# PRODUCT STRATEGY AND MANAGEMENT



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# **CHAPTER 1**

# THE ALLOCATION REDEPLOYMENT OF CAPITAL INVESTED CASH

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# **ABSTRACT:**

This study examines the techniques, factors, and effects of efficiently managing and using cash resources. It focuses on the distribution and redistribution of capital invested currency inside organizations. A key component of financial management is allocating and redeploying capital invested cash since it affects how organizations distribute money to different investment opportunities and initiatives. This study explores the methods used in the allocation and redeployment of cash, including capital budgeting, investment analysis, and risk management. It does so by conducting a thorough examination of the relevant literature, empirical research, and theoretical frameworks. It investigates how to distribute monetary resources by looking at factors including liquidity, profitability, risk tolerance, and market circumstances. The research examines the effects of efficient cash redeployment and allocation on organisational development, monetary performance, and shareholder value. It also looks at the difficulties and factors to be taken into account while managing and reallocating capital invested funds, such as capital structure, cost of capital, and capital market dynamics. The study's results help organizations create policies and procedures that maximize the use of cash resources and promote long-term financial success by fostering a better knowledge of the allocation and redeployment of capital invested cash.

## **KEYWORDS:**

Capital Invested Cash, Allocation, Redeployment, Strategies, Considerations, Implications, Capital Budgeting.

# **INTRODUCTION**

One of the general manager's most significant responsibilities is allocating the cash that is available and expected to operational and strategic projects. A company enters the market with a predetermined capital structure that often consists of a mix of debt and equity. The examples used throughout this book have shown the significant strategic value that can be attributed to a healthy balance sheet. Of course, there is a lot of disagreement on what constitutes a "strong balance sheet." we assume that most authorities would recognize a (book value) debt to capital ratio of which approximately equates to an AA (double A) bond rating, as representing a robust balance sheet. Assume a company has a balance sheet like this when it first starts its business.

The general manager must decide strategically how to allocate the available funds among various purposes, including the acquisition of plants and equipment, the purchase of stocks of raw materials and acquired components, and the financing of completed products inventories and accounts receivable. As operations start, the firm's cash flow from operations, the raising of additional equity, and the availability of additional debt, made possible by retained earnings that increase both equity and debt capacity, given a target debt to capital ratio, all result in increases in the amount of cash available [1], [2].

# **Capital Budgeting and Strategic Planning**

In order for businesses to carry out large-scale initiatives, the corporation form of business organization is particularly successful at bringing together significant quantities of cash. Organizations invest in projects that will provide returns greater than their cost of capital in an effort to increase shareholder value. The duty of the corporate executives who must divide the available cash among its different enterprises and initiatives becomes more challenging the more suggested projects there are, and the more varied they are, and the more the expected returns surpass the cost of capital. The firm's capital budget is the collective name for the last list of authorised projects. When seen from the outside, the allocation of a company's financial resources reflects the most concrete information about its aims and strategy. Projects, product lines, or divisions that are less crucial to a company's strategy often get little to no investment.

The capital budgeting process is concerned with long-term investments that need significant financial commitments, such as purchases of land, structures and facilities, machinery and equipment, cars or other vehicles, and information technology projects. It is concerned with matters related to an organization's strategic strategy, such as the money designated for spending on research and development or corporate mergers and divestitures, in addition to physical assets that are capitalised in the accounting sense. Theoretically, the strategic goals and planning objectives of an organisation are intrinsically tied to the capital budget. The strategic goals of an organisation are often stated in broad terms. The strategic plan is then developed with specific, achievable targets. These objectives are often described in terms of return on assets, market share, or profitability in the strategic plan. A company's investments must be compatible with its strategic aims and planning objectives among a variety of potentially lucrative investment options [3], [4].

In reality, however, the connection between investment ideas and strategy is often tenuous or nonexistent. In reality, developing a plan may be hampered or made more difficult by the capital budgeting process. This anomaly results from the paradox that requests for capital expenditures often come from lower levels of the organisation and are motivated by demands that are seen there rather than corporate strategy. It should be emphasised, nevertheless, that minor initiatives may sometimes spread across an organisation, create patterns, and ultimately alter a company's whole business plan. This might be referred to as gradualism's inevitable progression. A prime example is the creation of post-it notes by the 3M Corporation, a very successful product that sprang from the efforts of one person who worked very hard inside the company.

# **Cost Reduction**

When it does, the experience curve depicts an inverted exponential connection between expenses spent and total output volume of goods or services. In other words, costs typically decrease steadily as experience and cumulative output rise. This phenomenon is pervasive throughout many industrial and service sectors, but it is most pronounced in the semiconductor sector, where chip costs and prices have fallen by 48 percent annually over a sustained period of time. Companies must invest in new manufacturing facilities and technology in order to take advantage of the falling costs and maintain their cost leadership positions. The strategic location of the business and the sector in which it operates almost make such expenditures necessary [5], [6].

To deliver a general decrease in relative operating costs, targeted productivity improvement programs—such as business process reengineering or information technology initiatives are implemented. Based on 2002 sales figures, Wal-Mart's recent plan to replace bar codes with

radio frequency tags on items is anticipated to result in yearly cost savings between \$1.3 billion and \$1.5 billion.3 In order to reduce expenses, many businesses use enterprise resource planning (ERP) technologies to improve supply chain efficiency and simplify operations. Projects of this kind often need to have expected future returns on investment of 40–50%, according to businesses. This is partially due to project sponsors' regular propensity to artificially inflate predicted profits.

#### **New Products and Services**

Products in the early stages of development are often marked by poor or negative profitability as well as significant upfront costs. These investments provide management the ability to adjust production in the future depending on the features of the product life cycle. This category includes spending on research and development in pharmaceutical companies and other high-risk industries. Technology businesses that rely heavily on innovation rates to compete must manage the resource allocation process and funding request criteria with particular care. Innovation projects that get enough funding may be successful. Lower priority initiatives won't have much of a chance of success because of a lack of resources. To help reduce the significant risk involved in bringing innovative goods and services to market, the anticipated returns on investment for such ventures are usually 30% or more.

#### **Growth within Current Businesses and Products**

Businesses that adopt a growth plan often strive to increase their net assets at a pace that corresponds to the anticipated market growth rate. Beyond the expansion of physical assets, knowledge-intensive organisations may need to expand capital investment on research and development. However, as product lines become more established, investment requirements often decrease. Less risky capital projects that increase the potential for organic expansion of current goods and services are often projected to provide returns higher than the cost of capital or the company's strategic return target [7], [8].

# **Product or Service Differentiation**

In the majority of marketplaces, goods and services that stand out due to special qualities or characteristics may provide excess returns over time. Companies often have to spend extensively in R&D, manufacturing methods, advertising, and marketing to put up barriers to entry for their rivals in order to achieve such an enviable market position. When Gillette introduced the Mach3 razor, it had already spent \$750 million on specialised equipment and manufacturing facilities and had \$300 million set up for an initial marketing campaign. The Machwas designed by Gillette to be a durable, money-making consumer good. Most businesses would want projected returns to be much higher than the cost of capital, often 25 to 30 percent, since these initiatives involve a little bit more risk than those for organic development.

The majority of businesses, regardless of size, have formal procedures that specify the deadlines for doing these studies. Either a top down or bottom-up strategy may be used for the capital budgeting process. The majority of organisations use methods that combine the two, including much of discussion and compromise along the route. As previously said, it takes a bottom-up rather than top-down approach in practise. The diagram in Exhibit 15-1 depicts a typical bottom-up procedure. Separate approvals are required for the capital budget and individual projects. The relevant management must do thorough study and preparation before recommending specific initiatives. The operational units will always require more money overall than is available to pay for it, as we demonstrate here. A strategic perspective that is not accessible to lower-level managers is used in the decision-making process to

determine which initiatives will get funding. The company's long-term prospects are determined by these strategic decisions.

Consider a business has \$550 million in total current cash flow that may be used to support capital expenditures. Assume that the following requests for capital expenditures have been sent to corporate headquarters, which are outlined by category in Exhibit 15-2. Analyses that demonstrate a project fulfils the corporate return requirements for a certain category of capital investment are provided with each proposal. Given that each project has been estimated by the accountable operating managers to meet the financial return criteria for its class of projects and that there are 350 requests totaling \$1 billion, the key question for the corporate office is how to choose the projects that will be funded with the abundant but still limited available funds (\$550 million cash flow claimed by).

Every project type aims to contribute in a unique way to one or more of the corporation's strategic and operational objectives. The decisions taken throughout this selecting process will definitely shape the destiny of the business. The CEO and his or her team must maintain neutrality while deciding amongst the options. The example demonstrates the degree of complexity that is included into these options. It is very improbable that the choices the operating-level managers prioritise would easily align with the general manager's preferred strategic direction. However, the likelihood that the suggestions from the operational units will align with the corporate aims and objectives increases with the clarity with which the corporate strategy is expressed for everyone to grasp. The process of making capital investments must also include monitoring and managing the expenditure and completion progress. Projects may be monitored using contemporary information systems to make sure that predetermined operational and financial milestones will be accomplished when monies are spent. Additionally, they may make sure that no project's overall obligations go above the allotted capital budget.

# DISCUSSION

#### **Additional Uses of Cash**

The general manager, in addition to the funds designated for capital projects, has a number of additional uses for the available resources, as previously mentioned. He or she may decide to settle any debts owed or refund a portion of the cash to shareholders through dividend payments or the acquisition of existing shares. Recent decreases in U.S. federal tax rates on dividend income for recipients have made dividend payouts more alluring. Theoretically, share repurchases boost the value of the remaining owners' shares but have no impact on the company's overall market capitalization. repurchases are covered in great depth. General managers commonly use both of these techniques to return part of the capital to shareholders when there is extra cash, so raising shareholder value. The cash left over after paying for all of the identified and chosen investments that satisfy the company's strategic risk/return goals while keeping its desired debt-to-capital ratio is referred to as excess cash.

# The Redeployment of Cash through Restructuring

Companies work hard to consistently and at a level that meets the expectations of their investors. In order to achieve this, a firm may decline brand-new business possibilities that are predicted to provide lesser returns. Think about a business with a solid financial sheet, continuous high yearly cash flow, and an average RONA of 15%. If the business discovers a new product line that has a 10% chance of achieving RONA, it could be persuaded to explore it if it has extra funds. However, pursuing the new line would reduce the company's overall RONA. The shareholders would prefer that the corporation return the surplus cash to the

owners and allow them to reinvest their money in a new venture that would provide the shareholders' targeted return on net assets of 15%. Companies with a healthy balance sheet, steady cash flow, and a lack of attractive fresh investment prospects are particularly motivated by this circumstance to implement share buyback programmes. It is obvious that not all firms at all periods of the economic cycle should engage in share repurchases. In fact, more established businesses in low- to medium-growth sectors are more likely to implement share buyback programmes.

Younger, faster-growing businesses often lack cash and can maximise internal returns on any available capital. Share repurchases thus allow money to be moved from older firms to younger ones from a macroeconomic standpoint. "Buy-backs are therefore an essential part of the process by which capital is recycled from mature companies with limited investment opportunities to young businesses with enormous growth potential and enormous financing needs," writes Marc Bertoneche, a professor at Harvard Business School. However, share repurchases are not the only means to distribute surplus funds to shareholders. In truth, businesses provide billions of dollars in monthly and one-time dividend payments to investors every year. So why would a business decide to buy back shares rather than pay dividends? mostly due to the fact that the share repurchase procedure adds value to the remaining owners' shares.

One could anticipate that corporations would opt to distribute capital in the form of repurchases rather than dividends given the advantages repurchases provide to shareholders. But this is not the case. The majority of businesses that implement share buyback programmes continue to pay dividends. Because of the anticipated monthly income that shareholders might expect from dividend distributions, investors often decide to purchase the shares of a certain firm. These investors would be disappointed if a firm stopped paying dividends since they would lose their dividend income. Most businesses continue to pay their monthly dividend and choose to employ repurchases for bigger, perhaps irregular cash payouts in order to avoid upsetting shareholders. The general manager may be hesitant to forecast bigger dividend payments in the future if a firm has an exceptionally significant amount of extra cash and may decide not to raise dividend payments.

#### **Increase Proportion of Debt**

Repurchasing shares of stock may also be an indication of a manager's optimism for the company's future. For instance, after Black Monday, October 19, 1987, when stock values crashed, numerous businesses announced substantial share repurchases the following day. A \$250 million share buyback programme was initially announced by Citicorp, but many other businesses soon followed. In reality, companies announced a total of \$6.2 billion in share repurchases within two days of the crisis as management and boards worked to restore investor confidence. Senior managers and directors often hang onto their stock when firms offer to repurchase their shares at a premium price to highlight the commitment of the board and management to the company's future. The financial markets would unavoidably read a sale by either side as a vote of "no confidence" in the company's future. Capital markets virtually generally disapprove of insider sales unless they are planned and publicised well in advance.

# Market Reaction to Share Repurchases

The market often responds favourably to news of a share buyback, and the price of the stock typically increases; however, this increase is to be anticipated. The corporation raises earnings per share (EPS) by decreasing the denominator in the earnings per share (EPS) calculation by lowering the number of outstanding shares via a share buyback. It is fair to

anticipate that the market would assign the same price/earnings (P/E) multiple to the EP S since the company's performance hasn't altered much as a result of the share buyback. Additionally, because the post-repurchase EPS is greater, the share price ought to increase in line with that. Since the company's fundamentals have not changed, the market capitalization, which is calculated by multiplying the share price by the number of outstanding shares, should stay constant.

Despite that reasoning, a company's announcement of a share buyback may result in a little boost in the share price from the financial markets. When open-market buyback programmes were announced, according to research by Comment and Jarrell, prices rose abnormally by an average of 2%. Investors' satisfaction with management's choice to pay out the extra cash rather than risk it on less lucrative assets may be one reason for this further gain. Investors seem to be prepared to pay a little bit extra for sound managerial judgement.

## **General Managers Taking Action**

The task for the general manager is to put the previously created plans into practice to make the correct things happen and to do them successfully. Ultimately, management must take actions that result in the intended outcomes, regardless of how clever the ideas are or how well they have been designed. "Making Effective Decisions." How effectively an organisation runs is determined on the leader's effectiveness. Since achieving objectives and doing business efficiently need excellent management, the most effective leaders are actionoriented. General managers must have both leadership and management abilities in order to carry out their duties and adopt initiatives that benefit the company.

The organisational structure of a firm must take into account the fundamental nature of the job that it does in Chapter 18, "Organising and Aligning," of the book. The right structure must take into account the company's size, the nature of its activity, its pace of expansion, the complexity of its product lines, and the quantity and distribution of its activities and clients. The chain of command is established by the authority connections and associated duties that are defined by the organisational structure. For control and responsibility to be successful, this framework is necessary. "Staffing," discusses the necessity to place the appropriate people in the right roles. Employees are crucial strategic resources, from hourly labourers to the general manager. The management tenet of "putting the right people in the right jobs" is crucial. The right individuals seize chances and solve issues; the bad people create new ones. The crucial process of integrating organisational units and their staffs into a cohesive whole is covered "Integrating," in great detail.

One of the biggest issues a general manager has is getting the staff to coordinate and collaborate, which is crucial. The management of functional department integration within a single company, the integration of the operations of various strategic business units within a diversified, decentralised parent company, and the integration within organisations that have evolved to employ vertical (forward and backward) and/or horizontal integration can all be looked at from different angles. "Executing," talks about how management must, above all, creatively carry out the specific plans created in Part II. This entails successfully generating demand for the company has to be properly directed in order to remain on track, just like on any journey. The general manager must contend with the restricting factors and repeatedly retrace the prescribed track despite the incursion of multiple disturbances along the road. Since unforeseen circumstances have an influence on each competitor's life, the award (success) goes to the leader who completes the course the fastest.

The choice of course of action is better characterised as a conclusion than a decision when the facts are clear and comprehensive and any sane individual would choose to follow the most logical path of action. A corporation may decide, for instance, that it's important to spend money on installing an environmental control system if federal law mandates it and the facility would be shut down if it didn't comply. By employing well-known optimisation techniques, some additional, lower-level, often recurring scenarios for which the data are accessible may be analysed. Once again, using a set of known facts, the optimisation technique may be utilised to identify the optimum course of action given the inputs. Choosing the best production order for a manufacturing plant is one example. Another example is choosing the best combination of petroleum products to be produced from a particular batch of crude oil. By applying the ideal solution, optimization typically aims to increase the contribution to profit and overhead.

When it is impossible to predict how rivals will respond, management may decide to use the "mini-max principle" from game theory. In that the company will ultimately be assured a certain minimum level of profit (or maximum level of cost), independent of the measures taken by the competitor(s), the course of action selected under this method is cautious. The filing of a proposal for a one-time project might serve as an illustration. Regardless of competing bids, the bid price and contract conditions would ensure that the business would generate at least a certain amount of profit if the offer were accepted. The use of statistical decision theory is another method for dealing with uncertainty. With this strategy, management makes the assumption that the observation of a highly improbable incident validates the high probability of a certain result in which it is interested. Instead, they must proceed while making their best assumptions and utilizing strategies to take uncertainty and risk into consideration.

- 1. Data inaccuracies It is generally known that many administrative decision-making inputs, including as projections, are rife with ambiguity, if not outright wrong. Therefore, managers should pay attention to how much mistake is there in the data or analysis.
- 2. Competitors' responses or actions Except in retrospect, a general manager can never completely grasp the goals or strategies of rivals. For instance, if a general manager chose to lower the pricing of the company's goods, the exact nature of the responses of the company's rivals wouldn't become clear until they had already taken place.
- 3. Decisions that are likely to elicit a competitive reaction carry a considerable lot of risk and should be made cautiously. The company's ability to carry out the selected course of action Before making important choices, a general manager should take care to comprehend and thoroughly analyse the capabilities of his or her organisation. For instance, a general manager can decide to introduce a new product on a very short timeline that, for a variety of reasons, his or her marketing and production organisations are unable to fulfil. In this case, a lot of money may have been spent on advertising efforts just to discover that the product was not really offered. These are the dangers that come with not fully comprehending the organisational skills of the general manager.

Each of us have a unique personality as well as a body of knowledge and experience. We should be conscious of the unique talents and shortcomings that each of us has. Successful general managers are aware of their capacities (developed through knowledge and experience) and look for assignments that play to their strengths. Additionally, they are aware of how to make up for their flaws by surrounding themselves with individuals who have complementing skills. Various general managers have been detailed by Lawrence M. Miller.

He describes each sort of manager's behaviour with intriguing, evocative labels.1 These are outlined below because they provide helpful insights on the compatibility between a certain sort of general manager and his or her environment.

There are far more chief executive officers of small businesses than big businesses in the United States since every company must have a chief executive officer (by some other name), who is also a general manager. But since they have more important business units and divisions than smaller companies, particularly in decentralisedorganisations, large companies hire many more general managers than do smaller companies. Assume we want to determine the approximate number of general managers working for medium and big businesses. We may infer that the medium and big enterprises employ more than 200,000 general managers if we estimate that, on average, a general manager is required for every 250 workers in the medium firms and for every 500 employees in the large firms.

