTRACT

*This study examined the relationship between product development and Organizational performance of manufacturing companies in Benin City, Nigeria. The dimensions are product idea generation, product validation of ideas and product design. The descriptive survey design was adopted for this study. The target population for this study is a cross-section of employees of selected manufacturing firm in Benin city Edo State. The sample consisted of 177 respondent selected using Convenience sampling technique. The study used data from a survey of 4 manufacturing companies in Benin City. The instrument for data collection is from primary (questionnaire) source and secondary (textbooks and journals) source. The researcher applied content and construct validity for this study. The reliability was established using Cronbach Alpha. and found that product development was an important factor in the performance of these companies. The simple percentage and mean was used to answer research questions and test the hypothesis at 0.05 level of significance and square man ranked order correlation. The conclusion of the findings showed that there is a positive significant relationship between Product development and Organizational performance. Based on the conclusion, the study recommended the following: 1) Nigeria Bottling Company should organize regular and continuous training for marketing managers and R&D personnel so as to update their professional skill and knowledge on product development. 2) Product construction, idea generation, validation of ideas, product screening, product design, packaging, branding, product positioning and usage testing should be an integral component of product development in the bottling sector. 3) Effective information management and communication should be applied in the daily operations of the bottling as it can provide management and staff with data and understanding critical to successful product development.*

***Keywords: Idea generation, validation of idea, product design***

## INTRODUCTION

BACKGROUND OF THE STUDY

Product plays a central role in the activities of all organization, it is a medium through which an organization achieves the actual objectives of maximizing consumers and organizational satisfaction. In contemporary marketing practice, one resource is deployed in a way that maximizes the return on assets used after monitoring the nature of the consumer needs.A number of studies have explored the role of knowledge management in new product development, with a focus on knowledge transfer and the role of community. In (2006, Dhanaraj and Parkhe) found that knowledge transfer is a key factor in successful new product development. They also found that a community can play a role in facilitating knowledge transfer. In (2001, Alavi and Leidner) found that the use of knowledge management systems can improve the new product development process. These investigations shed important light on the function of knowledge management in the creation of new products. But the product is the means by which the company makes an effort to achieve its goals. Businesses are forced to implement various intense growth methods, such as product creation and modification, in an effort to maintain peace with the increasingly competitive market. More specifically, developing products that will yield a respectable return on investment is necessary for businesses to combat the threats posed by the current economic downturn.

More recently, in 2014, Jog (Vijay k.Jog,2014) published a book on strategies for successful new product development, which provided practical advice for business executives. Product development is a key element of success for SMEs, but there are several challenges that they face in this area.In 2013, Wheelwright and Clark (Steven C. Wheelwright and Kim B. Clark,2013) published a book on product development success, which focused on the management and organizational factors that can affect performance. These include limited resources, a lack of expertise, and difficulty in keeping up with the latest trends. As a result, many SMEs in Benin City struggle to develop new products that meet the needs of their customers. Additionally, the adoption of new technologies and the development of innovative ideas is slow due to the lack of skilled personnel.Finally, in 2014, Chew and Evans (C. Chew and K. Evans,2014) published a handbook for small businesses that provided advice on product development in the context of small businesses.
(Odeh, 2005; Dabalen, Oni &Adekola, 2000). Ironically, Nwaizugbo (2010) Lastly, using the Nigeria Bottling Company Plc in Benin City as a case study, this study was motivated to investigate the relationship between organizational performance and product creation in SMEs.

Statement of The Research Problem
Product development refers to the entire process of conceptualizing ideas, designing, developing and eventually introducing a new product or service in the market so that it not only outshines competitors but also earn huge revenues for the organization. When a new product is introduced, end users have higher expectations because they want something that meets their demands without breaking the bank. Launching a new product is not as simple as it may seem; it takes vision, determination, competent leadership, and meticulous attention to even the smallest aspects. Even with product development's advantages, telecommunication companies continue to confront difficulties in developing their product portfolios.
One of the biggest challenges in product development is entrepreneurial skills. Coming up with new and innovative ideas is a difficult task and even the most creative of people can feel a roadblock sometimes. This may occur as a result of organizational red tape separating the product development and marketing departments or a lack of understanding of client needs. When a new product is launched, extensive market research, questionnaires, and customer meetings are necessary to comprehend their purchasing habits and preferences. Few business owners possess the necessary skills to go out into the field and speak with end users to determine what kind of product will be immediately popular with them.

## OBJECTIVE OF THE STUDY
The objective of this study is to investigate the relationship between product development and organizational performance in manufacturing companies in Benin City, Nigeria. Specifically, the study to:
1. To find out the relationship between product idea generation and increase sales volume
2. To examine the effect of product validation of ideas and increased sales volume
3. To ascertain the effect of relationship product design and increase sales volume

## Research Questions
The study seeks to provide answers to the following research questions
1. To what extent do product idea generations affect increased sales volume?
2. How does product validation of ideas affect increase sales volume?
3. What is the relationship between product design and increased sales volume?
1.5 Research Hypotheses
The following null hypotheses were stated;
H01: There is no significant relationship between product idea Generation and increased sales volume

$H0_2$: There is no significant relationship between product validation of ideas and increased sales volume
$H0_3$: There is no significant relationship between product design and increase sales volume

**Scope of The Study**

The scope of the study is made up of three components namely;
Theoretical scope/ Content scope, geographical scope and unit of analysis.
The theoretical scope of study is restricted only to literature materials on product development and organisational performance
The geographical scope covers to selected manufacturing companies that consist of Coca-Cola, Benin Plywood Industry, Igbinedion Glass Industry, and Dufil Prima Foods Benin City
The unit of analysis level is at the organizational level. The respondents will be drawn from managers and employees.

**Significance of The Study**

The significance of this study is two-fold. Firstly, it will contribute to the body of knowledge on the relationship between product development and organizational performance. Secondly, it will provide insights that can be used by companies to improve their product development processes and ultimately, their performance. The study will be of particular interest to manufacturing companies in Benin City and in Nigeria, as well as to other companies that operate in similar industries and markets. The study's findings will be of value to management and business leaders who are responsible for developing and implementing products and services.