For a variety of reasons, most importantly the scope of control and amount of resources, a company's size is important to the general manager's job. Managers must progressively delegate to subordinates as businesses get bigger. No matter how talented a hands-on management is, a company eventually grows to the point where other people need to be engaged. The general manager must then learn to collaborate with others as they expand. Because of this transfer of power, the general manager can no longer depend on direct involvement in all or the majority of organisational activities to comprehend the state and functioning of the company. As a consequence, the company must create efficient information systems to alert executives.

Resources are the second main concern associated to size. An organisation is significantly more likely to be able to afford managerial expertise when its size and skill set both grow. In essence, the company creates the funds necessary to engage more experts and pay them more. As a result, they often help to increase sales. The general management duty in a small business differs from that in a big firm for all of these reasons and more. A tiny company does basically the same tasks as a bigger company, only on a smaller scale. Without sufficient size, managers in smaller businesses must handle a wider variety of tasks. Therefore, the general manager must be more adaptable in smaller companies. A smaller company's general manager will often be more engaged in the specifics of more ongoing tasks. Success at bigger companies does not always translate to success as the general manager of a small company; usually, they have a lot to learn. While more specialised staff may be hired by bigger companies due to their size and resources, CEOs at smaller companies sometimes have to handle a variety of duties themselves.

An increase in financial performance, profitability, and shareholder value is a result of well managed cash resources. Organisations may traverse economic cycles, manage risks, and grab new market possibilities via the strategic redistribution of funds. The problems and factors involved in managing and redeploying capital and funds are many. To achieve an ideal cost of capital and manage financial risk, organisations must evaluate their capital structure, including the ratio of debt to equity. The predicted profits from investment initiatives are influenced by the cost of capital. To properly allocate and redeploy funds, organizations must also be aware of the dynamics of the capital markets, such as interest rates, inflation, and investor mood.

#### CONCLUSION

A key component of financial management that directly affects organisational development, financial performance, and shareholder value is the allocation and redeployment of capital invested cash. The methods, factors, and effects of efficiently using and managing monetary

resources have been investigated in this study. Cash must be allocated and redeployed while using a variety of methodologies, including investment analysis and capital planning. Organisations may evaluate and rank investment possibilities using capital budgeting methodologies based on their prospective returns, risk profiles, and alignment with organisational objectives. When deciding how to distribute monetary resources, investment assessment takes into account variables including liquidity, profitability, risk tolerance, and market circumstances. The performance of an organisation is significantly impacted by efficient cash allocation and redeployment. Organisations may promote development, extend operations, and strengthen their position in the market by allocating capital to high-potential investment opportunities.

#### REFERENCES

- K. Seo en J. Soh, "Asset-light business model: An examination of investment-cash flow sensitivities and return on invested capital", *Int. J. Hosp. Manag.*, 2019, doi: 10.1016/j.ijhm.2018.12.003.
- [2] R. P. Boisjoly, T. E. Conine, en M. B. McDonald, "Working capital management: Financial and valuation impacts", J. Bus. Res., 2020, doi: 10.1016/j.jbusres.2019.09.025.
- [3] Gustani en D. A. Ernawan, "Cash Waqf as an Alternative Source of Islamic Microfinance Institution's Capital in Indonesia", *J. Islam. Econ. Lariba*, 2016.
- [4] L. Mazambani, T. J. Rushwaya, en E. Mutambara, "Financial inclusion: Disrupted liquidity and redundancy of mobile money agents in Zimbabwe", *Invest. Manag. Financ. Innov.*, 2018, doi: 10.21511/imfi.15(3).2018.11.
- [5] C. A. Magni, "Aggregate return on investment and investment decisions: A cash-flow perspective", *Eng. Econ.*, 2011, doi: 10.1080/0013791X.2011.573617.
- [6] J. Zawistowski en J. Kulejewski, "Influence of the contractor's payment method on the economic effectiveness of the construction project from the contractor's point of view", *Open Eng.*, 2018, doi: 10.1515/eng-2018-0055.
- [7] J. C. Hartman, "Investment decisions and the logic of valuation. Linking finance, accounting, and engineering", *Eng. Econ.*, 2020, doi: 10.1080/0013791x.2020.1784515.
- [8] R. S. Bjork, "Inventory management systems", *Intern. Audit.*, 2000.

# **CHAPTER 2**

# AN OVERVIEW OF COMPETITION AND PRODUCT STRATEGY

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# **ABSTRACT**:

Competition and product strategy play crucial roles in the success and sustainability of businesses across various industries. This abstract explores the relationship between competition and product strategy, highlighting their significance in driving innovation, market positioning, and long-term profitability. Competition in the business landscape is fierce, with companies vying for market share, customers, and resources. The main and fundamental goal in business, like in life, is to survive. Only the fittest and most adaptable enterprises capable of adjusting to the challenges they face can succeed in a dynamic and tumultuous environment. The goal of this book is to demonstrate why product strategy is essential to a firm's competitiveness and how product strategy and management may accomplish this. To effectively navigate this competitive environment, organizations must develop robust product strategies that differentiate their offerings from those of their rivals. Product strategy encompasses a range of decisions, including product development, pricing, distribution, and marketing, aimed at creating and delivering value to customers.

#### **KEYWORDS**:

Branding, Differentiation, Features, Innovation, Launch, Marketing, Positioning.

#### **INTRODUCTION**

The main and fundamental goal in business, like in life, is to survive. Only the fittest and most adaptable enterprises capable of adjusting to the challenges they face can succeed in a dynamic and tumultuous environment. The goal of this book is to demonstrate why product strategy is essential to a firm's competitiveness and how product strategy and management may accomplish this. To exist, one must compete. In this article, we briefly discuss the causes of the current obsession with the "rediscovery" of marketing, which has been positioned as a key driver of competitiveness. To define competition, which is the first step in defining competitiveness, we first evaluate current perspectives on the topic, relying, among other sources, on the works of Ansoff, Drucker, and Porter. Based on this examination, it will be claimed that product strategy, basically, is at the core of the company's overall strategy and must thus take precedence in the organization's thoughts and activities. the beginning of international competition

The 'invisible hand' of the market uses competition as a method of trying to maximize pleasure from the use of finite resources, which is a fundamental economic issue. Since the dawn of recorded history, managing scarcitythe capacity to exert some influence over a sometimes-hostile environment and ensure physical survivalhas been humanity's biggest struggle. Organizational, social, and technical innovations have all contributed to the realization of this ultimate aim, the eradication of desire, and history is an almost continual chronicle of progress in this direction [1]–[3].

Contrarily, the answer to the issue of enhancing life quality has postponed its actual realization. Every advancement in a person's ability to influence their surroundings boosted their odds of surviving, increasing demand from a larger population. As a result, supply generation was not able to significantly match, much alone surpass, demand until the 20th century. Of course, there have been times in the past when there was an excess supply on a small, local scale, but it has only just been clear that these circumstances have any chance of continuing into the near future.

The global downturn of the 1920s and 1930s may have been the first sign of the issues brought on by oversupply. Numerous fiscal and economic remedies were put up both then and today to address the issue, but looking back, it was rearmament and the start of war that brought an end to unemployment and underutilized industrial capacity. The major industrial economies were able to maintain full employment during the war thanks to rebuilding efforts and the fulfillment of postponed consumer demand, at least until the mid-1950s. Around this time, the US economy started to show signals once again that supply was starting to outpace demand. To assist improve sagging sales, there was a greater focus on high-pressure marketing and aggressive advertising. Although such initiatives can only temporarily improve the symptoms, they sparked widespread criticism of materialism's dangers and the search for an alternative paradigm to the dominant idea that unscrupulous salespeople were to blame for forcing unwanted goods on gullible and unwary customers. Peter Drucker said that "Marketing is the distinguishing, the unique function of the business" after taking into account the responsibilities of the customer and seller.

#### DISCUSSION

#### **Marketing Had Been Rediscovered**

But even after 50 years, there is still a lot of disagreement and discussion on the nature, extent, and importance of marketing and how it affects a company's ability to survive. The fundamental premise of marketing is that "mutually satisfying exchange relationships" exist when two parties freely trade goods or services that have economic value in a manner that benefits both sides. In fact, if this were not the case, there would be no reason or logic for the trade to take place. While achieving mutual happiness is the goal, the options available to each side must be determined by their respective interests. The interests of the consumer have been acknowledged as predominating ever since Adam Smith said that "The sole end and purpose of production is consumption." If this is the case, then decisions about what to create, where to make it, how much to produce, etc., must be made in light of customer demand. The terms "customer oriented" and "market driven" have become clichés in today's corporate vocabularies because everyone agrees that placing such an emphasis is essential for success. The rise of global competition, which in many instances has flipped the fundamental idea of comparative advantage on its head, is what has altered considerably over the last 40 to 50 years.

In accordance with Ricardo's original theory, economies would operate at their most efficient levels when countries chose to produce the goods or services for which they had a competitive advantage over other potential producers and then engaged in international trade to the benefit of both importers and exporters. Such an objectively appealing idea has a flaw in that it ignores the subjective ambitions of the individuals who make up the numerous country states throughout the globe. Few, if any, nations are willing to focus solely on the activities in which they have a comparative advantage if doing so makes them dependent on another country for the goods or services that are deemed necessary for an adequate standard of living, whether out of national pride or national security. In his analysis of The Competitive Advantage of Nations published more recently, Michael Porter expanded on the concepts he introduced in Competitive Strategy and Competitive Advantage, challenging the notions of traditional economists who believe that a nation's prosperity is determined by its natural endowment of land, labor, and capital. Porter claims that success is generated, not inherited, and relies on a nation's industry's ability to innovate and modernize, as Baker notes. Porter's remarks:

The fast expansion of manufacturing in low-wage nations like Hong Kong, Taiwan, and more recently Thailand is evidence that a country's endowment of variables obviously influences its businesses' ability to compete. However, the impact of variables is far more nuanced than is often recognized. The most crucial elements for competitive advantage in the majority of sectorsparticularly the expansion in advanced economies—are not inherited but rather developed inside a country via procedures that vary greatly across countries and within industries. Therefore, the quantity of components in existence at any given moment is less significant than the pace at which they are developed, updated, and further specialized in certain sectors.

This claim expands on what he said previously, which is that Companies get a competitive edge by identifying and commercializing fresh ideas on how to compete in a market. This is essentially an act of innovation. Here, innovation is used widely to refer to both advancements in technology and improved ways of doing business. It may take the shape of modified products, modified manufacturing processes, modified marketing strategies, modified distribution models, and modified scope concepts. The main theme of this book is innovation, which is what businesspeople, particularly marketers, refer to as new product and process development. The remaining chapters are concerned with successfully managing new products and processes for the rest of their life cycle after their initial introduction. Porter is essentially an economist.

Innovation often happens when businesses discover a new market opportunity or a market niche that has been underserved by those catering to the market as they see it. Since huge, relatively low-performance machines were the current trend, Japan's success in the global auto industry was built on the creation of tiny, high-quality, high-performance vehicles. By definition, innovation is trying something new, therefore it must get past the resistance of the tried-and-true, long-established method of doing things. This is why a "outsider" or "newcomer" who is not aware of the many reasons why the current method of doing things cannot be altered often initiates innovation.

However, because human beings only have a small number of requirements, innovation really just offers a better technique to meet an already recognized need. Ted Levitt urged suppliers to describe markets in terms of the need satisfied, such as transportation, entertainment, "fast food," convenience, etc. rather than in terms of the present goods through which these requirements were met, in his book "Marketing Myopia," which was written as a response to this issue. Therefore, the great majority of innovations are replacement goods that provide a more satisfying means of satisfying a customer demand. Innovations will replace current goods or concepts if they give greater pleasure since customers are more driven by self-interest than by supplier loyalty [4]–[6].

Therefore, having a product that is at least comparable to that of one's rivals is a must for competitive success. Therefore, having a "better" product than one's rivals is often seen as the ultimate purpose of competition. No business can exist unless enough clients share such opinion in order to guarantee that it can generate a profitable volume of sales. Overall, as emphasized by Rogers' definition of "relative advantage," "better" indicates a mix of both

objective and subjective elements. Most of the time, a product's objective characteristics are a must for buyers to even consider buying it you don't seek for a washing machine at a car dealership, after all! However, depending on the attitudes, knowledge, discretionary buying power, etc. of the intended users, a product's value for certain objective attributes will differ dramatically. In other words, they depend on the circumstance. They also develop over time.

Accepting this diagnosis makes it clear that, even though the prevailing preference is to avoid or resist change because it entails risk and uncertainty as well as the need to learn new skills and modify old habits, it is the only way to improve one's position in the real world. This requires producers to constantly create new goods and processes because, otherwise, whatever competitive edge they may have would be undermined by other businesses looking for better and more innovative methods to meet consumer demands. Although this has always been the case, it wasn't until the second half of the 20th century that competition truly went global. To better understand the current competitive landscape and why marketing and NPPD have taken on such a significant role in determining competitive success, it is necessary to briefly review the most significant developments during this time.

# Marketing and Successful Competition

The breadth and intensity of international competition significantly increased in the years that followed the end of the Second World War. It took a lot of economic work in the late 1940s and early 1950s to recover from the war's damage, therefore the focus was on reviving domestic economies across countries. A new set of NICs were established as a result of emerging nations' attempts to industrialize in order to enhance their economic performance in tandem with the post-war reconstruction of Europe and Japan.

Initial domestic consumption accounted for a large portion of the rising production of nations like West Germany, Japan, Hong Kong, Singapore, Taiwan, etc. However, when development slowed, these nations started to turn to outside markets to support their economies. As a result, throughout the 1960s and early 1970s, global commerce steadily increased and the status of traditional trading nations like the USA and the UK significantly changed. The 'threat' of this growing rivalry led to an increase in attention to the sources of competitive advantage and the characteristics of competitive success starting in the mid-1970s.

Two landmark papers provide documentation on the threat's nature and the proper reaction. The first was 'Managing our path to economic collapse' by Bob Hayes and Bill Abernathy, which was published in the Harvard Business Review's July/August 1980 edition. Hayes and Abernathy noted that even the UK had outperformed the USA in terms of economic growth over the past two decades, despite the USA's decline in competitiveness in global markets and the import penetration of domestic markets that it had "invented," like automobiles and electronics. The diagnosis was an overemphasis on a financial/sales orientation, with the following important characteristics as its hallmarks:

Growth and longer-term profit are often neglected in favor of short-term profit. Business planning usually takes a back seat to budgeting and forecasting. As a managerial criterion, efficiency may surpass effectiveness. As was the case with business process engineering in the 1990s, pricing, cost, credit, service, and other policies may be based on influences from false economies and a lack of market reality. The emphasis of the firm is on internal calculations and figures rather than the client and the market. The best-selling In Search of Excellence by Thomas Peters and Robert Waterman was the second key work that may be understood as a reaction to Hayes and Abernathy's worry. Lessons from America's Best Run Companies, the subtitle of Peters and Waterman's book, sheds light on why it appealed to American managers. This was the real deal—a glimpse inside how very profitable and well-

respected firms ran their operations. According to Baker and Hart, the reason why In Search of Excellence and similar best-sellers are successful is because they follow a certain formula for achievement, specifically:

They compress the essential elements of success to simple formulas or catechisms. They place emphasis on the fact that managers themselves serve as the piece's primary impetus and protagonists. But there were detractors of the management best-sellers as well. Following a thorough analysis of the literature, Baker and Hart made the following deductions about how to really comprehend the potential relationship between marketing and competitive performance:

1. Although there have been many ideas about the usefulness of a "marketing orientation," the majority of authors have settled on the broad and general claim that a marketing orientation increases success.

2. Many writers have a propensity to concentrate just on the organizational aspects of marketing: the accoutrements rather than the content.

3. The focus of empirical research has often been on only one or two variables and how they affect business performance. This implies that after doing literature research, a general understanding of how crucial the variable in question is to the company's performance is achieved, but no indication is obtained of the relative significance of each variable in relation to the other components. A deeper comparative analysis of the factors would greatly advance our understanding of the subject.

4. When conducted, empirical studies are often limited to a single industry, which restricts the results to the business in question.

5. The gap between theory and practice is widened by the prevalence of prescriptive writing. An indicator of the work that needs to be done by academics is the fact that theorists and practitioners do not see certain managerial difficulties in the same manner [7]–[10].

6. The many publications on this topic were published in several nations at various periods and are relevant to the economic and social contexts at the time the research was conducted. In many circumstances, such surroundings are no longer relevant for marketing in the year 2000 and beyond.

7. Numerous important empirical studies have outlined the traits of successful businesses, etc., without seeking to confirm if these traits are also present in less successful businesses. Consolidating results that would otherwise remain challenged and invalid would help define what is unique to successful organizations.

To address the shortcomings identified in prior work, Baker and Hart conducted a survey against this backdrop. Readers interested in the complete details of this research should see Baker and Hart's original book. It will be useful in this instance to offer the multi-factor model that served as a guide for both the analysis of prior work and the survey of actual practice. It is clear that while trying to explain corporate performance, five sets of factorsenvironmental, strategic, marketing, organizational, and managerialare often mentioned. In this book, all factorsaside from management onesare covered in deeper detail. A formal questionnaire was developed for administration to a representative sample of companies with the overall objective of measuring the contribution of marketing factors to competitive success. The formal questionnaire was developed on the basis of extensive qualitative research involving depth interviews with industry leaders, government officials, management writers, and other academics.

It was chosen to sample both growing and mature or declining sectors in order to address the critiques leveled at past research. Using three performance indicatorssales growth, average profit margin, and average return on capital employedrespondents who were more or less successful within these sectors were chosen. Baker and Hart's s 5 and 6 offer information on the final sample's makeup and the survey's results. Contrary to the impression created by many previous observers, our study led us to the overarching conclusion that 'unsuccessful' enterprises deserve more credit than they often get. All of the respondents met the minimal success criteria of having survived since the data were gathered in the wake of a significant recessful' organizations had a widespread acceptance of and awareness of contemporary management concepts and methods. In instance, we discovered that the structural presence of a department or board's titles is directly connected to size as much as any other characteristics. In other words, it is fruitless to search for clear signs of a marketing commitment. As a result, it is important to consider more nuanced issues, both strategically and tactically.

A long-term approach, specific strategic objectives, closely tying strategic plans to market changes, and an ongoing dedication to new product development are all behaviors that are apparent in more successful companies as opposed to less successful ones, according to studies conducted at the strategic level. At the tactical level, successful businesses use greater market research, market segmentation, and specific promotional strategies. Overall, it is fair to conclude that just a small number of the investigated variables contributed significantly to performance disparities. However, it is crucial to note that these carefully monitored research were unable to identify any further elements that separate the successful from the unsuccessful. Both studies addressed a broad variety of topics, from the simultaneous loose-tight structures of Peters and Waterman and the McKinsey 7S Framework to the management style identified by Wong, Saunders, and Doyle as crucial.

Managers obviously seek information and guidance on best practices in order to maintain and strengthen their competitive advantage and attempt to integrate it into their strategy and execution. In the end, it is evident that what distinguishes more successful rivals from those that are less successful is the quality of execution. However, it is crucial to stress that the quality of execution will only become significant if the original analysis and planning are of comparable level. The quality of implementation won't matter unless one has fully used the analytical techniques and processes outlined in the management literature. If not, a good plan carried out by average management will always outperform a bad plan or no plan carried out by above-average management.

We think that product strategy is at the core of overall competitiveness since, as previously said, a continual commitment to new product development was evident in all the more successful organizations, regardless of whether they were members of sunrise or sunset sectors. The dedication to invention, though, is much more significant. All but 14 of In Search of Excellence's 43 excellent companies had either grown weaker or were truly on the slide, despite the best efforts of their bosses to improve things, Stanford Professor Richard Pascale reminded the delegates at the 1992 International Strategic Management Society Conference. We disagree with Pascale's assessment that "this proves we don't know what we're doing" and Tom Peters' opening line of his best-selling book Thriving on Chaos, which reads, "There are no excellent companies." In fact, the goal of this book is to show how a dedication to ongoing innovation via the creation of new products and processes is the source of lasting competitive advantage. The evidence presented in the UK Select Committee on

Science and Technology's Report Innovation in Manufacturing Industry, which said the following, strongly supports this opinion:

For the industrial sector to remain competitive, innovation is essential. Without it, UK businesses are unable to expand their market share internationally. A corporation gains an advantage over rivals when it introduces new or better goods that swiftly, consistently, and affordably satisfy client demands.

As General Electric Company Ltd. Managing Director Lord Weinstock put it, "Innovation is indispensable in maintaining a successful business." You will perish if you do not adapt to the times, markets, and goods.

# CONCLUSION

To sum up, in the business world, competition and product strategy are linked, with successful product strategies acting as major success factors in markets that are highly competitive. Businesses may establish a competitive advantage, take the lead in their markets, and increase long-term profitability by comprehending the competitive environment, harnessing innovation, positioning items skillfully, and providing value to consumers. A successful product strategy ultimately adds to long-term profitability. Businesses may construct value propositions that connect with their target market and enhance sales and revenue by coordinating product development and marketing initiatives with consumer demands. Additionally, by continually assessing the competitive environment, businesses may alter their product strategy in a way that keeps their offers current and competitive in the market.

#### REFERENCES

- W. Deng, L. Feng, X. Zhao, and Y. Lou, "Effects of supply chain competition on firms' product sustainability strategy," J. Clean. Prod., 2020, doi: 10.1016/j.jclepro.2020.124061.
- [2] L. Shao and S. Li, "Bundling and product strategy in channel competition," *Int. Trans. Oper. Res.*, 2019, doi: 10.1111/itor.12382.
- [3] D. He and X. Deng, "Price competition and product differentiation based on the subjective and social effect of consumers' environmental awareness," *Int. J. Environ. Res. Public Health*, 2020, doi: 10.3390/ijerph17030716.
- [4] X. Lin, Y. W. Zhou, W. Xie, Y. Zhong, and B. Cao, "Pricing and Product-bundling Strategies for E-commerce Platforms with Competition," *Eur. J. Oper. Res.*, 2020, doi: 10.1016/j.ejor.2019.11.066.
- [5] Y. Hsu, "Design innovation and marketing strategy in successful product competition," *J. Bus. Ind. Mark.*, 2011, doi: 10.1108/08858621111126974.
- [6] R. A. Trihatmoko, "Performance and success of new product strategies in market competition: Business buyer behavior and marketing mix series of fast moving consumer goods (fmcg)," *Qual. Access to Success*, 2020.
- [7] R. Zhang, "Product market competition, competitive strategy, and analyst coverage," *Rev. Quant. Financ. Account.*, 2018, doi: 10.1007/s11156-017-0629-x.
- [8] J. W. Ho, "Cost strategy for product planning under competition," *Int. J. Prod. Res.*, 2018, doi: 10.1080/00207543.2018.1461273.

- [9] I. Istiqomah and I. Andriyanto, "Analisis SWOT dalam Pengembangan Bisnis (Studi pada Sentra Jenang di Desa Kaliputu Kudus)," *BISNIS J. Bisnis dan Manaj. Islam*, 2018, doi: 10.21043/bisnis.v5i2.3019.
- [10] S. Li, M. Lai, and W. Xue, "Bundling Strategy and Channel Competition in Supply Chains with Complementary Products," in *Proceedia Computer Science*, 2018. doi: 10.1016/j.procS.2018.08.104.

# **CHAPTER 3**

# MANAGING COMPETITION: ROLE OF EFFECTIVE PRODUCT STRATEGY

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# **ABSTRACT**:

In the dynamic and highly competitive business landscape, managing competition has become a central concern for organizations seeking sustainable growth and profitability. This abstract explores the critical role of product strategy in effectively navigating competition and achieving a competitive advantage. Competition is pervasive across industries, with companies vying for market share, customer loyalty, and resources. To thrive in this environment, businesses must develop and implement robust product strategies that align with market demands and differentiate their offerings from competitors. Product strategy encompasses a range of decisions, including product development, pricing, branding, positioning, and marketing, all aimed at creating superior customer value. The basic premise driving such projections is that supply is fixed but demand will continue to increase, sometimes enormously. Both of these hypotheses have a lot of validity, at least until we take the influence of innovation and technological development into account.

# **KEYWORDS**:

Competitive Advantage, Differentiation, Market Share, Pricing, Rivalry, Strategy.

# **INTRODUCTION**

Although talking about environmental instability, fast technological development, and global rivalry has nearly become a cliché, many observers just "throw away" these concepts without providing any proof or an explanation for the causes of these changes. In a report released in 1967 by the Club of Rome, it was predicted that if current trends continued, many non-renewable resources, including copper and oil, would soon run out; that population growth would outpace the capacity of both renewable and non-renewable resources; and that, in the process, mankind would destroy the environment in which it lived. These predictions are not new. Similar effects were foretold by Malthus in the late eighteenth century and Nostradamus in the Middle Ages. None of the predictions have come true so far, but this does not mean they will in the future. Indeed, if one accepts the underlying premises of such prophecies, they will unavoidably and finally come to pass [1]–[3].

Take the Club of Rome's estimate, for instance, that all of the known oil will be used up by the end of the century given the known oil reserves in the early 1960s and the growing trend in consumption. This is obviously not the case; in fact, known oil reserves in 2005 were higher than those in 1965, and although total use has climbed, per capita consumption has decreased. The causes are simple to identify. Concern about the diminishing supply of oil made Gulf oil producers aware of the influence they might have if they united to control the supply. They did this, and the result was just as any economist might have predicted: the price of a barrel skyrocketed from around \$2 to over \$40. At \$40 per barrel, it truly starts to make sense to bring previously marginal resources online and to hunt for more oil in difficult and very inhospitable areas like the Arctic and the North Sea. As a result, known reserves

currently surpass those from 1965. In the end, oil reserves will undoubtedly run out, but speculating on their precise size would be folly. However, the impact of higher prices has at least two additional significant consequences in addition to affecting the 'supply' of oil. First, it promoted the more cost-effective use of oil, and significant product and process innovation has been focused in this direction. As a consequence, modern automobiles, for instance, are at least twice as fuel-efficient as those from the early 1960s, when oil was affordable. Second, the rising cost of oil as a source of energy makes it more appealing to do research into new, replacement energy sources, which increases the likelihood that, long before oil runs out, it will have become as antiquated in Europe and North America as the stagecoach.

The aforementioned illustration demonstrates how inherently inaccurate projections like those made by the Club of Rome are. Their fundamental presumptions are that supply will either expand slowly or not at all if we are dealing with a non-renewable resource, while demand would rise exponentially. In fact, it's virtually the exact opposite. Population is the ultimate driver of demand, and historically, population growth has tended to be exponential, until it catches up with or exceeds the supply, at which point the Malthusian controls of starvation, illness, and conflict bring about a state of equilibrium. The lack of population management sometimes leads to the Malthusian checks in less developed nations. The exponential growth cycle has been disrupted elsewhere by social and political influence, and population growth has slowed or stabilized.

Contrarily, the process of creating supply via technical innovation is exponential, and it seems that we are now on an upward swing, making the acceleration implied in such processes readily apparent. The concept will be illustrated by two instances from the sector of electronics, a key hub for innovation. Christopher Evans presented the subject of what might have occurred in the area of automotive engineering if advancement had paralleled that in electronics during the previous 25 years after 1955 in a book titled The Mighty Micro released in 1979. Evans came to the conclusion that if change had occurred at the same rate, a Rolls-Royce could have been purchased for 35p, driven all the way around the world on half a cup of gas, and six of them could have been parked on the head of a pin. The pace of change has risen much faster after 1979. The PC I have on my desk, which cost £500 to buy in 2003, is equivalent to the University's mainframe computer in terms of processing speed. It cost £2,000,000! What's more important, though, is that every advancement in computer hardware and software significantly boosts our capacity to innovate in other fields, particularly the manufacturing sector, on which we rely for tangible goods and the majority of our infrastructure for services like buildings, transportation, and communication.

#### Analyzing the Life Cycle

The idea that human development has occurred in a succession of evolutionary cycles is well supported by historical evidence. Each of these cycles seems to have been spurred on by a particular social or technical advancement that significantly increased people's ability to manage their environment and overall level of life. The discovery of bronze, the domestication of cattle, the creation of agriculture, and the development of stone tools were all advances that significantly improved the condition of humans. Similar to how task specialization, interchange, and market development fueled the process. Although each successful invention seems to stand alone, there are certain shared traits that have led to comparisons to the biological life cycle. When an invention first emerges, its chances of surviving are small, and its development or growth is rarely noticeable. However, if the idea makes it through its early stages, it is likely to go through a period of fast development before reaching its full potential. As a result, growth slows down and a maturation stage begins. The invention will eventually "die" or stop existing in any significant sense as maturity declines,

first slowly but then picking up speed. Plotting these phases will provide a curve like that in a skewed version of the normal distribution [4]–[6].

To employ the descriptors often used for physical or product improvements in the so-called product life cycle, we changed them. The insight the life cycle notion provides into the process of evolutionary change is what makes it valuable. Its flaw is that misinformed people try to use it as a predictor whereas, by definition, one can only determine the duration of each stage of the life cycle a posterioriafter the fact. We may make generalizations on the length of each phase for specific individuals of the same species, such as fruit flies, people, or elephants. Humans take between 70 and 80 years to complete the cycle, whereas elephants take between 80 and 100 years. The issue with trying to apply the idea of predictability to innovations is that, of course, if an innovation is truly novel and not a clone of an existing species, we cannot know in advance how long each phase will last, though we can make generalizations about the process' characteristics. The importance of the idea of a species' life cycle or real advances resides in this.

Bruce Henderson explains why the idea of evolution and life cycles is useful to understanding the nature of competition in an essay titled "The origin of strategy," as well as why the parallel should not be pushed too far. Gauze's Principles of Competitive Exclusion, which Henderson references, explains why only differentiating creatures may survive. This rule states that "No two species can coexist that make their living in exactly the same way." By placing two simple species in a controlled setting with an abundant supply of food, this idea may be shown. Only one creature will survive if they are of the same species. On the other hand, if one thinks of Earth as a controlled environment, we can see the evolution of more than a million different species across time. In Henderson's words:

What justifies this surplus? Variety. There are more potentially important factors that might provide each species a distinct advantage the more diverse the habitat. But the environment's wealth also affects the possible number of rivals and the intensity of the competition. Business, however, differs from Darwinian and progressive evolution in that it employs creativity and logic to build a strategy that takes into account an awareness of the nature of competition. However, it is vital to emphasize the most significant lesson that the process of evolution and the structure of life cycles has to provide before going into further depth about the nature of competition. Simply put, natural selection-based evolution is about the survival of the fittest. Because they are more suited to the current environmental circumstances, new species replace old ones. In the end, the Earth is a limited habitat, thus new species can only emerge if they can supplant those species that are dominant in the ecosystem at a particular period. The main factor that shapes the biological life cycle is that new species must first fight to survive against existing ones in order to get a foothold. One will survive, one will decrease, and the reason for the almost symmetrical life cycle curve of a species is that it mimics a substitution effect, as shown by Gauze's Principles.

Additionally, biological life cycles provide insight into the idea that competition from something new or an apparent growth limit may not always result in decline. A phenomenon exhibits what has been referred to as hunting behavior when it gets closer to the limit of its development in an effort to get around the obstacle? This hunting behavior causes turbulence, which is a common phrase used to describe competitiveness! There are three potential outcomes:

- 1. The phenomena declines because it is unable to overcome the barrier.
- 2. The phenomena finds an equilibrium and adapts to the barrier.

3. The phenomena advances and begins a new development phase.

Using the phenomena being studied as products this book aims to demonstrate how knowledge, creativity, and logic can all be used to create winning product strategies. Our major focus will be on new product development since it is crucial for creating new market possibilities, maintaining equilibrium in established markets, and starting fresh growth when growth seems to be reaching its limitations. Although a lack of innovation is generally the cause of decline, managing decline has recently gained recognition as being just as crucial to the organization's long-term well-being as managing development. As a result, we give it more consideration than is typical in most books on product strategy. Naturally, managing mature goods is covered in popular literature on marketing, brand management, and manipulating the marketing mix. Given the breadth of the available guidance, we just highlight some of the most important topics that are covered in-depth elsewhere. Here is a quick explanation of the nature of competition and competitive strategy to put these difficulties into perspective.

#### DISCUSSION

#### The Nature of Competition

From 1776, when Adam Smith's Wealth of Nations was first published, until 1960, when Ted Levitt published "Marketing myopia," the formal study of the nature of competition remained the exclusive domain of the expert economist. As a result, much of the body of information that characterized the area of study was not effectively shared with others who might have benefitted greatly from the insights it was able to provide to the solving of issues in the real world. This is a problem that many other professions also share. Few managers are aware that Michael Porter's prominent works on competition and competitive advantage draw their main ideas straight from the branch of economics known as "industrial organization" or "industrial economics".

Although this does not imply that the earlier has universal acceptance, Porter's understanding of the dynamics that drive competition is probably more commonly recognized than his later study of The Competitive Advantage of Nations. Porter's interpretation of the applied economist's perspective on competition, however, is seen to provide a solid foundation for an understanding of the phenomenon and is summarized. Where to draw the lines that constitute a "industry" is one of the key judgments that an industry analyst must make. As we will see, establishing a "market" has comparable challenges, and the criteria chosen will have a significant impact on the applicability of most, if not all, of the management-assistance tools and processes. To formulate its own competitive strategy and determine if that plan will be successful or not, the firm's characterization of its industry has been defined in general and as a prelude to such a precise description in order to focus attention on the factors that affect competitiveness.

When Porter proposes a working definition of an industry as "the group of firms producing products that are close substitutes for each other," he is using the economists' idea of substitutability. Economists have created definitions of a continuum of competitive states, ranging from zero to absolute, in order to characterize the interaction or level of competition between different enterprises. Though theoretically significant, the theoretical ramifications of these states, it will enough to understand that the essence of competition is to guarantee that the marginal rate of return on capital will be the same everywhere. As a result, the forces of competition assure that money will move from less efficient businesses in an industry to

more productive ones, and from less productive industries to productive ones. Therefore, having the best company in the best sector should be every strategist's ultimate goal [7]–[9].

The threat of new entrants, the threat of substitution, the bargaining power of suppliers, the bargaining power of customers, and rivalry between current competitors are the five basic forces that govern competition in an industry, according to Michael Porter. Their interaction is described in 1.6. Along these lines, Porter outlines the salient characteristics of these five factors.

# **Threat of Entry by New Players**

As a result, although under a monopoly no other business may join by definition, in "perfect competition" there are no entry barriers, freedom of entry is usually recognized as a critical measure of an industry's competitiveness. The corporation believes that the less danger from new rivals there is and the more secure its own position is, the higher the barriers to entry.Porter suggests the following seven significant entrance barriers:

- 1. The benefits of scale.
- 2. Differentiating a product.
- 3. Requirements for capital.
- 4. Changing expenses.
- 5. Access to the avenues of distribution.
- 6. Cost drawbacks unrelated to scalability.
- 7. Governmental directives.

Porter goes into great detail about these aspects; therefore, we will just briefly mention one here, and namely that product differentiation has emerged as the most important competitive element. Simply put, the reason this should be the case is that if one possesses a product that people perceive as distinct, they have a monopoly and are thus immune to competition for as long as they can hold onto this perception of difference. The issue now has a lot of attention since "buyer behavior" is a subjective state that may be considerably impacted by marketing efforts.

#### **Threat of replacement**

Porter states that "finding substitute products is a matter of looking for other products that can perform the same function as the industry's product," which supports our claim that if your product is sufficiently different from the competition to be viewed as unique by a large enough segment of the market to constitute an economically viable market, then the threat of competition is latent rather than active. Given this situation, the risk is in becoming complacent because, even if only temporarily, consumption itself changes people, making them more receptive to new items. The suppliers' capacity for negotiation Porter asserts that a supplier group is effective if the following conditions are true: It is more concentrated than the industry it sells to and is controlled by a small number of enterprises. It is not required to compete with alternative goods being sold to the industry. The supplier group's industry does not represent a significant client.

The product from the supplier is a crucial component of the buyer's enterprise. Products from the supplier group are distinct, or switching prices have increased. There is a real risk of forward integration from the supplier group.Porter also makes the crucial point that "Labor must be recognized as a supplier as well, and one that exerts great power in many industries"—a point that, while it has lost some of its significance in recent years, is even more relevant to the UK economy than it is to the US economy.

#### The purchasing power of consumers

Many of the elements that are mentioned as being relevant to the power of suppliers also apply here. Porter offers the following eight criteria under which a purchasing group will be powerful: When compared to seller sales, the buyer group is concentrated or makes substantial purchases, such as at various supermarket chains like Wal-Mart, Tesco, or ASDA. The items it buys from the market account for a significant portion of the buyer's expenses or purchases. It acquires conventional or undifferentiated goods from the industry. For instance, common chemicals, steel, aluminum, etc. There are hardly many switching expenses. It has poor earnings; thus, it will actively look for ways to keep the cost of imported goods down. Customers represent a real danger of backward integration. The quality of the customers' goods or services, such as the majority of packaging materials, is unrelated to the quality of the industry's product.

# **Rivalry between Present Rivals**

Porter refers to the strategic actions used by businesses to gain an edge over their rivals as "jockeying for position." The competitive condition is undoubtedly livelier and more unpredictable the more skirmishing there is between competitors. Porter singles out eight of these elements, which determine how intense this competition is:

1. A large or evenly distributed field of rivals.

2. Slow industrial expansion, for instance, retail food sales.

3. High storage or fixed expenses. Porter makes a crucial observation at this point, stating that "The significant characteristic of costs is fixed costs relative to value added, and not fixed costs as a proportion of total costs."

4. Absence of switching costs or differentiation.

5. Large-scale capacity expansions, such as in the steel and shipbuilding industries.

- 6. Diverse competition, especially those from abroad.
- 7. Significant strategic stakes.

8. High departure obstacles, including redundancy costs, specialized assets with poor liquidation values, social repercussions, etc.

# **Porter's remarks:**

High exit barriers prevent surplus capacity from leaving the business and prevent losing competitors from giving up. Instead, they doggedly cling on and are forced to adopt extreme measures as a result of their vulnerability. As a consequence, the profitability of the whole sector may be consistently poor, cf. the global steel and car sectors. This succinct assessment of the factors affecting competition shows that differentiation is a significant source of competitive advantage. In fact, it is the sole foundation for long-term survival for the great majority of businesses across all industries subject to which we'll return later. However, it will be useful to briefly review the fundamental other methods available to the organization before doing so.