**OPERATIONAL DEFINITION OF TERMS**

Product: According to Philip Kotler, "A product is anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need. It includes physical objects, services, persons, places, organization and ideas".
Development: Development refers to a process of change in growth and capability over time, function of both maturation and interaction with the environment." E.B.Hurlock (1959)
Product Development: is a series of steps that includes the conceptualization, design, development and marketing of newly created or newly rebranded goods or services.
Organization: is "the process of identifying and grouping the work to be performed, defining and delegating responsibility and authority, and establishing relationships for the purpose of enabling people to work most effectively together in accomplishing objectives." — Louis A. Allen.
Performance: According to Verboncu, Zalman, 2005 performance is "a particular result obtained in management, economics, marketing, etc. that print features ofcompetitiveness, efficiency and effectiveness of the organization and its procedural and structural components.
Organizational performance: comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives). Organizational performance is also the success or fulfilment of organization at the end of program or projects as it is intended.
1.9 Organisation of The Project Report
The study is divided into five (5) sections.
The first section deals with the introductory section. This consist of background of the study, statement of the problem, objectives of the study, statement of the hypothesis, research questions, significance of the study, scope and the organization of the study.
The second sections discuss on review of relevant literature on product development and concepts as well as empirical analysis for the study.
The third section is concerned with research design, population and data sample, source of data and variables, definitions and measurement.
The fourth part deals with analyses and discussions of results on product development. The final section focuses on the findings, conclusions and recommendations.

## LITERATURE REVIEW

## CONCEPTUAL CLARIFICATION

Product Development

The concept of product development by Cooper and Kleinschmidt (1994), "New Product Development: What Really Matters and What Really Works." This article provides a clear definition of product development as "the process of transforming an idea for a new product into a real, marketable product." The article also provides a useful framework for understanding the different stages of product development, from idea generation to launch.

This article by Sohn, Min, and Kim (2016), "A Stochastic Model of Product Development Performance" This article uses data from a large-scale survey of manufacturing companies to analyze the relationships between different factors and product development performance. It finds that factors such as knowledge sharing, market orientation, and process management are positively associated with product development performance.

The article by Ding, Chung, and Van Slyke (2018), "Determinants of New Product Development Success: The Moderating Effect of Product Innovation Strategy." This article explores the factors that influence the success of new product development, with a focus on the role of product innovation strategy. The article finds that factors such as technological opportunity, market demand, and organizational learning are positively associated with new product development success.

**PRODUCT IDEA GENERATION**: The development of new products determines a business's future. Bodlaji, Kadi; Mglojlic& Vida (2020).Companies invest in the development of new goods. A company will ultimately have to depend on acquiring newly manufactured goods from other companies.Companies cannot enjoy sustained growth if they do not prioritize innovation, new product development, and the creation of new products ( Oktapia, siagian, &Tarigan, 2022).). The creation of industry standards and the use of creative solutions that lead to client satisfaction and engagement ( Roy, Gruner&Guo 2022New product development and innovation are related to one another. Without innovation, fresh product development is not feasible. Creating innovative new products that are viable requires innovation. (Vettorello, Eisenbart&Ranscombe, 2022).But innovation isn't just about creating brand-new goods and servicesIt incorporates new technology, a novel approach to incentive management, a new price structure, a new communication channel, and a new perspective on brand creation. ( Petruzzelli, Abbate, &Codini, 2022). We have top down idea generation and bottom-up idea generation. New product development are successful when companies are able to identify a novel approach to address an unmet market creative idea, that address those requirement and preference ( Wang, Li & Liu, 2018). It's important for companies to do continual innovation. There may be approaches to idea generation- market driven or top-down or bottom -top( Flocco, Canterino& Cagliano,2022). Top-down: Ideas may be generated by analysing the opportunity available in the market,(Wang, Phillips & Yang,2021). The top-down approach towards idea generation start with an in-depth analysis of the market to identify the opportunities available in the market. It aim to identify, unmet needs that the company can fulfill in a manner that is superior to its competitors( Wang et al,2021). Bottom-Up Idea Generation: It:s opposite of Top-down Generation. The process of innovation starts with an invention. Companies try to ascertain whether the invention can satisfy an unmet market need ( Bouncken& Schmitt,2022). In bottom-up idea generation, the innovation is driven by technological innovation rather than by an identified marked need. The process of innovation is deeply rooted in technology and it's application. The Bottom-up idea generation will be applied by scientist than by marketing managers ( Yilmaz, 2018).

## PRODUCT VALIDATION OF IDEAS

The key assumptions of an idea is examined and validated to determine it'ssoundness( Bruno, 2022). In order to determine whether an offering can successfully satisfy a significant unmet

consumer demand (ide desirability) in a way that will concurrently benefit the organization, the process entails analyzing the viability and desirability of the offerings. ( Corbo, Mahassel, & Ferraris, 2020). Companies may make mistakes while assessing ideas for new products (OLsen, 2015. The first mistake is not discarding a notion that is ill-conceived or unworthy. If such a concept were to proceed, it most likely would lead to a failed product offering. (Endler, 2015). The second mistake is based on the opposite calculation error, which is the dismissal of a sound suggestion.This is more important than turning down bright ideas. ( Kumar, 2022). Failure of many new products can be attributed to poor ideas.The alarming rate at which product fail to indicate that such failures are cost by high incident of rejecting good idea( Crawford,1972). Failure may happen because of many technological and market risk inherent in new product development. A good idea that is poorly executed may also run the risk of failure (Kumar,2022). Many companies have a misconception that it is easy to educate and to convince individuals to appreciate the benefits of product that did not address a problem they faced( Carroll & Sovensen,2021) growth possibilities of many companies become stagnant because of this misconception. The process of assessing new product concepts during the development phase to make sure they satisfy customer expectations and company goals is known as "product validity.".Sensitivity, specificity, positive productive value, and negative productive value are important aspects of product validity that must be evaluated in order to properly use validity tests.

**PRODUCT DESIGN**

It aims to explore new opportunities or refine existing solutions, product design can be a valuable tool, it has received considerable attention in the product development. The form and function of a product is the subject of product design, the development of the form consist of deciding what product looks like, that is how the product is shaped and what is created. Brand development is intended for developing a fresh product for it's consumers. Silinevica(2016) described the major factor for economic advancement in developing competitive advantages is new product Creation. He showed that product life cycle is very short and continuous to be shorter every year. Luchsetal(2014) mentioned that an increased attention to product design in business practice has been like (Samsung, Apple, Smart Phone etc) has been augumented. Bhuiyan(2011) depicted that the goal of the study is to develop a system of critical success factors, indicators, and applying tools and techniques for the metrics at the every point of the process. India and China surpassed the United States to become the biggest Smart Phone market in the world. Lee Byung-Chul founded Samsung in the year 1938 as a trading Enterprise. Samsung and Electronics, has been divided Four forms including the Samsung Group and the Shinegae Group Samsung and Electronics, especially mobile phone and semi conductors, have become increasingly globalized, since 1990.As of 2017, it has the sixth world wide brand value. The major Industrial subsidiary of Samsung is world largest software Engineering firm. According to Goulding (2007), a formulaic approach to new product adaptation has emerged, which might be linked to the need of capitalized enterprises to preserve their competitive edge in their respective markets. He called the system " Scientific, commercial and Industrial measures leading to the promotion of new products". In comprehensive Engineering design it had a process that usually include testing and collection of data like functioning design, reliability designing, maintenance designing safety designing and productivity designing. In designing and development of production process, there are plans for materials procurement, production warehousing, transport and distribution are designed by comprehensive product Engineers and manufacturing specialist. The process involves the scheduling of other support system eg Control of production, information sharing and human Resources management. According to IBEF(2019) India is the second biggest manufacture of mobile phones after China in the world. However, with the present development rate India is'nt too far from being the next world leading mobile phone market. Designers need to find out a exactly what the customers are looking for to insure that the customer are looking to ensure that the products are customer friendly. Final design involves comprehensive drawing documentation

and material process plans specification that include workable production instructions such as required machinery and equipment, a guideline on procurement, a job description and procedure for staff.

Product design can be defined as the process of creating a product's form, shape, and appearance, and is an essential part of product development. The goal of product design is to create a product that is both functional and aesthetically pleasing, and that meets the needs and expectations of the target market. There are many different aspects of product design, including ergonomics, materials, colors, textures, and packaging. Product design is closely linked to the user experience, and can influence how customers perceive and interact with a product.Paredes and Perrin (2019) offer a more recent perspective. Additionally, the research by Djordjevic, Gries, and Pich (2021) and Yang, Fei, and Huang (2020) focus on specific aspects of product design, such as packaging design and the use of color.

Product design is an essential element of product development, and is influenced by ergonomics, user experience, and other factors. Recent research by Zhang, Zhao, and Wang (2022) has shown that product design can have a significant impact on customer satisfaction, while the work of Walker (2010) is considered a seminal text on the topic.

**Organizational Performance**

According to the works of Neely, Adams, and Kennerley (2002) and Kaplan and Norton (1992), organizational performance can be defined as the overall effectiveness of an organization in achieving its goals. In addition, the work of Amah (2013) and Benavides,Martinez, and Enamorado (2016) has provided insights into the specific measures of organizational performance, such as profitability, productivity, and customer satisfaction. These measures can be used to assess the effectiveness of an organization's operations and strategy.

Organizational performance can be measured using process measures, such as the theory of constraints (Porter, 1985) and lean thinking (Helms & Nixon, 2010). Output measures can be assessed using benchmarking (De Waal, 2004) and the productivity index (Sakai, 2003). Customer satisfaction can be measured with the American Customer Satisfaction Index (Parasuraman et al., 1996) and the SERVQUAL model (Berry &Parasuraman, 1991).

Internal measures include process, output, and outcome measures, while external measures include customer satisfaction and financial performance. Process measures look at how well the organization's processes are working, while output measures look at the quantity and quality of the organization's outputs. Outcome measures assess the impact of the organization's outputs on the environment and society. Customer satisfaction is determined by the quality of the organization's products and services, while financial performance is based on the organization's profits, revenue, and other financial indicators.

**Sales Volume**

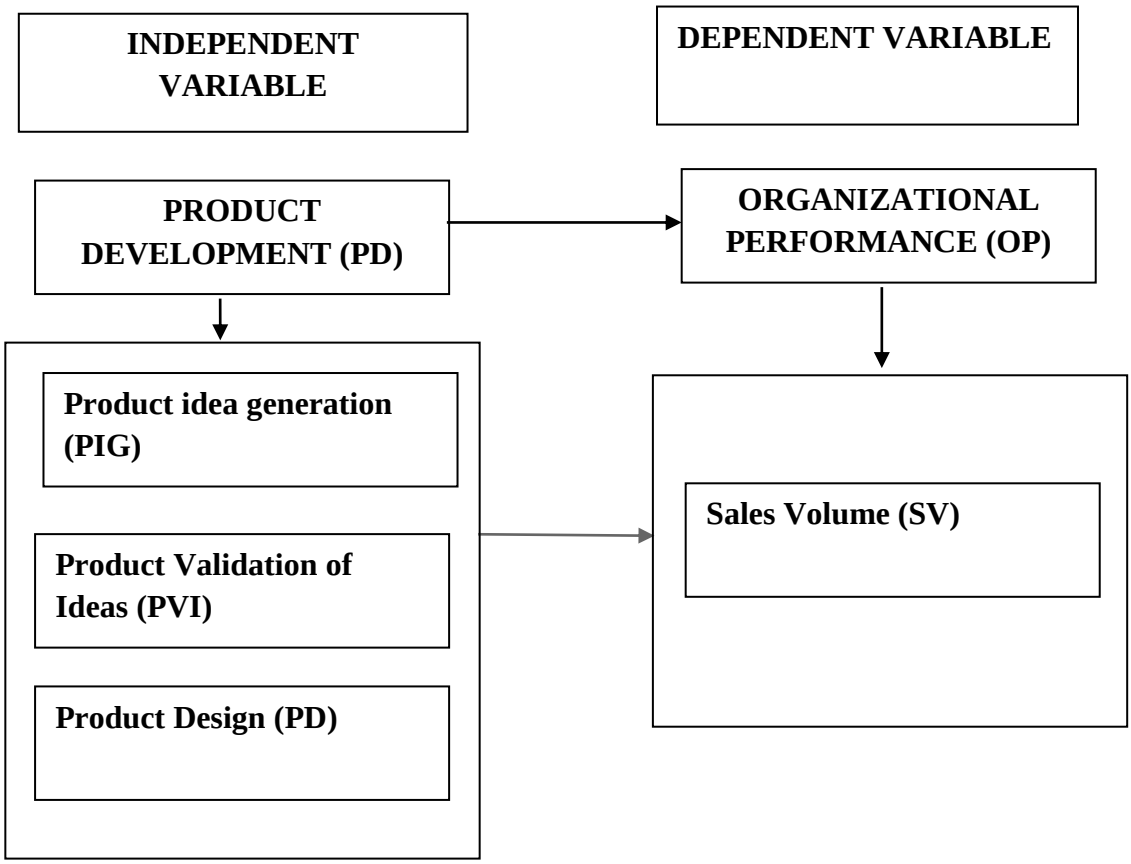
Sales volume is the number of units of a product that a business sells in a given period of time. This definition is supported by a study published in the International Journal of Economics and Management (2020), which states that sales volume is an important indicator of a company's performance. The study also found that sales volume was positively correlated with product development and organizational performance.