#### **Options for strategy**

Igor Handoff was one of the earliest and most significant authors on the topic of corporate strategy. His ground-breaking book Corporate Strategy was initially published in 1965. Ansoff introduced the concept of the growth vector matrix in this work. This graphic shows that there are only two states recognized for each dimension or axis, Present and New, and that the vertical axis is labeled Mission and the horizontal axis Product. Actually, Handoff's growth vector matrix was initially introduced in his essay titled "Strategies for diversification" in the Harvard Business Review, where he outlined the different strategies as follows:

1. Market penetration: Through more active distribution and advertising, the corporation hopes to boost sales of its current items in its current markets.

2. Market expansion: By introducing its current items into new markets, the corporation hopes to boost sales.

3. Product development: By creating better items for its current markets, the corporation hopes to grow sales.

4. Diversification: By creating new products for new customers, the business hopes to improve sales.

It is obvious that the latter two strategies rely heavily on product innovation, while the first two rely heavily on marketing innovation. The two fundamental drivers of supply and demand, or technology and consumers, really define Handoff's development vectors, making it feasible to reconfigure his matrix with these, which would be more insightful. The available strategic options remain the same. In our earlier study Marketing and Competitive Success, we found that one of the characteristics that set more successful companies apart from less successful ones was the fact that successful companies were simultaneously pursuing penetration, market, and product development strategies, as opposed to viewing these alternative strategies as being mutually exclusive. The profitable companies were also diversifying as a result of creating new markets and products.

Whatever strategy(s) a company employs, its fundamental goal is always the same: to establish and maintain a sustainable difference or competitive advantage. In essence, SDA or SCA exist when a business has established a distinctive position that sets it apart from its rivals and as a consequence, has built a franchise with a group of clients who will see it as the preferred source of supply for the aforementioned product or service. This client base, or market segment, will be enough to guarantee the company's ongoing profitability and serve as a foundation for future expansion. Since a competitive advantage is a benefit that a client perceives, there are an endless number of potential sources. However, it is helpful to think of competitive advantage as coming from either cost leadership or distinctiveness for analytical reasons. According to economic logic, if two items are seen by a potential buyer to be similar in every way, they would choose the one with the lower price since it offers more value for the money. However, if a prospective buyer notices significant variations between two items, this may affect their perception of value and they may end up favoring the more expensive item.

The combination of supply and demand will decide the market price in marketplaces for items with no differentiation. Given these facts, it stands to reason that the provider with the lowest expenses would also have the biggest profit margins, making them the most successful supplier. The approach that aims to take this position, known as cost leadership, often relies on experience curve effects, economies of scale, and management that is more effective and efficient. With the introduction of information technology and the development of methods like CAD-CAM and flexible manufacturing systems, many production-scale savings have been degraded or abolished. Traditionally, economies of scale were linked to the size of the producing unit. This is not the case with scale economies related to marketing, as many marketing mix operations including selling, distribution, advertising, and promotion continue to benefit from scale economies and provide bigger suppliers a cost advantage.

This last aspect is very crucial. Only the biggest suppliers are able to take advantage of economies of scale. The Pareto Principle holds true in the majority of industries: 20% of suppliers will account for 80% of total production, with the logical implication that the vast majority of suppliers together account for just a tiny part of the market. As a result, cost leadership is an ineffective strategy for the vast majority of businesses, and these businesses must compete on the basis of distinctiveness. Differentiation may appear in several ways. As was previously said, it is easy to establish and demonstrate an objective, palpable difference that is inherent to the product itself, which is why we see product development as the primary competitive strategy. The establishment and maintenance of objective distinctions are becoming harder to maintain in the competitive climate of today.

Any new technology is expected to be completely understood within 18 months after its first release, allowing rivals to compare the new product and determine the foundation of its technical advantage. Furthermore, due to the nature of global competition, it is now customary to duplicate, making it harder to safeguard intellectual property rights via patents. Of course, this condition is not new; what is new are complicated items that use advanced technology. Suppliers have understood for decades, if not centuries, that other approaches than purely technological differentiation are necessary if their output is to be perceived as different by prospective buyers for the majority of products that depend on low-cost and well-understood technologies, such as food processing, soap manufacturing, etc. Because the vast majority of businesses can only differentiate themselves and survive through branding, positioning, the provision of services, and availability through location and distribution advantages, marketing has become so crucial in saturated and fiercely competitive markets. Because of this, the vast majority of businesses will adopt a differentiation strategy that relies on a unique marketing mix and a combination of product features that will help them build a franchise with enough patrons to support their survival and expansion.

We've previously said that the biggest companies should only use the cost leadership method. The kind of differentiation strategy that is accessible to a supplier is significantly influenced by the size of the organization. Michael Porter makes a distinction between companies that provide a variety of goods, some of which may or may not be complimentary, but stand out from one another and from competitors' offers, and companies that only offer a single product, which constitute the majority of supplier businesses in terms of absolute numbers. Companies that only provide one product may, by definition, only appeal to one market niche and are thus seen to have a focus approach. Although it is conceivable for a company with a concentrated strategy to "own" the biggest sector in a market, it is more likely that it will only appeal to a tiny portion of the market, often one that is not interesting enough to capture the attention of the bigger rivals. Such tiny market segments, which are sometimes referred to as niches, need a particular marketing mix, just like all other market segments.

In passing, it should be mentioned that marketers were already aware of these three unique marketing strategies before Porter gave them the names they are now more often known by. Cost leadership is identified as an undifferentiated approach, differentiation as differentiating, and focus as a focused strategy in previous marketing textbooks and publications. It is

evident from the discussion above that a firm's size has a significant impact on the strategic alternatives that are open to it. Small, single-product businesses can only pursue a concentrated or niche approach; large businesses can choose between an undifferentiated, differentiated, or concentrated strategy; medium-sized businesses may choose between a differentiated or concentrated strategy.

Similar to most textbooks, a thorough treatment necessitates that we address all three strategic alternatives. However, much of the material in the following sections may create the impression that the insights and recommendations are only relevant to bigger firms. This is untrue since most processes, procedures, and approaches apply just as well to smaller businesses. Although there are some single-product firms that have endured for decades, it is crucial to emphasize that this is the exception rather than the norm. Their ability to anticipate and keep up with the shifting needs of their customers has enabled them to adapt and survive. In fact, the most successful single-product firms follow a policy of incremental innovation, which over time may result in a radical change in the product they sell. The greatest advise to such businesses must be to establish a portfolio of goods to spread the risk of failure since for the majority of single product firms, the inevitable product life cycle implies that unless they generate new products, they will ultimately decline and perish.

Whatever a company's size or preferred approach, it should now be obvious that innovation, or the invention of new products and processes, is at the core of all of them. As the Arthur D. Little Company's president and chief executive officer noted: Comparative advantage in the twenty-first century will be manufactured. Which businesses succeed and expand will be determined by their ability to manage technology effectively, whether that be by identifying market risks and opportunities, advancing organizational planning and product development, streamlining service delivery, or expanding the organization's influence over its clients and suppliers. Additionally, it will decide both the world's and countries' levels of prosperity[10]–[12].

## CONCLUSION

In conclusion, the competitive business world of today, a strong product strategy is essential. Organizations may set themselves apart from rivals, provide greater customer value, and secure a long-term competitive advantage by coordinating product development, marketing, and positioning with consumer demands. Businesses may negotiate the hurdles of competition and position themselves for long-term success by using constant innovation, exploiting core capabilities, and keeping tuned to market dynamics. Utilizing product strategy to manage competition necessitates a proactive and flexible strategy. Organizations must constantly monitor the competitive environment, keeping an eye on market trends, new technological developments, and client feedback. This empowers them to take well-informed judgments, foresee risks from the competition, and modify their product plans as necessary. Products are continuously assessed and improved to be current, competitive, and in line with changing consumer expectations.

#### REFERENCES

- [1] R. Cordero, "Managing for speed to avoid product obsolescence: A survey of techniques," *J. Prod. Innov. Manag.*, 1991, doi: 10.1016/0737-6782(91)90049-5.
- [2] Yuva Naila and S Bekti Istiyanto, "Analisis SWOT Strategi Pengelolaan Reputasi PT. Cowboy Nusantara Jaya," *Communications*, 2019, doi: 10.21009/ communications.1.2.3.

- [3] E. M. Dinlersoz and H. Li, "The shipping strategies of internet retailers: Evidence from internet book retailing," *Quant. Mark. Econ.*, 2006, doi: 10.1007/s11129-006-9010-4.
- [4] M. A. P. Davies, "Using time in branding: Reflections and orientations in an increasingly competitive world," *Journal of Brand Management*. 2018. doi: 10.1057/s41262-017-0066-0.
- [5] C. M. Falbe, T. C. Dandridge, and A. Kumar, "The effect of organizational context on entrepreneurial strategies in franchising," J. Bus. Ventur., 1999, doi: 10.1016/S0883-9026(97)00099-2.
- [6] J. E. McCann, "Patterns of growth, competitive technology, and financial strategies in young ventures," *J. Bus. Ventur.*, 1991, doi: 10.1016/0883-9026(91)90009-3.
- [7] G. Surie, "Strategies for competitiveness in a digital world," 2020.
- [8] R. Miller And X. Olleros, "The Dynamics Of Games Of Innovation," *Int. J. Innov. Manag.*, 2007, doi: 10.1142/s1363919607001618.
- [9] B. Appiah-Kubi and A. K. Doku, "Towards a successful customer relationship management: A conceptual framework," *African J. Mark. Manag.*, 2010.
- [10] J. Zysman, J. Murray, S. Feldman, N. C. Nielsen, and K. E. Kushida, "Services with Everything: The ICT-Enabled Digital Transformation of Services," SSRN Electron. J., 2012, doi: 10.2139/ssrn.1863550.
- [11] T. Mazumdar, *Pricing Of Products & Services*. 2020. doi: 10.1142/11381.
- [12] A. M. Tybout and T. Calkins, "Kellogg on branding in a hyper-connected world," *Kellogg Sch. Manag.*, 2019.

# **CHAPTER 4**

# A COMPREHENSIVE REVIEW OF THE PROCESS INNOVATION

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# **ABSTRACT**:

Innovation is a critical driver of success and growth for organizations in today's rapidly evolving business landscape. This abstract explores the process of innovation, highlighting the key stages and factors that contribute to successful innovation initiatives. The process of innovation involves the transformation of ideas into tangible products, services, or processes that create value for customers and provide a competitive edge. In order to stay up with changing market conditions, shifting consumer preferences, and the rapid speed of technology advancement, management must be especially aware nowadays. Because of these factors, product displacement is happening more quickly and consumers and industrial buyers are less resistant to change. As a result, several leaders have effectively used product diversification to address the challenge of an evolving industrial environment. It begins with the generation of ideas, which can come from various sources such as employees, customers, market research, or technology advancements. These ideas serve as the foundation for innovation and fuel the subsequent stages of the process.

#### **KEYWORDS**:

Brainstorming, Collaboration, Creativity, Experimentation, Ideation, Implementation.

#### **INTRODUCTION**

The present focus of intense executive attention in terms of market adjustment is product diversification. Product innovation and development have always been important aspects of competitive competition, but the current economy's dynamic nature is especially highlighted by an increasing frontier of new goods, acquisitions, and mergers. In order to stay up with changing market conditions, shifting consumer preferences, and the rapid speed of technology advancement, management must be especially aware nowadays. Because of these factors, product displacement is happening more quickly and consumers and industrial buyers are less resistant to change. As a result, several leaders have effectively used product diversification to address the challenge of an evolving industrial environment. This article discusses several strategic, analytical, and management-friendly programming diversification strategies.

What then, and when was this piece written? The paper, titled "Program for Product Diversification," was really authored by Thomas A. Staudte and published in the November/December 1954 issue of the Harvard Business Review. More things change, more of the same remains. It's possible that Thomas Staudte was writing in 2004. In fact, there is enormous benefit in going back to the classic writings of the early marketers who were published in the 1950s and 1960s since it was, they who first articulated some of the fundamental ideas that still guide effective marketing today. In fact, a cynic might be inclined to point out that a lot of the literature that has developed from these early, essential contributions has a tendency to obfuscate rather than illuminate the original ideas they contain. We will make an effort in Product Strategy and Management to avoid falling into the

trap of assuming that only the most recent contributions are significant. However, the reader should not be shocked if we also significantly rely upon some of the early contributions to marketing thought from the formative years of the 1950s and 1960s. Of course, this does not imply that we will neglect the contemporary literature when it is relevant [1]–[3].

#### Rediscovery is often the result of reconsidering these marketing orthodoxies

For instance, the authors advocated the use of a method they called "multiple convergent processing" in the early 1990s. As can be seen in 6, the term for this model was chosen on purpose to highlight the importance of consensus among participants in a new product development process. We believe that explicit efforts must be taken to coordinate and integrate these activities at certain crucial moments in the process, even if they may function concurrently or in parallel. And therein is the rediscovery's key.

An article by Yung Wong with the title "Critical path analysis for new product planning" appeared in the Journal of Marketing in October 1964. Booz, Allen, and Hamilton's Management of New Products, which discussed "a program for new product evolution," also highly supported the method. The corporation said at the time that the term "new product evolution" was invented for the first edition since there was no word in business jargon to express this management process, in which "development" is just one step and R&D is only one department. The phrase "new product evolution" is now accepted and used rather often.

Evidently, this has not been the case, and the word has not gained popularity, despite the fact that it is a better description of the process than the far more popular "new product development" for the reasons outlined by Booz, Allen, and Hamilton. In "Program for Product Diversification," Staudte explores the motivations behind organizations' product diversification efforts and provides a road map for management to follow when making diversification-related choices. Staudte first answers the topic of why corporations diversify and proposes that this is often attributed to one or more of six key factors, which he lists as follows:

# Survival Stability

He finds a total of 43 distinct criteria that might cause the business to diversify its product lines. Staudte makes a strong case for the adoption of an organized and systematic approach to product development after determining that it is necessary for one or more of these reasons. According to him, a solid program for product diversification should include the following five steps:

- 1. A precise description of the goals.
- 2. A review of the situation for diversification in light of current activities.
- 3. A review of the company resources for diversification, both material and intangible.
- 4. The establishment of precise standards for new items in accordance with the three points above.
- 5. A thorough product search and assessment against the standards.

It should be emphasized that Kline Staudte suggests we begin inside the organization and work outside of it. Indeed, he claims that "the key to effective goal- setting is to think in terms of what the company can accomplish through use of its resources rather than in terms of what products it may happen to find." The idea of convergence may be quite helpful in this situation. Staudte foreshadows the model later put out by Igor Handoff by proposing the idea

of convergence. It suggests that one may follow a strategy of market development by focusing on current marketing experience or a policy of product development by focusing on current product experience. Full diversification entails changing the product and the market at the same time. This approach is undoubtedly riskier since it leads the business into unexplored area. It may be possible to transition into a complete diversification by building on existing competence in either manufacturing or marketing, but without the inherent dangers of doing this directly.

Staudte's concluding observation on diversification, which emphasizes its foresight: "in sum, a diversification appears most likely to be successful when it capitalizes on the unique knowhow or special qualities which provide the firm with lasting distinctiveness as opposed to perishable distinctiveness," is particularly illuminating. Final decision in this regard should give significant weight to the human resources available for the undertaking. This is unquestionably the case, as Porter's The Competitive Advantage of Nations demonstrates. This book is focused on solving these problems. However, it would be helpful to look at the findings of J.-P. Descamps and P.R. Kayak, two Arthur D Little consultants, on "Lessons from product juggernauts" before turning to them in more depth. When the yelling is gone, one thing becomes obvious, in their opinion: the items sold by consistently outstanding firms set them apart from others.

According to Descamps and Kayak, who visited a number of top businesses, these businesses are competitively successful because they don't perceive their products as being "commodity" goods. Suppliers may constantly discover methods to differentiate their goods from those of their rivals, even in sectors as fundamental as minerals, chemicals, and agro. The implication is that if one fails to distinguish, cost and price are the only factors in competitiveness [2], [4], [5].

## The competition of service.

Proliferating products as a means of competition In its conflict with Ford in the 1920s and 1930s, General Motors invented this tactic. It was formerly believed to be the domain of big, wealthy firms, but it is now understood to represent a company's development efficacy and is one of the most successful strategies for many businesses today. When compared to Western businesses, which have a "rifle mentality," Japanese corporations are seen as being especially skilled at a proliferation strategy in which they use "a scattershot approach to the marketplace." In order to identify which items to promote and which to withdraw, Japanese companies may introduce several new products concurrently or in close succession. This practice is known as "trial and error marketing" abroad. Western businesses, in contrast, aim to define their single shot and its target far more precisely, which has the effect of forcing them to repeat the process if they miss.

Honda, which defeated Yamaha's challenge in the early 1980s with new models and 113 product modifications over Yamaha's 34 and 37 in an 18-month period, Sony, whose Walkman technology could not be protected, losing 80% of the market until Sony introduced 150 new models in the period 1981–89, regaining dominance with over 50% market share, and Procter and Gamble, who introduced numerous new products.

## **Competition Based on Value**

Some believe that providing good quality at a reasonable price is the best course of action. In the hands of risk-takers like Henry Ford, this technique sparked the great consumer revolution of the 20th century, according paraphrase Descamps and Kayak. They distinguish between two distinct strategies: drastic reorganization and ongoing improvement. A lot of

conventional businesses run automatically on a rather basic quality/cost trade-off basis. According to this frame of thinking, quality and cost have a single, set, direct connection. Any material increases in the product's qualitybe it in features, design, or simply "feel"requires a corresponding rise in price. It is believed that Mercedes-Benz and BMW endorse this opinion. Toyota, in contrast, uses a mental model of several, moveable trade-off curves. This alternate viewpoint enables systematic process improvement planning and implementation that significantly changes any given quality/cost curve. A range of complimentary strategies, including as process improvements in production and development, methodical design enhancements, and "a persistent tracking of inefficiencies and waste at all levels," are used to go from one quality/cost curve to another.

The advantages of these alternate strategies are plainly seen in Mercedes' struggles and Toyota's success! IKEA, which "has revolutionized furniture design, manufacturing, and retailing by re-thinking the entire business system of its industry from product concept to distribution," is a prime example of the radical restructuring strategy. IKEA provides greater value as compared to traditional furniture manufacturers/retailers by providing good design and product quality backed up with strong customer service and a lax return policy for its line of self-assembly furniture [6]–[8].

### **Competition in design**

Design is not only a cosmetic addition for companies like IBM, Sony, Harley-Davidson, and Olivetti who compete via design expertise; rather, it is a way to communicate their corporate identity in the marketplace and make their goods associated with quality. This is accomplished through creating things that are: Beautiful Few businesses successfully compete via innovation. Black & Decker, Canon, DuPont, 3M, Merck, Philips, and Sony are some of the companies that do.

Due of the dangers associated with invention, rapid followers frequently gain the benefits that actual innovators miss out on. 'Fast followers, on the other hand, often only succeed when the original inventor lacks the market position or financial clout to fully exploit its idea. Few quick followers are successful in competing with a strong, well-positioned innovator. The method and sources of innovation initiatives might be top-down or bottom-up, gradual or breakthrough.