According to a study published in the Journal of Business Research (2022), a positive relationship exists between sales volume and product development, as well as between sales volume and organizational performance. This finding is supported by another study published in the Journal of Product Innovation Management (2019), which found that an increase in sales volume leads to an increase in product development, and this, in turn, leads to an increase in organizational performance.

Sales volume provides a company with the financial resources needed to invest in product development. It also provides a company with valuable insights into the needs and preferences of

its customers, which can be used to guide product development. Sales volume also creates a sense of urgency for product development, as companies want to capitalize on their current success.

CONCEPTUAL FRAMEWORK




Researchers Conceptualization (2023):
Adapted From: Bruno, C. (2022) &Silinevica (2016).
Figure 1. The Relationship between Product Development and Organizational Performance

## REVIEW OF RELATED THEORIES

Contingency Theory

According to Fiedler's contingency theory (Fiedler, 1964), leadership effectiveness is influenced by the leader's style, the situation, and the group's performance. In the context of product development, this suggests that the success of a product development effort may depend on the leadership style of the project manager, the situation (such as the market conditions or available resources), and the team's performance.

Dynamic Capabilities Theory

According to Teece, Pisano, and Shuen's (1997) dynamic capacities hypothesis, businesses must be able to change and adapt in order to succeed. This theory has implications for product development and organizational performance in manufacturing companies. Specifically, companies need to be able to identify and seize opportunities for new products, and they need to have the capabilities to adapt their products and processes over time. In order to acquire these capacities, the theory also highlights the significance of organizational learning and knowledge management.

Resource-Base Theory

According to Barney's (1991) resource-based perspective of the company, an organization's capacity and resources determine its level of success. In the context of product development and organizational performance, this means that companies need to have the right resources and

capabilities in place to develop new products and achieve success. Some of the key resources and capabilities include technology, human capital, and organizational structure.

**Review of Empirical Literature**

Ezigbo and Uduji (2021) in their empirical study titled managing product development for strategic advantage of manufacturing firm in Nigeria. Primary method of data was used to collect data from population that consists of employees. 75 questionnaires were distributed and the retrieved data was anaysed using multiple regression analysis. The study revealed that corporate intelligence is necessary because managers need it to increase the quality of product and services, strategic planning and market knowledge; corporate intelligence is used by gathering information, converting it into intelligence and utilizing it in business decision making. The cost for corporate intelligence consists of time, money and intellectual skills, the study also revealed that there is a significant relationship between product development and strategic advantage.

Ul-Ain, Waheed and Jawil (2021) examined the role of product idea generation in multinational companies and the performance of the organisation as a product idea generation in Islamabad Pakistan. The instrument of data collection was the primary method. A simple linear regression was used to analyze the data. In the three multinational organizations examined in Islamabad, the study found that the creation of product ideas is positively correlated with the organization's performance, quality, and growth. The study concluded that product idea generation plays an important role in the growth, higher quality and performance of the organisation to attain a strong position in the market and to meet with competences against its competitors.

Nwokah and Ondukwu (2019) carried out a study on product features and marketing effectiveness in corporate organisations in Nigeria. Questionnaire was distributed to sampled respondent and data were analyzed using Spearman Rank order correlation. According to the study, corporate organizations in Nigeria's product features and marketing efficacy are highly correlated. The study's findings indicate that the body of information about the influence of corporate intelligence and the marketing efficacy of corporate organizations in Nigeria has been considerably refined. The study recommended that management should consistently motivate its intelligence team so that it could analyze customer’s needs and seek to satisfy them.

With regard to Delhi City, Natajan (2011) studied the insurance product market and consumer preference for ULIP life insurance products to determine how much Delhi City consumers preferred ULIP life insurance. The collected data were analyzed by using simple percentage analysis, weighted average method, ranking method, Analysis of variance, chi-square, F-test and correlation and it is found that most of the customer are satisfied with ULIP and enjoys an excellent perception of brand value.

Malik, (2015) studied a research entitled “A Study of Consumers' Preferences in Choosing International Apparel Brand in Delhi” investigating factors affecting consumer preference towards International Brand Apparel. The study used descriptive analysis for frequency and percentage to examine the profile of the respondents. Independent sample t-test, one way Anova, Test of Pearson moment correlation, Two way Anova, Multiple Linear Regression. The study concluded Advertisement is strongest predictor towards international brand preference quality is also considered as one of the strong impact on consumer preferences towards international branded apparel.

The impact of intelligence techniques on the profitability of commercial banks in Kenya's banking sector was investigated byNgugi, Gakure, and Mugo (2019). Ex-post factor research design was adopted. The generated data was analyzed using ARDL model. The study discovered that all the variables examined in the study have positive significant effects on the profitability of commercial banks in Kenya. It was emphasized in the study that technologies intelligence is the most significant factor in contributing to the profitability of the commercial banks in Kenya. The study concluded that technology, product, market and strategic alliance corporate intelligence practices affect the profitability of commercial banks in Kenyan.

In their empirical study of Nigerian corporate business intelligence mobile phone users, Uwadia and Ayo (2018).The study focus at evaluating the interestingness of rules gotten from applying association rule mining algorithm. The study revealed that a brief statistics of phone brands and the number of users as received from the questionnaire, Nokia phone products are the most widely used in Nigeria followed by Motorola, showed a snapshot of the rules that were generated as a result of the application of association rule on the data. The generated data were analysed using Chi square. The study concluded that identifying user requirements and understanding the user is a major part of contributing to the profit of the organisation and this can be achieved through corporate intelligence.

Oyedijo (2022) carried out a study on the relationship between strategic agility and corporate performance in the Nigeria's telecommunication industry. The study was determined to find out whether strategic agility has a significant impact on corporate intelligence and also to ascertain if a significant difference exists between the performance of organizations that are strategically agile and those that are not. The empirical results showed that strategic agility is related to corporate performance, strategic agility has a significant impact on corporate performance and there is a difference between organizations that are strategically agile and those that are less strategically agile. The study concluded that there is a relationship between strategic agility and corporate performance in the Nigeria telecommunication industry.

In Uganda, Sub-Saharan Africa, Kama, Ntayi, and Ahiauzi (2021) carried out a study to empirically investigate in a single model the linkages between corporate advantage and organizational learning as well as the interactive influence of knowledge management and the population was 85 employees, questionnaire was used and the data generated was analyzed using linear regression. The study found that there is a positive relationship between organizational learning and corporate advantage and interactive influence of knowledge management and innovation increases the predictive power of the relationship. The study recommended that mangers should developed their organizational resources, remain committed and develop organizational learning culture, and to encourage and practice innovativeness at all levels of work.

Shimakalantarian, Baratimarnani and Salavati (2022) carried out a study to survey the relationship between organizational learning and product development on small and medium scale industries in food industry, cluster of Kermanshah in Iran. In the study, organizational learning was examined in form of shared vision, organizational culture, work and group learning to share knowledge, systematic thinking, collaborative leadership and competence of staff. While information technology, technological and social awareness, state rivalry, market conditions, and information technology were all considered aspects of corporate intelligence. The study discovered that organisational learning has a significant relationship with product development. The study revealed that organisational learning has a meaningful and positive relationship with all four of the product development; which include awareness of market situation, awareness of rival's situations, technological awareness and social awareness. The study recommended that senior and middle level managers and small and medium industry experts in Kermanshah should know that organisational learning has a significant influence on creation and enhancement of corporate intelligence.

## Theoretical Framework

Resource Based View

This study is anchored resource based view. Resource based view theory has its origin from the work of Penrose (1959), though inadvertently the view was formerly presented by Wernerfelt (1984). According to the resource-based view (RBV), a firm's resources are what ultimately determine its performance and competitive advantage. First, the model makes the assumption that companies within a strategic group or an industry may differ in the resources they hold. (Bridoux, 1997).The second assumption is that because resources are not fully transportable among enterprises, resource heterogeneity may endure over time when firms implement their

plans. According to Powell (2001), one of the most generally recognized theories of strategic management is the resource-based perspective, or RBV. New organisational resources may increase the flexibility in strategic choices, by allowing firms to benefit from new opportunities (Rangone, 1999). The RBV could be viewed as a "inside-out" method for formulating a strategy: first, the firm's internal resources must be evaluated for their ability to create value in order to establish a plan that would enable the company to maximize value in a sustainable manner.(Grant, 1991; Barney, 1986). In this way, the firm product development strategy is determined by the resources available and the capability to deploy them in the best way to obtain a good performance

The resource-based view states that a number of important variables affect how product development and business performance are related.First, the organization's resource position is a crucial consideration. Access to distinctive and valuable resources increases an organization's chances of developing great products and achieving outstanding commercial performance. Second, the organization's resource-based capabilities are also important. Product creation and achieving company performance will be more successful for organizations with the ability to use their resources effectively.

The resource-based view of the firm has been developed and refined over the past 30 years by various scholars, including Barney (1991), Peteraf and Barney (2015), and Collis, Montgomery, and Young (2021). This perspective holds that an organization's resource position and resource-based capabilities play a critical role in deciding how well it performs in the marketplace and in terms of product development.

The study by Liao, Wu, and Huang (2021) found that organizations with a higher level of social capital (defined as the ability to access resources through networks and relationships) are more likely to achieve higher levels of product development success. This study was published in the International Journal of Innovation Management.

The study by Collis, Montgomery, and Young (2021) found that resources can be classified into two categories: tangible and intangible. Tangible resources include physical and financial assets, while intangible resources include brand, reputation, and relationships. They found that the effective combination of these resources can be used to create sustainable competitive advantage. In addition, the study by Naldi, Caiazza, and Ottone (2021) found that the ability to reconfigure resources (i.e. to change the use or combination of resources) is also important for achieving higher levels of business performance.

**Product Life Cycle**

Product, like any normal human being has a life cycle, which dictates the strategy to be adopted by the product developers or managers. The stage in which the product is in the life cycle could be determined or known through the sales performance of the product in the market. Robert (2005), said that; "product life cycle is a model that describes a product's sales, profits, customers, competition and marketing effort from it introduction to its removal from the market"

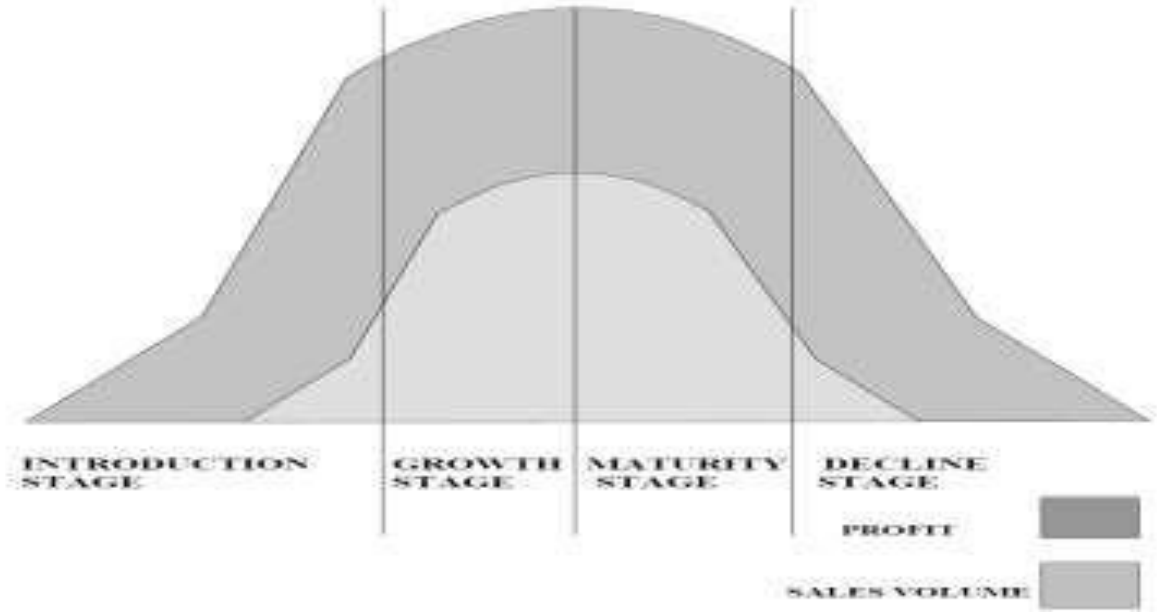
It can also be described as a graphical portrayal of the sales history of a product, the time when it is introduced to the point when it is withdrawn.