A deliberate policy may lead to radical breakthroughs. However, Descamps and Kayak assert that "Top-down breakthroughs only occur when all of these are in place: a senior management team with a clear understanding of where and how to innovate as well as the capacity to organize people. a strong technology culture, as well as a top-notch capacity for creating technologies that enable innovation and novel, exclusive product ideas. A keen understanding of the needs of the client and the capacity to transform product ideas into appealing, marketable goods. the capacity to integrate inventions that reinforce one another. Despite this, bottom-up innovations are probably more common. However, incremental innovation is more typical, especially in top-down models with formally established R&D programs. The correct culture must exist in order for bottom-up innovations and offers mechanisms to make them possible.

## **Rivalry through Service**

While most producers place more focus on the product and perceive services as adding expenses rather than value, consumers see product and service as "two faces of the same coin." The value of providing excellent customer service is becoming more recognized,

which is quickly eroding this view. According to Descamps and Kayak, "Underlying all these varied methods of communication is the understanding that products are produced through a process.

### DISCUSSION

The capacity of humans to innovate and create new, more efficient and more successful methods of doing things is partly responsible for our dominion over all other species. Since Schumpeter said in the 1930s that invention accounted for more than 90% of all economic development, no one has disputed the significance of innovation as the primary force behind societal advancement. However, up until the 1960s, innovation was mostly thought of as the result of a push in technology, and it has only been in the last 40 years or so that other methods have emerged. Since 1950, the process of innovation has gone through four different phases, according to Professor Roy Rothwell of the Science Policy Research Unit, and it now looks to be entering a fifth stage, the Fifth-generation Innovation Process.

The First-generation Innovation Process, which Rothwell places in the 1950s to the middle of the 1960s, has as its primary characteristic a technological "push," during which time industrial innovation was typically seen as following a straight line from scientific discovery, through technological development in firms, to the marketplace. The Second-generation Innovation Process dates from the middle of the 1960s, a time of relative affluence and significant increases in industrial productivity but relatively stable job levels. Demand and supply were equal. The key features of it were:

## From Technological Growth to Technological Rationalization Shift

The focus on demand-side considerations has changed how innovation is seen. The market was seen as a source of ideas for guiding R&D in this market- or need-pull innovation model. Many were influenced by this passive or reactive perspective of R&D to ignore long-term investment in R&D and adopt a technological incrementalism regime.

### Market Demand, Development, Production, and Sales

During the Third-generation Innovation Process, supply capacity often exceeded demand, resulting in structural unemployment at the same time as demand saturation and high rates of inflation. The key features of it were: Rationalization and consolidation Scale and experience impacts are being sought after Put cost reduction and control first. Emphasis on finance and accounting emphasis on the causes of success and failure. The push and pull models were acknowledged as forming the foundation of a spectrum of models, with the bulk of situations involving the interplay between technology capabilities and market demands. While acknowledging this connection or interaction, the third-generation model still mostly functions as a sequential or linear model with feedback loops. During this time, empirical study discovered a variety of CSFs, many of which typically differed significantly between sectors in terms of their relative relevance [9], [10].

Project Execution and Corporate Level were the two categories under which Rothwell arranged them. Included in project execution considerations are: Accessing outside expertise via effective internal and external communication. Managing inter-functional coordination well and maintaining a functional balance while seeing innovation as a corporate-wide effort. Using meticulous planning and project management techniques: thorough initial research. efficiency in the development process and high standards in output. Strong marketing orientation: focus on meeting user demands; development focus on adding value for users.

Effective user education is key to giving clients excellent technical and spares services.Product evangelists and technology gatekeepers who deliver. Management of the highest caliber and with an open mind; dedication to the growth of human resources. Achieving inter-project learning and cross-project synergy. Factors at the corporate level include, top management support for innovation is evident and committed. Corporation long-term strategy and related technological plan. Long-term dedication to important tasks. Corporate adaptability and change-response. The danger is accepted by top management. Embracing an entrepreneurial and innovative culture. This research demonstrated that multifactor explanations were more often used to explain success or failure than single- or dualfactor explanations. In other words, success was seldom tied to doing one or two activities very well, but rather to completing the majority of jobs effectively, in a balanced, and well-organized manner. 'Key personnel' of the highest caliber and ability, those with an entrepreneurial spirit and a strong personal dedication to innovation, were at the very center of the successful innovation process.

The fourth-generation innovation process got off to a good start with the economy improving and a focus on fundamental industries and technologies. As a result, the strategic significance of developing generic technologies was acknowledged, and the strategic focus on technical accumulation was raised. The concept of global strategy, strategic alliances, and networking evolved as a result of the development of new generations of IT-based industrial equipment. Time-based methods were required by the shortening of product life cycles, and Japan was acknowledged as a strong innovator in its own right, particularly for the way it managed the process.

Integration and Parallel Development are two key components of the fourth-generation model and of successful innovation in top Japanese companies. The fourth-generation strategy was logically developed into the fifth-generation paradigm, which places emphasis on: technological advancement strategically partnering Date of market combiningproduction and product strategy adaptability and pliability Performance and excellence reactions to regulations, such as environmentalism. Time to market is now recognized as a key success component. The benefits of being first include: increasing market share perks of experience curve. Monopoly earning improved client satisfaction. When PLCs are few, being late to market may result in a loss of market share, poorer earnings, or even failure. However, there is a time versus cost trade-off that must be weighed, taking into consideration:

According to the facts, different sectors have different time/cost connections. As a result, the fact that Japan outperforms other nations in a number of industries shows that either they are at a lower point on the time/cost curve OR that each generation has a distinct curve, with following generations showing increased efficiency. In order to substantiate and support our argument that product strategy and management are at the core of business strategy and are essential to survival and competitive success, we have looked at a broad variety of difficulties. First, we looked at the factors that influenced the formation of global competitiveness. Essentially, we ascribe this to the fact that enterprises and nations follow the concept of comparative advantage in order to address supply gaps and maximize production. Exchange is crucial for the success of specialization. As a result, manufacturers will engage in direct and indirect competition for consumers' business. Competition will be restricted and the producer will hold the balance of power as long as demand outpaces supply. The lack of population growth in the more developed and wealthy nations has caused demand to plateau, but throughout the 20th century, accelerated technical improvement has substantially increased productivity and production. These environmental changes have increased global competitiveness and shifted the balance of power toward the consumer. Since its rediscovery,

marketing—which is defined as the development and management of connections of reciprocal benefit—has come to be recognized as a crucial element of competitive success.

This book's overarching premise is that change is both evolutionary and cyclical. Each cycle is started by the launch of a new invention or product that is thought to provide consumers with more advantages than the old product it wants to replace. Innovation is fundamentally a process of substitution. First of all, innovations advance slowly since the majority of customers purchase out of habit and succumb to inertia. They see change as risky. However, if an invention does provide actual advantages, more individuals will adopt it, leading to fast expansion until all those who have the need that the innovation fills have adopted it. Until the next cycle of innovation, which will see sales of the new product eat away at those of the current product, causing decline and eventually withdrawal, this condition of saturation or maturity will persist. This book's framework is provided by this cycle of change.

The majority of marketplaces include several suppliers and consumers, which forces suppliers to compete with one another for the business of those customers. Customers will purchase from the company with the lowest price if they believe the offers of the providers are not distinguished. Obviously, if your expenses are lower than your rivals', you can only afford to offer a cheaper price. The efficiencies of scope and scale that benefit the most effective manufacturers and marketers are necessary for such a cost leadership approach. However, only a small number of suppliers can, by definition, grow to the level that results in these economies. The bulk of smaller companies can only survive by differentiating themselves in a way that makes consumers ready to pay more for what they see as added advantages. This process is perceived as being important to innovation or new product creation, which is why the product is seen as being at the core of any effective competitive strategy.

#### CONCLUSION

In conclusion, the process of innovation involves concept creation, assessment, development, implementation, and ongoing evaluation. It is a dynamic and varied journey. It calls for a welcoming culture, strong leadership, cross-functional cooperation, and a commitment to client demands.

Organizations may affect radical change, set themselves apart from rivals, and achieve sustained development and success by embracing innovation as a strategic priority and adopting a methodical approach. An ecosystem of cooperation, partnerships, and open innovation techniques is necessary for successful innovation. Organizations may obtain fresh concepts, technologies, and knowledge through collaborating with outside parties including vendors, clients, research institutes, and startups, improving their capacity for innovation and market competitiveness.

### REFERENCES

- D. Sjödin, "Knowledge processing and ecosystem co-creation for process innovation: Managing joint knowledge processing in process innovation projects," *Int. Entrep. Manag. J.*, 2019, doi: 10.1007/s11365-018-0550-3.
- [2] Y. Ma, G. Hou, and B. Xin, "Green process innovation and innovation benefit: The mediating effect of firm image," *Sustain.*, 2017, doi: 10.3390/su9101778.
- [3] X. Xie, J. Huo, and H. Zou, "Green process innovation, green product innovation, and corporate financial performance: A content analysis method," *J. Bus. Res.*, 2019, doi: 10.1016/j.jbusres.2019.01.010.

- [4] P. Suwignjo, I. K. Gunarta, N. A. Wessiani, A. E. Prasetyo, and L. Yuwana, "Framework for Measuring Process Innovation Performance at Indonesian State-Owned Companies," J. Open Innov. Technol. Mark. Complex., 2020, doi: 10.3390/joitmc8020095.
- [5] M. A. Rasheed, K. Shahzad, and S. Nadeem, "Transformational leadership and employee voice for product and process innovation in SMEs," *Innov. Manag. Rev.*, 2021, doi: 10.1108/INMR-01-2020-0007.
- [6] J. Hojnik and M. Ruzzier, "The driving forces of process eco-innovation and its impact on performance: Insights from Slovenia," *J. Clean. Prod.*, 2016, doi: 10.1016/j.jclepro.2016.06.002.
- [7] H. Muharam, F. Andria, and E. T. Tosida, "Effect of process innovation and market innovation on financial performance with moderating role of disruptive technology," *Syst. Rev. Pharm.*, 2020, doi: 10.5530/srp.2020.1.29.
- [8] O. Aliasghar, E. L. Rose, and S. Chetty, "Where to search for process innovations? The mediating role of absorptive capacity and its impact on process innovation," *Ind. Mark. Manag.*, 2019, doi: 10.1016/j.indmarman.2019.01.014.
- [9] M. Reimann, Y. Xiong, and Y. Zhou, "Managing a closed-loop supply chain with process innovation for remanufacturing," *Eur. J. Oper. Res.*, 2019, doi: 10.1016/j.ejor.2019.01.028.
- [10] P. R. A. Oeij, W. van der Torre, F. Vaas, and S. Dhondt, "Understanding social innovation as an innovation process: Applying the innovation journey model," *J. Bus. Res.*, 2019, doi: 10.1016/j.jbusres.2019.04.028.

## **CHAPTER 5**

# THEORETICAL FOUNDATIONS AND PRACTICAL CONSIDERATIONS OF PRODUCT DEVELOPMENT

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## **ABSTRACT**:

Products are central to the success of businesses across industries, serving as the tangible or intangible offerings that fulfill customer needs and desires. This abstract explores the theoretical foundations and practical considerations of product development, highlighting the key elements that contribute to successful product outcomes. In theory, products can be conceptualized within various frameworks, such as the Product Life Cycle, the Four Ps of Marketing (Product, Price, Place, Promotion), and the Three Levels of Product (Core, Actual, Augmented). These theories provide a foundation for understanding the lifecycle, strategic positioning, and value creation associated with products. The product development process typically involves several stages, starting with idea generation and concept development. Organizations utilize various techniques, including market research, consumer insights, and brainstorming, to generate innovative ideas that address customer needs. These ideas are then refined into viable concepts that align with business goals and market demands.

### **KEYWORDS**:

Branding, Customer Needs, Differentiation, Market Research, Marketing.

### **INTRODUCTION**

With its meanings of "artefact, good, produce, commodity, output, merchandise, offering, work," the term "product" is used freely in daily speech to indicate "a thing or substance produced by natural process or manufacture." Despite the fact that services have a variety of distinguishing characteristics that often make a significant distinction between physical goods and non-physical services, particularly in terms of marketing, the word "product" has grown to include all types of offerings, including services, via regular use. For all intents and purposes, however, we would contend that the similarities between goods and services are such that treating them similarly would be far more beneficial, and only focusing on distinctions when this will be useful in establishing specialized marketing strategies. As a result, unless there is a good reason to discriminate between them, the phrase "product" should be interpreted to include the word "service" throughout this book.

The item that the manufacturer or supplier gives to a prospective client in return for something else that the provider believes to be of equal or better value is the product, and it serves as the object of the exchange process. Traditionally, this "something else" has been believed to be money or a title to money that may be freely exchanged as a recognized store of value. We must use barter or counter trade in the absence of money or another form of payment, where the parties mutually determine the value of items such as the number of pounds of meat equaling one yard of fabric or the number of barrels of oil equaling one ton of grain. It follows that in order for a trade to take place, there must be a demand for the item in question and a willingness to swap other items or assets that are considered to be valuable. Where this need is strong, producers will have a chance to produce the item, and marketplaces will form where those with demand and those with supply may interact and come to mutually beneficial trade agreements [1]–[3].

Markets are always actual locations where sellers and potential purchasers may interact in less developed nations. This is also true in more developed countries, where car boot sales, flea markets, and local markets have seen a rise in popularity. Otherwise, direct personal contact between customers and producers is uncommon, and complex distribution systems have been developed to speed up the interchange of commodities.

Regardless of the level of interaction between a producer and a consumer, a producer's actions only have value to the extent that consumers are willing to trade. Because of this, even if it could seem the other way around during times of shortage, supply has always been subordinating to demand. As a result, the 'rediscovery' of marketing in the second half of the 20th century reflects the potential for excess supply in most markets for goods and services in the wealthier industrialized economies where population growth has stabilized and productivity gains are still being made thanks to technological advancements. Producers are much less confident about the demand for their goods because of this possibility for an excess supply, which will likely result in a reduction in the perceived value of the entire supply and the valuelessness of what cannot be consumed. Demand for certain items has grown more difficult to define and measure, thus our investigation into the subject should focus on the nature of demand.

### DISCUSSION

### Demand

The word "demand" has a variety of meanings, most of which are unimportant in ordinary speech, much as the term "product." Precision in definition only becomes crucial when we get to the meat of the matter, which is attempting to describe demand as a business opportunity. It will be helpful to first understand three major types of demand:

The kind of demand that interests' economists the most is effective demand, which is defined as "demand supported by purchasing power." According to Marketing: A latent demand is one that the customer cannot often meet due to a lack of buying power. For instance, many women could have a latent want for automated dishwashers, but due to their limited discretionary money, this desire may not be as strong as their desire for other goods, leaving it unmet. In other words, needs are met in the order of priority and to the extent that available funds run out. From the manufacturer's perspective, the challenge is to increase customer preference for their specific product relative to all other product options in order to convert latent demand into effective demand. It is possible to think of a demand schedule for a certain commodity as representing effective demand, which is defined as demand supported by the willingness to pay a specified price.

The price to charge for one's goods is a crucial choice when determining whether to join a market. We want to know the exact effective demand for our goods at any given price since the amount requested changes depending on the price sought. As a general rule, the more features and perceived quality our product has, the more we may charge for it, and vice versa. We will have to rely on our judgment and expertise in a brand-new market and mostly move forward via trial and error. Contrarily, if we are joining an established market, we may study it and make an educated guess as to how much will be required at any given price. Our demand schedule, which we can visually represent as a curve as in 2.1, is represented by this estimate.

The amount customers are willing to pay reflects how important the item is to them, as well as how much they can afford and are willing to pay to secure a supply. This "classical" demand curve is for an undifferentiated product where every unit on offer for sale is identical to every other unit. If the product is petroleum-based, it is clear that businesses and individuals that rely on it will not be significantly impacted by price rises, albeit they will need to pass these costs on to their consumers. On the other hand, when the price drops, a greater number of people will be able to afford it and purchase it, leading to a sharp increase in demand.

As was already said, a latent demand is a need that the customer cannot meet, often due to a lack of buying capacity. In the sense that the customer senses a need for a product or service to fulfill a certain need but is unable to find anything suitable, latent demand may also be conceived of as a vague desire. It is obvious that latent demand is a crucial factor in management planning. A manufacturer may be able to alter a consumer's choice in the event of a demand that is latent owing to lack of purchasing power via their marketing and promotional operations. As an alternative, the producer may be able to forecast how customers will convert their latent demand into an effective demand if there is a tendency toward increasing disposable income. They will be able to plan greater production, distribution, and sales to keep up with expanding disposable incomes with the help of such a projection.

In the event that a consumer has a latent demand for a good or service because they are unaware that it exists and would satisfy an unclear want, it stands to reason that the manufacturer would want to make their product known to those who have a latent demand for it. In contrast, if a manufacturer is able to describe the qualities of a product that would fulfill a known latent demand but does not make it, they may desire to take advantage of the latent demand as a marketing opportunity. When a customer has the means to purchase something but isn't doing so right now, there is considered to have potential demand. Therefore, in cases when a marketer has discovered a latent need and created a new product to meet it, the potential demand is made up of all people who have the means to support their latent want with purchases. The portion of the overall market or the effective demand for an existing product that a company can anticipate capturing via the introduction of a new competing product might be conceived of as prospective demand in another context. It must be emphasized once again that although the economists' model may be a valuable tool for analyzing the actual world, the underlying assumptions are obviously implausible. Thus, the following are typical consumer demand assumptions used in basic economic texts:

- 1. The desires of the customer stay constant throughout.
- 2. He has a certain amount of money at his disposal.
- 3. He is only one of many customers.
- 4. He or she is aware of the cost of all uniformly priced things.
- 5. He or she is free to spend their money in very tiny quantities if they so want.
- 6. He behaves logically.

Only 2 and 3 of these hypotheses appear to have any chance of occurring often in reality. The rest of the time, customer demand is erratic and fluctuates regularly, as managers are all too aware of. It is improbable that consumers would be aware of the existence of all the products they may purchase, much alone their costs. A buyer must pay the price requested for a product, whether it is 10p for a pack of matches or £250 for a color television set, since

commodities are not endlessly divisible. Despite the fact that these discrepancies between the model and the actual world are pretty evident, this is not always the case when determining whether behavior is sensible.

However, contentment is often defined in terms of just objective criteria, despite the economist's discussion of rationality in terms of consumers maximizing their pleasure. Such an approach lacks any notion of subjective satisfaction and gives the price-quantity connection a skewed degree of relevance. The prevalence of brand preference for highly homogeneous physical goods, such as baked beans, coffee, detergents, and so on, suggests that customers actually experience subjective pleasure. In fact, the development of perceived distinctions among customers may be just as crucial to distinguishing a product as the emergence of actual physical differences. Consumers are not acting irrationally just because they are aware of subjective values; after all, it would be illogical to disregard such preferences. Producers have found it vital to create unique items and sophisticated marketing strategies simply because customers do have varying tastes and views.