Product life cycle has four major stages, which are described below:

Introduction: This is the period during which a new product is introduced into the market. The product is newly launched or just fully commercialized. This stage in the product life cycle is usually over burdened with high production cost as well as other marketing costs. In addition, this stage is usually accompanied by heavy promotional activities because of the need to inform potential buyers of the existence, uses, application and advantages of the new product. For highly innovating products, price are usually high to cover cost of production and marketing, profits, if any, are small in this phase of the life cycle. This stage is characterized with the risk because the product can either fail or succeed.

Growth: If a product survives the introductory stage, it moves into the growth stage of the life cycle. This stage starts with the acceptance of the product in the market. The first symptom of the appearance of the growth stage is therefore a rapid increase in the sales volume. Due to the improvement in sales volume, some of the cost will now be absorbed and so there will be the emergence of profit. This stage will equally witness the moving up on the curve of the product in terms of sales and profit. This is equally noted by competing firms, who will quickly come up with identical or modified product. There is an increase in demand. It is of vital importance to mention at this stage of product development the growth of the product which will be necessary at this stage of product's life cycle. The innovation could be partial innovation or total innovation. This is because consumers always want "new" products because they feel the quality of the "new" product will be better than the already existing one.

Maturity: The emergence of this stage is usually accompanied by an increase in both sales and profit but at a decreasing rate. Most products that exist today are in the maturity stage. Normally,




A Product's Life-Cycle Diagram
Figure 2.1 Sales Volume Curve and profit Curve in Relation to a Product's life cycle

**RESEARCH METHODOLOGY**

Research Design
The research design adopted for this study is survey design. Descriptive survey method is considered more appropriate for collecting, analyzing and interpreting data gathered from respondents (Osuala, 2001).

Population of the study
According to Osikhotsali (2021), the population is the pool of individuals from which a statistical sample is drawn for a study.
The target population for this study is a cross-section of employees of selected manufacturing firm in Benin city Edo State.

Accessible Population
Since it was not possible to deal with the entire manufacturing firm in Benin city Edo State, because of the geographical dispersion of the range population, a portion of the population was selected. The accessible population of 250 staff.

TABLE 3.1 POPULATIONS OF EMPLOYEES UNDER STUDY

| S/NO | | NO. OF EMPLOYEES |
|---|---|---|
| 1 | Coca-Cola | 75 |
| 2 | Benin Plywood Industry | 45 |
| 3 | Igbinedion Glass Industry | 50 |
| 4 | Dufil Prima Foods | 80 |
| 5 | Total | 250 |

Source: Edo state Chamber of commerce (2022)

3.3. Sampling Size
To determine the sample size of the study, Taro Yamene's formula will be adopted as shown below:

$n = N/(1+N(e)2)$

Where; n = sample size sought
e = Level of significance usually 5% (0.05)
N = Population size

$$n = \frac{250}{1+250\ (0.05)2} \quad \frac{250}{1+250\ (0.05)2}$$

$$n = \frac{250}{1+150\ (0.0025)} \quad \frac{250}{1+150\ (0.0025)}$$

n = 1 +250 (0.00205)
n = 250/1.41
n = 177.3
:. The sample size is 177

**Sampling Technique**
Convenience sampling was used by the researcher to collect needed information from respondents. Convenience sampling was utilized because it provides an opportunity to obtain a large sample of data inexpensively (Bhutta, 2012).

**Method of Data Collection**
There are two sources of data for this research work:
A. The primary source
B. The secondary source

The primary source of data was mainly through the distribution of questionnaire while the secondary source of data was from different kinds of text books and journals.

## Measurement of Variables

This study, examines the effect of product development and performance of manufacturing firm
Independent Variable
The independent variable is" product development" The dimensions of the independent variable (product development) are product idea generation, production validation of ideas and product design. Adopted from Nwokah et al, (2009). The response format was based on an adjusted five-point Likert type scale ranging from (1) 'strongly disagree' to (5) 'strongly agree.
Dependent variable
Firm performance will be measured using increased sales volume which comprised of 3 items was adapted from (Martini 2012). The response format was based on an adjusted four-point Likert type scale ranging from (1) 'strongly disagree' to (4) 'strongly agree.
3.6 Validity & Reliability of Research Instrument
Validity measures the extent to which the instrument is relevant to the study. To measure the true value of the variables for the individuals being measured, the researcher applied the content validity and construct validity to access the instrument. To measure the content validity experts in the field of management sciences validated our instruments.
Taherdoost (2016) defines construct validity as the degree to which you were able to operationalize—transform—a construct—a notion, idea, or behavior into a reality that is both functional and operational. Most of the variables that were employed for this study were sourced from existing literature and had been pre-tested and validated in previous studies. Therefore the variables had construct validity.
Reliability is the degree to which any measuring device accounts for random error, or the confidence that can be placed in the data collected through the use of an instrument. (Mohajan, 2017). Data are said to be reliable if they are consistent, accurate and precise, therefore Scale reliability will be calculated using Cronbach Alpha. It is the most appropriate statistical test for reliability given the nature of response to be used to construct the scales. Using statistical package for social sciences (SPSS).
According to Bryman& Bell (2003) an Alpha coefficient of 0.80 is generally accepted as s good level of internal reliability of the instrument, though and Alpha level of 0.7 is also considered to be efficient.

## Method of Data Analysis

The researcher employed the use of the Spearman Rank Order Test of Correlation for the data analysis and decision rule was used to take decision. The formula for Spearman's rank correlation coefficient (sometimes simply referred to as rank correlation) is $r = 1 - 6 \sum ( \ - 1 )$ In it, $r$ represents the coefficient, and the number of points in the data set is represented by $n$
3.9Data Collection Instrument and Administration
The research data were collected with the aid of a questionnaire which is made up of two sections. Section "A" is on demographic characteristics of the respondents which comprises of gender, education qualification, position held and working experience. Section "B" is on research question 1, 2 and 3 respectively, with each containing five items. A five likert scale rating was used to permit decision. Thus, A-Agree,SA-Strongly Agree,I-Indecisive,D-Disagree,SD-Strongly Disagree. 90 questionnaires were administered to the respondents in their various departments.

## Justification of the Instrument Used

The Spearman Rank Order Test of Correlation is a statistical method that can be used to examine the relationship between two variables. In this case, the instrument used for collecting data on product development and organizational performance in SMEs was a questionnaire that measures

the two variables using a Likert scale. The Spearman Rank Order Test was then used to determine the strength and direction of the relationship between the two variables. This test would be appropriate because it is robust to non-normality of the data, and it does not require the data to be measured on a ratio scale.

**Limitation of the Study**

The researcher encountered numerous obstacles while collecting the data required to carry out this research project. Among the issues are:

- Attitude of respondents and constraints: Getting an appointment with the public relations department to gather the data required for the study proved to be challenging.
-Finance: Owing to the researcher's financial limitations, data analysis was limited to a specific Coca-Cola Bottling Company location in Benin City.
- Access to data and information: The manufacturing companies were reluctant to share information about their product development and organizational performance due to confidentiality concerns.
- Reliability of data: The quality of data collected from the manufacturing companies were limited because the information was self-reported.

**Discussion of Findings**

This study examined the relationship between product development and financial performance in the Nigerian bottling company. The study made salient revelation regarding product development in the areas of product idea generation, production validation of ideas and product design and the extent to which they relate to financial performance such as profitability and sales volume.

The correlation analysis reviewed that product idea generation has a positive significant relationship with financial profitability and sales volume in the Nigeria Bottling company. As regards the extent to which the bottling companies used product development as a strategy for improved financial performance, Adebiyi, et al., (2021) opine that continuous product development as a strategy for improved financial performance in the dynamic and competitive bottling environment in Nigeria.

The study further revealed that production validation of ideas was positively correlated with profitability and sales volume. This is confirmed by the results from the hypotheses tests in Tables 4.8 and 4.9 which established a positive correlation between the variables. The finding however contradict the views expressed by Nwokah, et al., (2009) that production validation of ideas, product design and profitability, sales volume and customer loyalty are not significant.

The outcome additionally indicates that, in the Nigerian bottling company, financial performance and sales volume have a positive but insignificant link with product designThis is confirmed by the results in the hypotheses tests in table 4.10 and 4.11 which establish a positive relationship between the variables. However, this relationship is insignificant. The findings is in line with that of Nwokah, etal., (2009) on Product development and organizational performance. The study found no significant correlation between customer loyalty, sales volume, product design and profitability, and production validation of concepts. The study finds that there is a strong and positive correlation between product idea development. However, Duncan and Earl (2004) contend that the profitability and market position of the companies examined were mostly driven by the caliber of their product and service offerings.

**Summary of Findings**

This study seeks to examine the relationship between product development and organizational performance in the Nigeria Bottling Company. Questionnaires were issued out to eighty (80) respondents in Nigeria bottling company and 76 were retrieved. The demographic characteristics of the respondents shows that majority of the respodents are female having the highest frequency. It was further discovered that the highest age category of the respondent is 30 – 39

years while the highest education level attain by the respondent is B.Sc/B.A decree. Correlation analysis was used to test the research hypotheses and the result is given thus:

1. There is a positive significant relationship between product idea generation and financial profitability in the Nigeria Bottling Company
2. That there is a positive significant relationship between product idea generation and sales volume in the Nigeria Bottling Company.
3. There is a positive significant relationship between production validation of ideas and financial profitability in the Nigeria Bottling Company.
4. There is a positive significant relationship between production validation of ideas and sales volume in the Nigeria Bottling Company
5. There is a positive insignificant relationship between product design and financial profitability in the Nigeria Bottling Company.
6. There is a positive insignificant relationship between product design and sales volume in the Nigeria Bottling Company

## CONCLUSION

Based on the findings of this study, it can be concluded that product idea generation has a positive significant relationship with financial performance of Nigeria bottling company. The study also concludes that production validation of ideas has a positive significant relationship with financial performance of Nigeria bottling company. The study further concludes that product design has a positive but insignificant relationship with financial performance of Nigeria bottling company. Based on the study outcome, it is quite revealing that the actualization of product development through sustainable product life cycle could be achieved by; product idea generation, production validation of ideas and product design to develop new products and the training/re-training of personnel required to implement the development of new products. These activities could trigger the growth of the firm and by extension industrial revolution in Nigeria.

Today, the bottling company is a successful sub-sector in the Nigerian manufacturing industry. The acceptance and public goodwill is in part a function of social responsibility and innovative products and services, which now appeal to much wider audience than in the past.Similarly, products that do not relate or meet the real needs of customers cannot generate revenue for the company. Returns on investment and market share can be negatively impacted by poor and shoddy products.

## RECOMMENDATIONS

Based on the findings of this study, the following recommendation has been provided:

1. Nigeria bottling company should organize regular and continuous training for marketing managers and R&D personnel so as to update their professional skill and knowledge on product development.
2. Product construction, Idea Generation, product validation of ideas, product design, product screening, packaging, branding, product positioning and usage testing should be an integral component of product development in the bottling sector.
3. Effective information management and communication should be applied in the daily operations of the bottling as it can provide management and staff with data and understanding critical to successful product development.

## REFERENCES

Bhuyan, N. (2011). *A framework for successful new product development: Journal of Industrial Engineering and Management, 4 (4), Pp. 746-770*.

Bodlaj, M., Kadic-Magla, S., & Vida 1. (2020). *Disentangling the impact of different innovation types, financial constraints and geographic diversification on SME's export growth. Journal of Business Research*, *108, 466-475. doi; 10.1016/j.jbursres.2018.10.043.*

Bounken, R., Schmith, F. (2022). *SME Family firms and strategic digital transportation inverting Dualisms related to over confidence and centralization. Journal of small business strategy, 32 (3), 1-17*.

Bruno, C. (2022). *Creativity in the design process. Springer. Doi.1007/978-3-03087258-8.*

Carroll, G. R., & Sorensen, J. B. (2021). *Making Great Strategy. Arguing for Organizational Advantage. Columbia University Press. Doi:10.7312/sore1*

Codini, A. P., Abbate, T., & Petruzzelli, A. M. (2022). *Business model Innovation and exaptation : A new way of innovating in SME's. Technovation, 102548. Doi:10.1016/J.technovation. 2022.102548.*

Corbo, L., Mahassel, S., & Ferraris A. (2020). *Translational Mechanisms Model Design : Introducing the continuous validation framework management decision, 58(9), 2011-2026. Doi: 10.1108/MD-10-2019-1488.*

Crawford, C. M. (1972). *Strategies for new product development. Business Horizons, 15-(10), 49-58. Doi: 10.1016/0007-6813 (72) 90061-4.*

Duncan BJ, Earl Y (2004). Marketing Strategy and Plans, in Ayanwu AV ,

Empirical Studies on the Relationship Between Product Development and Firm Performance" by Cheng et al. (2017).:

Endler, J. A. (2015). *Writing Scientific Papers with Special References to Evolutionary Ecology. 29(4).465-478. Doi: 1007/5/0682-015-9773-8.*

Etuk K (2003). Marketing Strategy, 2nd Ed., Chicago, Houghton Miffmg Co. p. 384.