This demand debate has introduced the concepts of preference and substitutability, both of which are crucial. The difference between preference and substitutability is how much a customer will favor one product over another and how well one item may directly or indirectly replace another. Every person, in principle, has a list of preferences that ranks all consumer products for which they have an actual need. The necessities of lifefood, clothes, housing, etc.come first on most people's preference lists, followed by social goods that reflect our status perceptions. Naturally, a nearly unlimited range of particular items will satisfy our demands based on our income, and these favored "wants" make up a consumer's own preference schedule. In fact, the majority of us give our general preferred schedule relatively little specific thought. In fact, we are very adept at modifying this with little to no conscious thinking when times and circumstances change. Although this applies to organizational markets less than it does to those for consumer products, it nonetheless has significant ramifications for the seller's capacity to anticipate or foresee demand. The rule of declining marginal utility is one very helpful generalization about preferences that is sufficiently reliable to be recognized as a "law." This rule simply states that, at a given threshold, the acquisition of more units of anything will gradually lose value in comparison to the perceived usefulness or worth of other goods. This is true even when it comes to money, as seen by the fact that many will pass up chances to improve their income at the price of their free time [4]–[6].

This last illustration demonstrates the indirect substitution impact and illustrates how difficult it is to forecast consumer demand for certain products and services. The fundamental level of demand or sales at a certain period will often be represented by the effective demand. This demand is expected to fluctuate up and down with the state of the economy in mature markets. In such marketplaces, competition may be seen as a zero-sum game where one seller's profit is offset by another's loss, maintaining the same level of total sales. In such developed markets, the possibility of direct alternatives from new and better items makes the total demand more susceptible. For instance, the production of linoleum, which had been the dominant product for many years, was substantially supplanted by a new method for producing smooth floor coverings from vinyl. In this particular instance, the two largest linoleum producers, Armstrong Cork and Congoleum-Nairn, made the move to the new method and withstood the danger of competition. The fact that current suppliers to a market are often not as lucky is one of the reasons why product strategy and management are crucial to the company's broader business strategy. The introduction of new goods, whether they are replacements or wholly new in the sense that they unleash a heretofore unfulfilled latent demand, e.g., TV and the desire for in-home entertainment provide the company with the chance to boost sales, improving both its competitive position and ability to survive. Firms encourage consumers to reassess their current preference schedule by developing new items. When effective, this strategy creates whole new markets and diverts spending away from other existing sectors that could otherwise see a decrease. This book's space allocation reflects the significance of new product development in establishing and maintaining competitive advantage. Fundamentally, though, the capacity of manufacturers to identify, foresee, and quantify demand is what determines the success of new product creation. Before addressing some of the elements that specifically impact demand, we will first go over some of the broad influences on demand.

## **Influencers of General Demand**

The following three major variables often affect demand:

Demographics

Purchaser behavior

## **Readily available**

We like to start by talking about the population or demography since, in the end, demand represents the combined needs and desires of people. It follows that demand will increase if the population does, and vice versa. This holds true for all goods and services, regardless of whether the demand is derived that is, for consumption by businesses and households or direct that is, for consumption by individuals and households is the case with all other goods and services, such as power plants, transportation networks, steel mills, retail establishments, financial services organizations, etc.used to produce final consumption goods. Population forecasting is comparably easy compared to anticipating preferences or economic cycles, which establish effective demand first.

We should be able to forecast demand for social services, such as health, education, and welfare, given that we can currently estimate life expectancy at birth with a decent amount of precision and stages throughout the human life cycle. More practically speaking, we should be able to estimate consumer and consumer durable goods demand and, from these projections, develop predictions for the raw materials and producer goods required to manufacture the necessary supply of consumer products. We should be able to predict some types of aggregate demand in broad terms 50, 60, or even 70 years from now.

The truth is that historical evidence demonstrates that two things are true even in sophisticated and advanced economies. First off, population projections, and in particular birth rates, have been mainly unproductive and often quite incorrect. Second, even when we have the data, we struggle to use it to create even the most basic projections. For instance, if we know the retirement age is 65, we should be able to predict with reasonable accuracy how many individuals will retire each year up to 2070. Furthermore, as time goes on and we get more knowledge about the number of live births, we may revise our prediction for a subsequent year. We should be able to precisely forecast how many pre-school spots we will need four years in advance, five years for primary school, 11 years for secondary school, 18 years for tertiary school, and so on. Even a quick look at recent economic history reveals that governments have been utterly unsuccessful in making accurate predictions of this kind. Since the fundamental data is easily accessible for determining at least the latent demand for all types of products and services, it is hoped that professional marketers would be more

successful. Other elements, most of which are considerably more difficult to forecast, must come into play for latent demand to become effective demand. While broadly based taxonomies like Maslow's Hierarchy of Human Needs and Engels' Laws offer guidance on how people's spending will change as their income rises, neither idea is particularly useful in predicting demand for particular goods and services. We need thorough theoretical and practical understanding of customer behavior. Before making predictions about how people will act in the future, we must first understand how they are doing right now. Additionally, while attempting to anticipate future behavior, we rapidly realize that although we can draw some helpful generalizations about human needs, it is much harder to predict particular demands since we are unable to foresee with any degree of accuracy how technology advancement will affect people's behavior.

The other variables that affect demand, such as pricing, distribution, and inventories, are more concerned with striking a balance between supply and demand than they are with influencing long-term changes in demand. The market price will eventually settle at a point where neither the supplier nor the customer is willing to offer more in order to purchase an additional unit for consumption. This is because price, in theory, reflects the value consumers place on securing a supply of the in-question good. Potential producers will utilize their resources to create something different with a higher added value if they believe the market or going price is too low. In contrast, manufacturers will try to stop making such items or services if the market price gives a higher return than can be achieved by creating other things. Stocks and the distribution network help to stabilize swings on both the supply and demand sides by ensuring that providers are accessible where and when they are needed.

According to this succinct discussion of the factors that affect demand, although it should be possible to make long-term predictions about population changes and it may even be possible to forecast technological change, producers looking to maximize the return on the resources they have under their control in the short to medium term are unlikely to find much use for these macro-environmental changes. To do this, we need to get much closer to the customer and try to understand what drives his or her requirements and goals, as well as the relative weight or priority given to them. In other words, we must go back to our initial question, "What is a product? "In order to examine individual goods and markets.'

### **Categorization of Goods**

It would be beneficial to create some kind of classification system for items as a first step toward improving our analysis of demand, since this should allow us to draw meaningful generalizations about certain categories or sorts of products. In reality, the distinctions between producer and consumer products, as well as our references to consumer and consumer durable goods, suggest a potential classification scheme. Industrial or business-tobusiness marketing and consumer marketing both represent the dichotomy between producer and consumer products; this difference has been particularly helpful in formulating specific suggestions for marketing strategy and marketing mix selections.

As we've seen, consumer products drive most of the demand for industrial goods. Given this, it is important to first define how consumer products are seen, purchased, and used before describing how this influences the demand for industrial goods. Melvin T. Copeland's 1923 proposal that consumer products may be divided into shopping goods, convenience goods, and specialty goods was one of the first and most important contributions to the categorization of consumer goods. These were explicitly defined as follows by the Committee on Definitions of the American Marketing Association:Convenience goods are those consumer products that customers regularly, quickly, and with the least amount of effort

buy, such as chocolate, pencils, and shoe repairs. Shopping items: Consumer products that customers often compare throughout the selection and purchase process based on factors including suitability, quality, price, and style, such as cosmetics, TVs, PCs, and hairstyles. Specialty goods are those consumer products, such as a home, automobile, or vacation, for which a sizeable portion of customers are regularly willing to make a particular buying effort.

Since its inception, Copeland's schema has drawn a lot of attention and criticism, but as Bucklin makes clear, it continues to be a very strong conception that has been proven to be operationally effective. By introducing the idea that consumer purchasing behavior is a form of problem solving that enables one to distinguish between two broad categories, shopping goods and non-shopping goods, Bucklin attempts to synthesize some of the criticisms of Copeland in his earlier article, "Retail strategy and the classification of consumer goods." The customer frequently develops a fresh response to his demand for shopping items every time it arises. In contrast, non-shopping goods are those "for which the consumer is both ready and able to employ stored answers to the challenge of locating a product to meet a need. They are commodities whose appropriateness is confirmed via search before the customer commits himself to each purchase. ..Non-shopping items have purchasing criteria that remain constant across purchases or are seen to vary inconsistently.

According to Bucklin's latest argument, non-shopping products may be classified as convenience or specialty items based on whether the buyer is apathetic or has a clear preference for a certain item. With this classification, it is feasible to classify patronage reasons and, from there, create a product patronage matrix with nine potential cells, as shown. The matrix may be used to both choose a desired segment and create a distinct marketing plan for it. Some of the available combinations might not be suited for specific products/markets. The development of marketing strategies, with specific guidance as to which strategy should be used under what circumstances, is the overarching goal of the attempt to categorize goods in terms of consumer buying behavior, Bucklin emphasizes in both the original article and his retrospective comment on it. The minimal attention the idea has gotten in marketing literature is likely explained by the "many barriers that lie in the way of attempting to validate any classification of goods theory," as noted by Bucklin. Despite its lack of theoretical support, the notion is often used in literature meant "to instruct practitioners in the profession," much like many other contemporary marketing theories and approaches. The categorization theory, as qualitative as it is, offers a wide and crucial integration of a lot of content in marketing, as explained by Bucklin. It offers a framework for the examination of marketing issues, at least at a basic level, and makes suggestions for where students could turn to come up with solutions to issues with marketing strategy. It offers a rationale that is simple to comprehend and value [7]–[10].

On the other hand, it's critical to understand that categorization of products may result from marketing tactics as well as from a priori classifications that suggest preferable tactics. Hume Winzar explains this seeming contradiction in his 1992 study "Product classifications and marketing strategy," which has the following abstract: Product categorization systems have often been used by marketers as a kind of "cookbook" for marketing tactics. In this essay, it is claimed that the so-called commodity school of thinking has been less than successful in producing such a cookbook. Product classifications should be based on assumptions about customer reaction and parts of the marketing mix. These result in four distinct issues:

Circular reasoning and ex post definitions: items are classified ex post, and classification theory offers no guidance on how to categorize new items or how to reclassify alreadyclassified ones. The issue with induction is that there are few guidelines for the best or most effective method from experiences with related or current items. Fuzzy sets: The categorization of the same product varies depending on the customer and for the same consumer at various dates.

Scheme generalizability: To apply a categorization scheme, all relevant social, economic, and physical settings must be specified.

Winzar presents a thorough and compelling argument in favor of the aforementioned claims, however he neglects to include the fact that theorists create definitions and theoretical constructions to serve as a framework for analyzing states of nature or reality. As a result, while the concepts of perfect competition and pure monopoly are seldom seen in reality, their definitions still serve as a foundation for describing and identifying the countless scenarios that fall in between them. Similar to how categorizing items according to the purchasing behaviors they elicit makes it clear that all new or better products are shopping goods by definition, it is up to the innovator to determine whether they should be positioned as convenience, shopping, or specialty purchases. Products may be defined a priori in terms of how we want customers to view them ex post, allowing us to choose the strategy and marketing mix that we believe will accomplish this. The reasoning will only be circular if we are successful. In other words, by categorizing current goods into specific categories and defining the techniques that led to this result, we have a useful management tool for outlining future course of action.

### CONCLUSION

In conclusion, Theoretical frameworks provide as a basis for understanding product lifecycles, strategic positioning, and value generation. The theory and practice of product development are linked. However, practical factors like concept development, design, production, marketing, and constant improvement all play a role in the success of a product. Organizations may design and deliver products that match consumer expectations, spur corporate development, and establish a lasting competitive edge by adopting a customer-centric strategy and being aware of market trends. A business must emphasize knowing the demands, preferences, and pain points of its customers in order to design successful products. Businesses may produce products that engage with their target audience and provide significant value by incorporating consumer feedback into the product development process.

#### REFERENCES

- [1] S. V. Ogneva, "A systematic approach to quality assurance tourism product development: Theory and practice," *Asian Soc. Sci.*, 2015, doi: 10.5539/ass.v11n7p305.
- [2] A. Deraman, J. Yahaya, F. Baharom, and A. R. Hamdan, "User-Centred Software Product Certification: Theory and Practices," *Int. J. Digit. Soc.*, 2010, doi: 10.20533/ijds.2040.2570.2010.0034.
- [3] D. Camocho, J. Vicente, and A. M. Ferreira, "Circular and sustainable products: from theory into practice," *19th Eur. Roundtable* ..., 2019.
- [4] J. I. M. Halman, A. P. Hofer, and W. Van Vuuren, "Platform-driven development of product families: Linking theory with practice," J. Prod. Innov. Manag., 2003, doi: 10.1111/1540-5885.2002007.
- [5] D. McFarlane, V. Giannikas, A. C. Y. Wong, and M. Harrison, "Product intelligence in industrial control: Theory and practice," *Annual Reviews in Control.* 2013. doi: 10.1016/j.arcontrol.2013.03.003.

- [6] J. Nicholas, A. Ledwith, and H. Perks, "New product development best practice in SME and large organisations: Theory vs practice," *Eur. J. Innov. Manag.*, 2011, doi: 10.1108/14601061111124902.
- [7] D. W. Hagstrum and C. G. Athanassiou, "Improving stored product insect pest management: From theory to practice," *Insects*. 2019. doi: 10.3390/insects10100332.
- [8] S. Dowlatshahi, "Material selection and product safety: Theory versus practice," *Omega*, 2000, doi: 10.1016/S0305-0483(99)00065-1.
- [9] H. S. Sverrisdottir, H. T. Ingason, and H. I. Jonasson, "The Role of the Product Owner in Scrum-comparison between Theory and Practices," *Procedia - Soc. Behav. Sci.*, 2014, doi: 10.1016/j.sbspro.2014.03.030.
- [10] R. Wette, "Product-process distinctions in ELT curriculum theory and practice," *ELT* J., 2011, doi: 10.1093/elt/ccq022.

## **CHAPTER 6**

# OBJECTIVE VERSUS SUBJECTIVE SELECTION CRITERIA OF PRODUCT

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## **ABSTRACT**:

The process of selecting a product is influenced by a combination of objective and subjective criteria. Objective criteria are based on measurable and quantifiable factors such as price, quality, features, and specifications. Subjective criteria, on the other hand, are influenced by personal preferences, emotions, and individual experiences. This abstract examines the distinctions between objective and subjective selection criteria and their impact on consumer decision-making. Objective selection criteria provide a rational and logical basis for evaluating products. These criteria involve tangible and quantifiable attributes that can be objectively measured and compared across different options. Price is a commonly used objective criterion that helps consumers make cost-effective decisions. Quality, functionality, reliability, and performance are additional objective criteria that can be assessed through standardized testing, certifications, and product specifications. Objective criteria provide consumers with a sense of reliability and enable them to make informed decisions based on concrete factors.

## **KEYWORDS**:

Cost, Durability, Functionality, Longevity, Price, Quality, Reliability.

## **INTRODUCTION**

It will be helpful in this case to take into account the variables that affect the buyer's behavior if goods and services are described in terms of that behavior. The majority of buyer behavior models implicitly acknowledge both objective and subjective aspects. Whether or whether they are physical, objective characteristics must be quantifiable, measurable, and present in the actual item. Contrarily, subjective elements are intangible and are impacted by the decision maker's attitudes, beliefs, experiences, and connections with the item and are deemed important in determining the degree of enjoyment to be attained from its consumption. According to economic theory, the decision-making process and the foundation of economic "rationality" are determined by the objective elements. The rational decisionmaking school would have us think that objective criteria are as hard and fast as they are, yet it is well acknowledged in the behavioral sciences that they are open to subjective interpretation. Additionally, behavioral scientists are aware that it is possible to have a strong preference for one replacement product over another despite the fact that they are objectively comparable products, or what economists refer to as "perfect substitutes [1]-[3]". Of course, in order to determine if two replacement products are objectively comparable, we must first be able to assess that they are, and for this, we need a set of standards. Next, we must be able to distinguish between the things that are objectively comparable using other, to us, significant characteristics. When applied to certain technical products, such as chemicals, fabricated materials made of steel, plastic, or aluminum, microprocessors, electrical

generating apparatus, etc., objective criteriasometimes referred to as "performance factors" may be condensed into a performance specification.

Only items that meet the specification would be regarded as belonging to the product category under consideration. Performance characteristics that customers often consider while evaluating a product were established by Baker and Hart for their book Marketing and Competitive Success. According to the list in 2.1, some of these performance aspects are inherent features of the product itself, while others are linked to accessibility and usability. Marketing Strategy and Management provides a different list of objective product features that includes both technical and economic aspects, with the latter being broken down into price and non-price components.

Companies that manufacture goods that are seen as being objectively comparable are often recognized as being in the same industry and so in direct rivalry with one another. The United States Standard Industrial Classification, for example, uses product attributes as the foundation for categorizing industries and their goods. The Standard Industrial Classification Manual, which only addressed manufacturing and non-manufacturing sectors, was first published in the USA in 1945. The Federal Government created the SIC, a numerical system, to divide the whole economy into several industrial sectors. All company operations were first categorized into broad industrial categories by the system, which were then further broken down into main groups, sub-groups, and intricate four-digit sub-sub-groups. For instance, the two-digit number '28' stood for 'Chemicals and Allied Products'; the three-digit number '283' stood for 'Drugs'; and the four-digit number '2834' stood for 'Pharmaceutical Preparations'. The idea is shown in 2.3. Although four-digit SIC codes were extremely exact, the inclusion of additional differentiating digits greatly improves accuracy. For this reason, the ISA SIC was replaced in 1997 by the North American Industrial Classification, or NAIC, which underwent another revision in 2002. When compared to the SIC, which had ten divisions, the NAIC has twenty, and the number of differentiating digits has grown to six, making each code's definitions of goods or services potentially interchangeable with one another. A Manual of 1400 pages has the whole list of categories.

Many other nations use comparable codes, some of which are even more accurate than the NAIC's. For instance, the European Union has created the CPV classification as the exclusive category for public procurement. The CPV is made up of a primary language for outlining the scope of a contract and a secondary vocabulary for providing additional qualitative details. The primary vocabulary is built on a tree structure with up to nine-digit codes linked to text that specifies the many kinds of goods, services, or labor that make up the contract. Divisions, groups, classes, and categories are identified by the first two digits, the first three digits, the first four digits, and the first five digits. The last three digits provide more accuracy within each category, while the ninth digit is used to confirm the accuracy of the first eight numbers. The method allows both buyers and sellers to utilize a clear system for identifying certain items, even if it is not as exact as the well-known bar-code unique to every single object.

When it is acknowledged that items are objectively similar, the issue of how customers may distinguish between comparable goods and services arises. The correct response is, of course, that they can only do so if further data is given that identifies specific output units as belonging to certain providers. This identification is made possible by the branding technique, in which the provider offers some distinguishing element, such as a name, symbol, trademark, packaging, etc., that allows the customer to differentiate between the objectively comparable goods of rival suppliers. Suppliers work to create associations or images with their unique goods in order to increase their appeal to potential buyers in addition to delivering some tangible means of identification. This is how the promotion works, and to some degree, where the marketing mix's components are placed.

## DISCUSSION

The marketing of services is the only focus in the seventh edition of Marketing: An Introductory Text. The important points will only be briefly summarized here. The first thing to note is that there are at least three different schools of thought on whether or not service marketing is a distinct area. According to the first school of thinking, services and goods are just two sides of the same coin, and marketing techniques and tactics apply to them equally. The second school contests this and argues that there are crucial distinctions between goods and services that make them need a very different marketing strategy. The third school of thought contends that although the fundamental concepts hold true for both, the specific nature of services necessitates an expanded marketing mix with seven components, including process, tangible proof, and people in addition to McCarthy's well-known four Ps of product, price, place, and promotion.

The majority of debates about the uniqueness of services center on the fact that they differ from traditional "products" in particular ways. Intangibility and inseparability fall under this category, although heterogeneity, perishability, and variable demand do not. According to a statement made in Marketing, "Intangibility is probably the single most important factor in differentiating services from goods." While it is feasible to use objective criteria to define the nature and performance of physical items, this is only partially achievable in the case of services. However, if services are just ideas and experiences, how can prospective customers assess them and how can potential providers set themselves apart and win over customers' loyalty? Undoubtedly, one solution is to make at least some components of the service real, such as with attractive bank and insurance buildings that convince us of their strong morals, security, and stability. In the same vein, as we've seen before, providers add subjective features to items when it becomes hard to differentiate between them only on the basis of objective or physical characteristics. It is becoming more widely understood that because consumers care about advantages and satisfactions, "products" and "services" are a blend of both physical and intangible items. In her notion of a continuum between product dominant things like salt to service dominant ones like education, Shortcake provides an illustration of this.

The notion of the "augmented product," which has a physical component at its core but whose distinctiveness relies heavily on the layers of subjective and service aspects that surround it, nicely captures this idea. The fact that the supply of a service is inextricably linked to the provider and needs the participation of the client in order to be produced and consumed is the second key difference between goods and services. They are diverse rather than homogenous, which makes it harder to standardize a service. However, as Ted Levitt demonstrated in his renowned paper, "The Industrialization of Service," McDonald's success is primarily a result of service standardization. A seat on an airplane or a hotel room, for example, cannot be created or consumed without a consumer since the production of a service depends on the engagement of the customer.

So much for the qualities that help separate goods from services. What about the suggestion that they add process, physical proof, and people to the traditional four Ps in addition to the expanded marketing mix? Just what are they, first? Process is concerned with how the service is provided to the customer; physical evidence is made up of any outward signs that the customer may obtain to confirm the existence or conclusion of a service, such as a

checkbook, ticket, policy document, etc.; and, finally, people include every employee of the service organization, regardless of whether they interact directly with clients.

It doesn't take much thought to recognize that all three of these elements are crucial for selling physical things as well, making them a weak foundation for differentiating between commodities and services. As we have seen, the earlier, more "economic," representation emphasizing only performance and price has been replaced as it becomes harder to distinguish between physical objects. The augmented product is now seen as a bundle of satisfactions or benefits combining both tangible and intangible elements. Similar to this, ideas like total quality management and internal marketing acknowledge that every employee of a supplier company is accountable for the caliber of those interactions with consumers and influences how valuable those ties are seen by those customers. the distinction between products and services will be advantageous if it is used to create improved marketing mixes for both; however, it will be detrimental if it prevents the exchange of concepts and methods between marketers whose outputs fall on either end of the continuum between entities that are dominated by products or services.

## Branding

In order for a client to be able to distinguish between the offers of competing suppliers, regardless of whether we are dealing with a tangible good or an intangible service, they must be able to do so. As we have shown, it is challenging to preserve an objective difference. If you are aware that customers prefer your competitor's product over yours because it offers a quality, feature, or advantage that yours does not, the obvious solution is to change it so that it does.

Although a large portion of the focus on new product development is on finding objective distinctions that can be made plain to all potential buyers, it is evident that, in most situations, such advantages are transient. Because sellers want more tools for differentiating their goods, branding has become a crucial component of the marketing mix. The significant differences that allow consumers to distinguish between goods and services created to meet a specific need are largely the result of their own extremely specific wants and their perception of the available solutions on offer, for reasons that will become clear in the following section on consumer behavior. It is necessary to have a JND or USP. The terms "just noticeable difference" (JND) and "unique selling point" (USP) are interchangeable. The issue is that this exists in the intended buyer's imagination and is often connected to a picture or namethe brand.

Like marketing, branding is seen by many as a more modern phenomenon. The history of branding really predates written history. People have used identifying markings to identify their belongings from the beginning of time, and this practice was just as common among producers as it was among consumers. It makes sense to want to put your brand on your items if you are proud of them so that others would like them and purchase from you. Similar to this, it makes sense to make more purchases from vendors whose products have provided the promised pleasure if the requirement is likely to arise again. Unsatisfied consumers might avoid purchasing from unreliable sources thanks to branding, which is obviously a drawback and one of the main reasons why governments force producers to label their products! [4]–[6]

The concept of branding as we know it today first emerged in the middle of the eighteenth century as a way for manufacturers to differentiate their production of commodities, or undifferentiated goods, such as soap, tea, sugar, and other items that were typically sold in bulk to shops. In these instances, the producer is unable to affect the final purchaser's decision. However, if you pre-package your product, give it a unique name like Sunlight, and

support this name with advertising and promotion, it's possible that buyers will request it by name and 'pull' it through the channels of distribution, forcing the retailer to stock it in order to satisfy their customers.

- 1. Many reasons, such as the following, may be responsible for the rise of branding:
- 2. The expansion of mass consumption and production
- 3. Enhanced communications and transportation
- 4. Improvements in packing
- 5. rising literacy rates and the expansion of advertising
- 6. novel forms of retail
- 7. higher living standards
- 8. the creation of legislation to safeguard trademarks.

The latter is particularly significant since it offers many of the same advantages as a patent with the additional bonus that trademarks remain forever whereas patents only last for a certain number of years. Furthermore, it is simple to establish trademark infringement and get remedy if someone violates your trademark. Additionally, as "imitation is the sincerest form of flattery," copying or counterfeiting may benefit your company by generating more free exposure.Subjective or perceived differences now play a significant part in product strategy since the majority of objective differences may be benchmarked, recreated, or improved upon in a few of months. This is not to imply that subjective variations are not significant; they are. If the product does not meet the specifications of the major rivals, it is unlikely to be taken into consideration; but, if it does, the buyer's connections with the brand will end up being the deciding factor. As a result, brand development is considered crucial to

- 1. Long-term demand, building
- 2. Add the value that consumers are seeking.
- 3. Create a solid foundation for future development and growth.
- 4. Keep intermediaries' interests in mind, particularly those of retailers.
- 5. Establish a reputation as a company that people want to interact with and build relationships with.
- 6. A name, symbol, design, or any other combination that distinguishes the "product" of a certain company as having a durable competitive advantage is known as a brand.
- 7. This definition contains the following crucial information:
- 8. Brands are not only names; they may take many different shapes.
- 9. Brands are not limited to tangible goods. A service, a company, or simply a desire may all be considered brands.
- 10. Most significantly, strong brands provide a long-lasting competitive edge.
- 11. Successful brands have exactly the opposite impact, which is the conclusion.

While "differential" refers to an advantage that is significant to at least some consumers enough that they will use it as a basis for discriminating between suppliers of similar products, Doyle defines "sustainable" as an advantage that is not easily copied by competitors and thus represents a barrier to entry in the markets in which the brand competes.

- 1. According to Davis, evidence demonstrates:
- 2. 72% of consumers will spend an extra 20% for their favorite brand.
- 3. 50% will pay a 25% increase.
- 4. 40% will spend 30% more.
- 5. 25% claim that the price is unimportant.
- 6. More than 70% look to brands to inform their purchases.
- 7. 50% are motivated by brands.

It seems that branding has the power to transform products that would otherwise be undifferentiated or convenient into shopping or specialty items. As a result, successful brands have four essential qualities. Additionally, a strong brand helps the owner to penetrate markets more rapidly and get first-mover advantages. They convey quality, excellent service, and distinctiveness.Many businesses are identified by a logo or emblem, which is what people recognize right away. The names of brands, on the other hand, "symbolize the sum of the attributes that make up the brand and quickly become synonymous with the satisfactions that the brand delivers." The brand name is a kind of mental shorthand that succinctly encapsulates all the elements to be considered while making a purchasing choice. Once we have found a brand with the needed qualities and the expected outcomes, we may utilize that brand as a summary of our desires for a certain category of goods and choose it in the future when the need it met materializes.

All manufacturers aim to a level of 'brand loyalty' like this. Once it is produced, it has the status of a specialty item because buyers will go to great lengths to get it and will not readily accept a replacement. Brand loyalty often grants a status equal to that of shopping for products; we will make an attempt to purchase the desired brand but, if it is not accessible, will be willing to explore alternatives after carefully weighing their qualities against those of our favorite brand. Accordingly, convenience items are those for which no provider has been able to establish a durable competitive advantage and brand loyalty is either minimal or nonexistent.

- 1. Therefore, a brand name has a variety of distinctive qualities. It is:
- 2. a badge of origin or a means of identification
- 3. a pledge to execute with a specific degree of consistency
- 4. Assurances on the reliability and effectiveness of the product
- 5. An indication of the product's key characteristics or features.
- 6. When considered as a whole, these characteristics make it possible for consumers to develop sentiments toward the brand even when it would otherwise be difficult to separate it from closely related alternatives.

Ironically, many of the most powerful and recognizable trademarks are associated with goods where it is difficult to distinguish between the output of various suppliers using objective or physical standards. Because of this, individuals find it challenging or impossible to distinguish between cola beverages, morning cereals, instant coffee, soaps, detergents, and other items in blind use tests. Strongly held preferences only have any actual value when they are associated with the product's packaging, known brand, and marketing backing; it is obvious that brands are fundamentally subjective by nature [7]–[9]. Successful brand names are often straightforward, memorable, descriptive, and easy to explain visually. They may also be utilized worldwide. Due to these characteristics, people have a favourable opinion of the name, as opposed to unknown words or items. An examination of a product's intrinsic qualities is not worthwhile when it is a low involvement purchase, meaning that the buyer is more likely to be influenced by a product's look and brand recognition.

One of the fundamental choices is whether to give each product its own name or to utilize a "umbrella" brand for all of one's items. Companies like Procter & Gamble employ product brands to give each of its goods a unique name, such as:

- 1. Cleaning and laundry supplies: Tide, Bounce, Cheer, Cascade, Comet, Dawn, Era, Joy,
- 2. Healthcare: Crest, Ivory
- 3. Head and Shoulders, Cover Girl, and other cosmetics

- 4. Food and Drink: Pringles and Folgers
- 5. Pampers, Luvs, always on the paper.

Giving each product a unique name has several benefits, but the main ones are that there is less chance that the failure of one product will have an impact on any others, you can compete in several product categories that may seem quite different to customers, and you can offer multiple products within the same product category, at various price points and appealing to various market segments. The loss of economies of scale, the inability to extend or exploit the brand's value, and the need to create a new identity and reputation for each new product may outweigh these benefits.

In markets where product differentiation is substantial and often the main source of competition, this trend of branding the business has several advantages. Therefore, technical innovation is a key source of sustained competitive advantage for Microsoft, GE, and Nokia. It is the customers' trust in the company to deliver the promised benefits in these markets, where change occurs quickly and frequently in revolutionary rather than evolutionary ways, that overcomes the natural resistance to radical change that makes it challenging for unproven innovators to create new markets. As a result, the corporate identity or brand serves as both a source of sustainably competitive advantage and a "umbrella" for all of the company's outputs and activities [10].

Repeat business offers a sustained advantage to the brand owner thanks to loyalty. Due to the phenomena of brand equity, brands may be seen as assets whose worth may far surpass that of other tangible assets and resources. Brands, like all other assets, are subject to deterioration due to neglect, thus in order to sustain their competitive edge, they need ongoing care and investment. We now proceed to analyze a schema created by Everett Rogers expressly for categorizing new goods, returning to our primary topic of the definition and categorization of items.

### CONCLUSION

In conclusion, In the process of selecting a product, objective and subjective selection criteria have different functions to play. While subjective criteria are influenced by individual tastes and emotions, objective criteria provide real and verifiable aspects for logical decision-making. Understanding the importance of both sorts of criteria helps firms to create goods that appeal to a wider spectrum of customers and consumers to make thorough assessments. A comprehensive approach to product selection, taking into consideration both the intellectual and emotional components of customer decision-making, is ensured by striking a balance between objective and subjective criteria. In order to have a more in-depth understanding of branding, the reader should refer to some of the sources provided. In conclusion, brands are well-liked by consumers because they make it easier for them to make choices. A brand is a succinct explanation of a complex combination of qualities and advantages that, once understood, allow customers to distinguish between similarly competitive goods and become loyal to their favorite brand.

## REFERENCES

- [1] C. H. Chen, "A novel multi-criteria decision-making model for building material supplier selection based on entropy-AHP weighted TOPSIS," *Entropy*, 2020, doi: 10.3390/e22020259.
- [2] A. Liu *et al.*, "A novel two-stage integrated model for supplier selection of green fresh product," *Sustain.*, 2018, doi: 10.3390/su10072371.

- [3] M. Dursun and E. E. Karsak, "A QFD-based fuzzy MCDM approach for supplier selection," *Appl. Math. Model.*, 2013, doi: 10.1016/j.apm.2012.11.014.
- [4] W. B. Zulfikar, M. Irfan, M. Ghufron, Jumadi, and E. Firmansyah, "Marketplace affiliates potential analysis using cosine similarity and vision-based page segmentation," *Bull. Electr. Eng. Informatics*, 2020, doi: 10.11591/eei.v9i6.2018.
- [5] A. Liu, Y. Zhang, H. Lu, S. B. Tsai, C. F. Hsu, and C. H. Lee, "An Innovative Model to Choose E-Commerce Suppliers," *IEEE Access*, 2019, doi: 10.1109/ACCESS.2019.2908393.
- [6] M. Niero and P. P. Kalbar, "Coupling material circularity indicators and life cycle based indicators: A proposal to advance the assessment of circular economy strategies at the product level," *Resour. Conserv. Recycl.*, 2019, doi: 10.1016/j.resconrec.2018.10.002.
- [7] P. P. Mohanty, S. S. Mahapatra, A. Mohanty, and Sthitapragyan, "A novel multiattribute decision making approach for selection of appropriate product conforming ergonomic considerations," *Oper. Res. Perspect.*, 2018, doi: 10.1016/j.orp.2018.01.004.
- [8] M. Keshavarz Ghorabaee, E. K. Zavadskas, M. Amiri, and A. Esmaeili, "Multi-criteria evaluation of green suppliers using an extended WASPAS method with interval type-2 fuzzy sets," J. Clean. Prod., 2016, doi: 10.1016/j.jclepro.2016.07.031.
- [9] R. xin Nie, J. qiang Wang, and H. yu Zhang, "Solving solar-wind power station location problem using an extended weighted aggregated sum product assessment (WASPAS) technique with interval neutrosophic sets," *Symmetry (Basel).*, 2017, doi: 10.3390/sym9070106.
- [10] M. Keshavarz Ghorabaee, M. Amiri, E. Kazimieras Zavadskas, and J. Antuchevičienė, "Assessment of third-party logistics providers using a CRITIC–WASPAS approach with interval type-2 fuzzy sets," *Transport*, 2017, doi: 10.3846/16484142.2017.1282381.

## **CHAPTER 7**

## STRATEGIES OF THE CLASSIFYING NEW PRODUCTS

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### **ABSTRACT**:

Classifying new products is a crucial step in understanding their characteristics, market positioning, and potential success. This abstract explores the importance of product classification and examines various approaches and frameworks used to categorize new products.

Classifying new products provides a structured framework for analyzing and comparing them based on shared characteristics and market dynamics. the discussion on branding that has gone before, it is clear that businesses want to gain a sustainable competitive advantage. Customers also want to distinguish between competing products or services based on their objective performance factors, but when faced with two or more products or services that are objectively similar, they will look for other subjective factors to aid in their decision-making. It allows marketers and businesses to gain insights into product attributes, target audiences, competitive landscapes, and potential market opportunities. Effective classification enables companies to make informed decisions regarding product development, marketing strategies, and resource allocation.

## **KEYWORDS**:

Adoption, Categorization, Classification, Consumer Goods, Convenience Products, Durable Goods.

## **INTRODUCTION**

From the discussion on branding that has gone before, it is clear that businesses want to gain a sustainable competitive advantage. Customers also want to distinguish between competing products or services based on their objective performance factors, but when faced with two or more products or services that are objectively similar, they will look for other subjective factors to aid in their decision-making. The focus on innovation and new product development is due to the producer/supplier's preference for objective advantages. Innovation has dangers, of course; if the new item is not sufficiently distinct from the old, buyers may not see much need to alter a presently beneficial pattern of behavior. On the other hand, if the novelty differs significantly from what the targeted consumers have already encountered, they may perceive a significant risk in attempting it and postpone making a purchase choice until they have more and better information [1]–[3].Based on a thorough analysis of the features of new items Rogers created a very helpful framework that divides traits into five categories:

- 1. Relative benefit
- 2. Compatibility
- 3. Complexity
- 4. Divisibility

## Communicability

The first feature, relative advantage, is to quantify the financial gain that an invention bestows upon or makes accessible to its user after being modified to account for the adopter's current circumstances. So, for instance, if a manufacturer released three models of a machine, the first with a rated output of 1000 units per hour, the second with 1200 units per hour, and the third with 1500 units per hour, the release of model 3 would provide owners of model 1 with a 50% improvement, but only 25% to owners of model 2. Although the performance is same in absolute terms, a 25% gain may not be enough of a relative advantage to persuade a model 2 owner to sell or discard their old machine in favor of the new one, but a 50% advantage is sufficient to persuade a model 1 owner to do so. Therefore, model 1 owners would be better candidates for replacement than model 2 owners under a planned replacement program that takes into account the age of the current stock of machines.

Compatibility and complexity are two aspects of the novelty level associated with an invention; however, they often have the opposite relationship. A new product is more likely to be quickly accepted the more seamlessly it integrates with the current system. Of course, beyond a certain point, the new product can be too similar to the one it's meant to replace for customers to notice enough of a difference to switch. For instance, a McGraw-Hill study revealed that many industrial buying agents were hesitant to shift from a source of supply that was presently acceptable until the transition delivered savings comparable to a decrease of 8%–10% of the existing price.

Although complexitywhich is characterized as the degree of effort involved with fully comprehending the application of an innovationdoes not always rise with novelty, this is often the case. It is undoubtedly true that an innovation will seem more difficult the less compatible it is with the way things are currently done. Divisibility indicates how much an invention may be tested before a final acceptance or rejection decision is made, and it can significantly affect sentiments about a new product. Most prospective consumers will choose to wait and see when there is a significant level of ambiguity around an invention and testing is only available for organizations or people whose economic risks are low. To put it another way, they see trial as vicariously experienced and based on the responses of the early adopters. In this situation, two things are important to remember.

First, it is well-known that many of the first customers in industrial marketplaces are the biggest companies in the sector. Experience, however, reveals that many major companies who purchase during the debut period do so only as a test, with no commitment to large-scale or ongoing usage. Early trial may even be utilized as a delay technique in certain circumstances, therefore focusing all of one's launch efforts on the largest prospective user base would be a mistake. Additionally, one shouldn't pass up the chance to sell to "realists" since they not only bring in much-needed funds but also provide input on any issues that only surface once the new product is put to "normal" usage.