Evaluating the Factors That Influence New Product Development Performance" by Melnyk et al. (2018).

Exploring Manufacturing Strategy and Product Development Performance" by Ntayi et al. (2019).

Factors Influencing Product Development Performance: A Systematic Literature Review" by Wong et al. (2019).

Flocco, N., Canterino, F. & Cagliano, R. (2022). To control or not to control: How to organize employee driven innovation. Creatively and innovation management, 31(3)

Goulding, I. (1983). *New product development. A literature review. European journal of marketing*. *17 (3), pp 3-30.*

Grundiche Y (2004). Marketing Strategy and Plans: Organizational Per-spectives, 2nd Ed., Chicago. The Dryden Press p. 168.

IBEF (2019). Mobile phone manufacturing in India: Towards a brighter future: Retrieved from https://www.ibef.org/blogs/mobile phone manufacturing in India.

Joseph, G. (2020). An examination of the relationship between production validation of ideas and customer satisfaction. International Journal of Research and Innovation in Social Science, 4(1), 72-82.

Kotler P (1994). Marketing Management: Anal., Plann. Implementation and Control. 10th Ed., Englewood Cliff, N. York, Prentice-Hall Inc. p. 434.

Kotler Philip (1997), Marketing Management, 9th Ed., Prentice Hall, New Jersey.

Kumar, M. (2022). *Optimal Design of Reliability Acceptance Samping Plans for Multi-Stage Production Process. In Reliability and Maintainability Assessment of Industrial Systems (Pp. 123-142). Springer doi:10/007/9/78-3-030-93623-5-7.*

London, Heinemann Books Ltd. New York, McGraw-Hill Inc. pp: 123 Ojo US (2000). Marketing Principles Owerri, Afr. Educ. Serv. p. 118. Stanton WJ (1996). Fundamentals of Marketing. London, Macmillan Books Ltd. p. 92.

Luchs, G. (2014). A Review of Marketing Research on Product Design and Directions for future research. International Product Development Management Conference, Ireland, June 15-17, 2014.

Mousend WO, Thompson NK (2002). Marketing Management, 4th Ed.,

New Product Development Processes: Impact of Innovation on Project Performance" by Kumar and Sharma (2017).

Nwokah NG (2008). Ed, Services Marketing, Avan Global Publisher Owerri.

Oktapia, A., Siagian, H., & Tavigan, Z; J. H. (2022). *The effect of early supplier involvement on firm performance through teamwork and new product development . Petra International Journal of Business Studies, 5 (1), 44-55, doi: 10.9744/ijbs. 5.144-55.*

Olsen, N. V. (2015). *Design Thinking and Food Innovation. Trends in Food Science & Technology, 41 (2), 182-187. Doi: 109744/ijbs. 5.1.4455.*

Product Development Success: A Practical Guide for Managers" by Steven C. Wheelwright and Kim B. Clark, published by Harvard Business Review Press in 2013.

Product Development: A Handbook for Small Businesses" by C. Chew and K. Evans, published by Nesta in 2014.

Rana, S. (2021).

Role of Knowledge Sharing and Learning in New Product Development" by Waluga and Rufin (2017).

Roy, S. K., Grunner, R. L., & Guo. J. (2022). *Exploring customer experience. Commitment, and engagement behaviours. Journal of strategic marketing, 30 (1), 45-68. Doi: 10.1080/0965254 x 2019.1642937).*

Samsung Group (2019). *Samsung Financial Highlights, Retrieved from Samsunggroup.com*

Silinevica (2016). Research of the New Product Development Process. Latgale National Economy Research, 1 (1), P. 116.

Strategies for Successful New Product Development: A Guide for Business Executives" by Vijay K. Jog, published by Springer in 2014.

The Effect of Innovation Strategy on New Product Development Performance" by Senaratne and Shahzad (2017).

The Effect of Organizational Structure on New Product Development Performance" by Liu.

The Impact of Organizational Culture on Product Development Performance: A Systematic Literature Review" by Amado-Díaz and Fernández-Gutiérrez (2017).

The Influence of Organizational Culture on New Product Development Performance" by Nilsson et al. (2017).

The Role of Community in Knowledge Management Systems and New Product Development" by J.S. Alavi and L.P. Leidner, published in the Journal of Management Information Systems in 2001.

The Role of Knowledge Transfer in the New Product Development Process" by D. Dhanaraj and J. Parkhe, published in the Journal of Product Innovation Management in 2006.

The Role of Leadership in Product Development Performance" by Thunholm and Mähring (2018).(Porter, 1985) lean thinking (Helms & Nixon, 2010).(De Waal, 2004) the productivity index (Sakai, 2003). (Parasuraman et al., 1996) the SERVQUAL model (Berry & Parasuraman, 1991).

Tunji A (2004). Dimension of Financial Management. Yannele WT (2005). Marketing: Theory, Principles and Practice.

Vettorello, M., Eisenbart, B. & Ranscombe C. (2022). *The Innovation System Roadmap: Naiel approach to instill future oriented reasoning in strategic decision making. Creativity and innovation management. 31(1), 5-18. Doi: 10.1111/caim. 12472*

Wang, F., Li, H., & Liu, A. (2018). *A novel method for determining the key customer requirements and innovation goals in customer collaborative product innovation. Journal of intelligent manufacturing, 29 (1), 211-225. Doi: 10.1007/s10 845-015-1102-0.*

Wang, Y. C. Phillips, F., & Yang, C. (2021). *Bridging Innovation and Commercialization create valve: An open innovation study. Journal of Business Research, 123, 255-266.doi: 1016/j.jbusres.2020.09.052.*

Yilmaz, L. (2018). Generative parallax simulation: creative cognitive models of emergence for simulation drive model discovery: Emergence Behaviour in complex systems engineering: A modelling and simulation Approach, 59-75.