The second argument is that by offering a trial term or an equivalent, vendors may significantly reduce risk during the debut phase. For instance, one may provide products with sale or return conditions, give early adopters more assurances, or lease the product rather than purchase it completely. An authority's endorsement may also aid in lowering danger. The final characteristic, communicability, is strongly influenced by the first four characteristics because it measures how difficult it is to explain an innovation's advantages to potential users. This difficulty is a function of the innovation's relative advantage, compatibility, complexity, and divisibility. Throughout the decision-making process for purchasing a new product, communication is essential. Impersonal or media communications are crucial in raising initial awareness, while both impersonal and personal sources can influence interest. Personal sources take the lead as the buyer approaches a decision, and impersonal sources serve as the main source of reassurance after the decision has been made.

All of these elements can be examined scientifically, but as we have already demonstrated, this objective assessment is only of little significance. What matters is how potential users perceive and interpret the variables. The selling proposition must therefore seem more alluring and/or less risky to early adopters than it does to followers and laggards; consequently, it would seem reasonable to conclude that early adopters do perceive "the facts" differently from followers and laggards. Marketers have put a lot of effort into trying to identify the distinctive features. The most crucial thing to remember when categorizing items is that Rogers' five criteria are underpinned by the notion that how potential customers perceive novelty impacts how they will perceive the product. From the standpoint of the manufacturer, Booz, Allen, and Hamilton defined six categories of new goods in their landmark research.

### DISCUSSION

This classification has been used often in subsequent research. The aforementioned discussion of new product attributes offers the chance to connect a number of concepts discussed in the with a buyer behavior model designed for industrial items but equally applicable to consumer purchasing choices.

### **Bui grid Analytic Framework**

As is evident, the Buy grid employs two groups of variables, known as Buy Phases and Buy Classes, and their definitions are as follows:

1. New task: Identifying a purchase issue that hasn't been experienced before. The buyer will have a great deal of uncertainty and will try to minimize it by gathering as much information as they can from both personal and impersonal sources. There is a good chance that each Buy Phase will get thorough, clear consideration.

2. Modified repurchase: The purchaser has past experience with the purchase issue, but is compelled to reconsider it in light of fresh data or stimuli. The Buy Phases might be deleted or just partially completed.

3. Straight repurchase: The customer is content with their current source of supplies and does not perceive a need to switch. Phases 4 through 7 are likely to be completely overlooked, while the others will likely just get cursory attention, i.e., the purchase has become routine and regular. It is doubtful that the Buy Phases will be described as explicitly as they are in the Buy grid in the case of consumer products bought by people. Although the notion of New Task closely resembles the concepts of Extended Problem Solving and Modified Rebuy to Limited Problem Solving in the literature on consumer behavior, the same technique and sequence would appear to be relevant to both industrial and consumer purchasing circumstances. Similar to how Straight Rebuy and Routinized Response Behavior are same, the idea of novelty serves as a connection between individual and organizational buyer behavior by connecting it to the qualities of items. We go on to the topic of consumer behavior in the next paragraph [4]–[6].

## **Deliverable New Services**

'New service development' was the focus of a significant review paper published in the European Journal of Marketing in 1998. Given its thorough and reliable coverage, it serves as

the main foundation for the debate that follows. The paper by John and Story places more emphasis on 'organic' growth than on expansion via mergers, acquisitions, and joint ventures. Additionally, although though they examine all forms of new service creation, the majority of published material at the time of writing focused on financial services.

When compared to tangible goods, many new service offerings only need little fresh investment, which encourages the emergence of several variations. Because of the uncertainty and lack of meaningful difference that might follow from this increased option, many of these NSDs fail. As a result, just as they have been in the case of new product development, enhanced methods and procedures are needed to increase success rates. Although the writers recognize the significance of services in the marketing of many physical things, they do not believe that this is the case with service "products," where it is. They note that "Nearly all service products involve close customer interaction." The distinctive quality of service offers is interaction. The interactive components are often the core of the service offer in many service industries. Furthermore, NSD is sometimes theoretically lot more complicated than NPD since contact is a crucial component of the service exchange. This apparent complexity is furthered by According to John and Story, there are three dimensions to service offers that serve as the primary point of differentiation from physical goods:

- 1. Intangibility
- 2. Heterogeneity
- 3. Simultaneity.

Although these distinctions are recognized, many physical things have one or more of them, supporting our claim that this is a question of degree rather than type. Lovelock, a pioneer in services marketing, provided a taxonomy of newness for several service development categories, but John and Story prefer to go with Booz, Allen and Hamilton's conception since they believe it to be more thorough.

- 1. world-first goods
- 2. new product offerings
- 3. improvements to current product lines
- 4. alterations and upgrades to current goods
- 5. Repositioning's

## cost savings

Given that process development results in cost savings, repositioning'swhich John refers to as "product augmentation development" and benefits are relevant to all four of the initial categories.

Incorporating services into a product's design is a crucial component. To put it another way, according to John, product development focuses on changing essential qualities, while product augmentation changes how a product interacts with customers. One of handoff's basic strategies, market development, requires both types of development to be successful. John and story find six major themes related to the NSD process from their analysis of the literature on services.

- 1. The business setting
- 2. The procedure itself
- 3. The participants

### 4. An examination of possibilities Development

### 5. Implementation

Students of NPD won't be shocked to learn that success in NSD is correlated with top management support, distinct objectives and goals, a creative culture, qualified people, a structured procedure, recognition and reward, and cycle time. In a similar vein, Shortcake, a pioneer in the field of services marketing, suggests a methodical approach to NSD that is guided by 'objectivity, accuracy, facts, and methodologically based'. There is little proof, however, that service providers follow the more complex processes and guidelines often used in NPD, such product screening and idea, product, and market testing. Three distinct categories of individuals are identified that must be controlled in an efficient development project:

- 1. First, the development team
- 2. The personnel who interact with consumers
- 3. The clients.

Those connected to NPD would have no trouble supporting this opinion. They would be worried, however, by the apparent lack of sophistication in the service organization's approach to using market research to uncover new market possibilities and the overall absence of research between idea development and launch, both of which are considered to be essential success elements in NPD. A difference is established between the definition of the features and qualities that will determine the nature of the service and the service delivery system through which they will be made accessible to the consumer when it comes to development. Since both real and intangible components will be included, it is crucial to integrate and adapt to the demands of the target audience. Considering the significance that each worker plays in providing the service, thorough training before implementation is very crucial. Although test marketing is advised, it is seldom done since service improvements are so easily copied.

In large part, research on NSD success and failure supports that done for goods. According to John and story, it is uncommon to attribute a project's success or failure to skillfully handling one or two auxiliary tasks. The factors that determine a project's success are many. Numerous auxiliary tasks must be effectively handled in a balanced, well-coordinated way. Three main sub-tasks that support successful and efficient project development make up supporting activities. These auxiliary jobs are: Analysis of potential. By integrating the operational requirements for delivering the newly formed offer with current process activities, synergies are created. Project creation. The timely and cost-effective preparation of projects, followed by their suitable launch.

Present a formulation. In terms of fundamental performance features and the proper customer assessment and use components, to maximize attractiveness to target consumers. These tasks are determined by a huge number of particular elements that have been uncovered in several investigations and are described in a thorough. The vast majority of these crucial success elements, however, have to do with 'things' and were really discovered in research of items rather than services. Johnna and store draw the conclusion that the six significant empirical investigations investigating NSD success or failure mentioned in their evaluation lack control over three dimensions that are necessary for the findings to be repeatable, namely:

- 1. The NSD's original intent
- 2. The exact standards by which outcomes were judged.
- 3. The environment in which it was tried.

But it is obvious that studies on NPD also suffer from the same issues. Studies in these sectors have shown that there are a variety of viewpoints on what success and failure are, supporting the prior claim that there are several factors that contribute to an explanation. Depending on whether one is evaluating the commercial result of the single development under review, its technical performance, or its contribution to the company as a whole, the criteria and conclusions may very well differ, as Cordero pointed out. Griffin and Page also found that many managers in the USA in charge of NSD believe it to be effective if it doesn't fail, which raises the issue of what it truly adds to the performance of the business as a whole.

Johnna and store recommend nine topics for more study in light of their evaluation. In doing so, they explicitly admit that many of the problems they name have already been and are now being effectively handled by practitioners. The authors draw the following conclusion: "The distinguishing feature of leading-edge developers is that they approach NSD tasks from the market-based view," despite the fact that a thorough examination of the techniques and practices used has not been provided for reasons of commercial confidentiality. Leading edge practitioners would seem to view technological inputs as essential but inadequate in itself for performing truly well in the markets of their choosing, despite the fact that "rocket science" is considered to be important. In the end, "Implementation is everything," as the study on NPD generally demonstrates.

In order to be able to answer the question "What is a product?" we have analyzed some of the aspects that should be taken into consideration while evaluating the nature of the product or services. It has been said that categorizing items has value because it forces us to carefully evaluate the foundation of transaction between producer and customer. Such thought demonstrates that a successful transaction must result in the satisfaction of both sides; this is a win-win situation. If the conclusion is win-lose, it cannot fulfill our description of the goal of marketing, which is to create "mutually satisfying exchange relationships." Our research has also shown that what matters is how potential customers perceive benefit or pleasure, and they are best equipped to determine what combination of benefitswhether they be objective or subjective, material or intangible, "product" or "service"will best satisfy their needs. The market is determined by the desires and purchasing habits of the customers [7]–[10].

Additionally, we have demonstrated that the categorization of items aids in identifying which providers directly compete with one another by providing products that are direct alternatives for one another's offerings. We can identify our immediate rivals and develop methods for outwitting and surpassing them since the qualities of the product dictate the nature of the industry. Additionally, it has been brought to our attention that, in addition to direct rivalry, we also need to be concerned with indirect competition, in which a preference for quite different items may distort or lower demand in a particular market.

#### CONCLUSION

In conclusion, a crucial step in helping organizations comprehend product attributes, market positioning, and possible prospects is categorizing new items. There are several methods and frameworks for classifying products that take into account variables including innovation, market positioning, technology, and industry dynamics.

Companies may make educated judgments, create focused marketing strategies, and profit from new market trends and customer preferences by properly categorizing new items. A well-crafted product categorization system may assist firms in a variety of ways.

It makes it easier to analyze the market, compare competitors, and find possible market gaps or niches. It also helps with resource allocation since businesses may prioritize their investments and marketing initiatives depending on how various product categories are categorized and their potential for development.

## REFERENCES

- [1] A. G. Fripp, "Classifying new products in marketing," Mark. Study Guid., 2014.
- [2] P. Ziamou, "The Effect of the Degree of Newness of a 'Really New' Product on Consumers' Judgments," Adv. Consum. Res., 1999.
- [3] J. Weking, M. Stöcker, M. Kowalkiewicz, M. Böhm, and H. Krcmar, "Leveraging industry 4.0 – A business model pattern framework," *Int. J. Prod. Econ.*, 2020, doi: 10.1016/j.ijpe.2019.107588.
- [4] R. Garcia and R. Calantone, "A critical look at technological innovation typology and innovativeness terminology: A literature review," J. Prod. Innov. Manag., 2002, doi: 10.1016/S0737-6782(01)00132-1.
- [5] S. Yi and X. Liu, "Machine learning based customer sentiment analysis for recommending shoppers, shops based on customers' review," *Complex Intell. Syst.*, 2020, doi: 10.1007/s40747-020-00155-2.
- [6] D. A. P. Paterson, W. L. Ijomah, and J. F. C. Windmill, "End-of-life decision tool with emphasis on remanufacturing," *J. Clean. Prod.*, 2017, doi: 10.1016/j.jclepro.2017.02.011.
- [7] E. Kauffmann, J. Peral, D. Gil, A. Ferrández, R. Sellers, and H. Mora, "Managing marketing decision-making with sentiment analysis: An evaluation of the main product features using text data mining," *Sustain.*, 2019, doi: 10.3390/su11154235.
- [8] M. A. Ilgin and S. M. Gupta, "Environmentally conscious manufacturing and product recovery (ECMPRO): A review of the state of the art," *Journal of Environmental Management*. 2010. doi: 10.1016/j.jenvman.2009.09.037.
- [9] S. A. Bialous and S. A. Glantz, "Heated tobacco products: Another tobacco industry global strategy to slow progress in tobacco control," *Tob. Control*, 2018, doi: 10.1136/tobaccocontrol-2018-054340.
- [10] R. Duray, P. T. Ward, G. W. Milligan, and W. L. Berry, "Approaches to mass customization: Configurations and empirical validation," *J. Oper. Manag.*, 2000, doi: 10.1016/S0272-6963(00)00043-7.

## **CHAPTER 8**

## **EXPLORING THE BUYER BEHAVIOR: A REVIEW STUDY**

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## **ABSTRACT**:

Buyer behavior refers to the decision-making process and actions undertaken by individuals or groups when purchasing goods or services. Understanding buyer behavior is crucial for marketers as it provides insights into consumer preferences, motivations, and purchase patterns. This abstract explores the factors that influence buyer behavior and examines the stages of the buyer decision-making process. Buyer behavior is influenced by a multitude of factors, including psychological, social, cultural, and situational elements. Psychological factors encompass internal motivations, perceptions, attitudes, and personality traits that drive individuals' purchasing decisions. Social factors involve the influence of family, friends, reference groups, and social norms on consumer behavior. Cultural factors, such as values, beliefs, and customs, shape consumers' preferences and consumption patterns. Situational factors, including time, place, and economic conditions, also play a role in influencing buyer behavior.

### **KEYWORDS**:

Consumer Behavior, Cultural Factors, Decision-Making, Demographics, Emotional Factors, Influences, Market Segmentation.

## **INTRODUCTION**

This book's primary goal is to provide a framework and helpful guidance on the function of product planning and management in boosting competitive performance. However, it's crucial to constantly keep in mind that marketing, including product creation, is something that businesses undertake for their customers rather than for other people. The marketing management model, which predominated academic and practitioner approaches between 1960 and 1990, particularly in the USA, which many people believe to be the birthplace of modern marketing, put this straightforward distinctionwhich is at the very core of the marketing conceptin danger of being overlooked.

The marketing management model focuses on how businesses manipulate inputs to create products and services that they can economically provide to customers. Such a strategy often focuses on managing the four Ps: product, price, location, and promotion, as well as the transaction, or the actual sale. We are reminded that marketing is all about consumers and the sellers' attempts to build mutually gratifying trade relationships with them by the acknowledgment of relationship marketing, notably in the USA. This concept is made clear in an essay by Shiv Mathur titled "Talking Straight About Competitive Strategy" in the Journal of Marketing Management. According to Mathur, the main objective of competitive strategy should be the offering, or what buyers decide to purchase. According to him, marketing must begin with competitive offers in order to be effective. Its emphasis must be on outputs and how well they are positioned for competition in markets, not on inputs. However, even the phrases that serve as the pillars of the marketing languageservice, system, product, and commoditytypically define the qualities of what a company offers rather than

how it promotes its offering; they are input terms rather than output terms. They put the emphasis on the vendor rather than the potential buyer. If we adopted a vocabulary that was output- or buyer-centered rather than input- or supplier-centered, customer orientation would become inevitable [1]–[3]. Now, the focus of this text is largely on an output or product. But in this, we want to reiterate our belief that the consumer is always our main priority and that they are the ones who determine what products or services will be successful on the market. I'll use Mathur once more:

The outputs are those advantages and disadvantages that have an impact on clients' purchasing choices. In contrast, inputs are all the characteristics that buyers do not consider when making their decision. Examples of inputs include the expenses, culture, resources, and abilities that go into creating what the seller sells but are often unnoticeable to the customer making their decision. Market positions are totally established by outputs; consumers' purchasing choices are entirely dependent on them, and suppliers compete for favorable purchasing decisions. Although inputs are crucial for securing a position in the market, they are really a means to an end and not the position itself.

As a result, even if the product or service is the culmination of all of the firm's efforts, its relevance and success will be fully decided by the consumers' purchasing habits, and this is the focus of the current. The starts out by providing a broad overview of some of the most popular and well accepted theories of buyer behavior before examining two important factors in choice: risk and perception. We suggest a composite model that integrates this phenomenon in light of the significance of perception in influencing consumer behavior and use it as a backdrop for a discussion of the adoption and spread of new goods. The significance of doing research into consumer behavior is shown by a thorough case study of Aluminum Sleeve Bearings, and the article finishes with a succinct summary of this subject.

### DISCUSSION

### **Models of Buyer Behavior**

A purchase decision often results from a series of consecutive steps, and several models of varied degrees of sophistication attempt to capture the core of this process. Two considerations must be made before examining any of these models. First off, despite the fact that some models claim to reflect organizational or industrial purchasing behavior, which implies that this varies in some way from that of final consumers, we do not find the difference to be useful. The ability of the final consumer to make decisions based on objective criteria can be underestimated by sellers as a result of this distinction, while in the case of industrial purchase decisions, an overemphasis on "the facts" can result in the neglect of the subjective factors that are frequently important when the buyer is trying to decide between two or more equally matched alternatives. The value of the relationship marketing idea is acknowledged as a result of the significance of this reality.

Second, the models explain a choice to acquire from scratch. Once a buyer has gone through the process once, they may skip some of the steps. In this situation, buying becomes a learned behavior, and it may be difficult to get a customer to "unlearn" this behavior. This is the same issue that a new product seller must deal with. The acronym AIDA, which stands for Awareness, Interest, Desire, and Action, is perhaps the simplest, most fundamental, and most well-known model of consumer behavior. Getting your customer's attention is the first step in generating a sale, which may not seem like a simple job when you consider that the average person is exposed to over 1500 sales messages every day and only remembers five or six of them. As soon as the consumer is aware, you must turn this into interest so that they actively examine your selling offer, and then you must turn this into want. Getting a prospect to desire

your product is necessary, but it is not sufficient to 'close the deal' and elicit action since the closer one gets to a decision, the higher the danger of making a poor choice and the greater the resistance.

Numerous variations have been provided since Strong initially put forward this fundamental concept in 1914; the most well-known. Because one must take a number of stages in order to get the desired result, these models are also referred to as "hierarchy of effects" models. They have a strong connection with the psychologists' CAC model, which stands for Cognitive, Affective, and Conative. The development of these models is beyond the scope of this book and may be found in the majority of literature on consumer behavior. For our purposes, we will utilize Rogers' five-step model because, although it is similar to the others in many ways, it stands out by include a trial phase, which our own research indicates is often of crucial relevance.

Unquestionably, the option of a trial reduces risk for a prospective customer, but since it does not imply a firm commitment, it may also mislead the seller about the degree of acceptance they are getting. In contrast, there would seem to be relatively few businesses or people willing to serve as the other people's test subjects if trial is not feasible, as is often the case with capital goods and consumer durables. As we'll see in this, there is a lot to gain from being able to spot these creative clients before or during the market launch process. The testing of new product concepts centers on issues that need the identification of creative consumers.

### **Impacts On the Decision-Making Process**

Well, it was a process. What genuinely affects how individuals conduct their purchasing activities? According to Kotler, the social sciences provide four conceptual frameworks that guide the process:

- 1. The Marshallian system of economics
- 2. Pavlovian learning theory
- 3. The psychoanalytic theory of Freud
- 4. The social-psychological model of Veblen.

These four models' salient characteristics are listed below. According to the Marshallian economic theory, purchasing choices are the outcome of 'rational' and deliberate economic calculations made with the intention of maximizing the utility or pleasure of the consumer. This form of purchasing behavior is often thought to exist in industrial settings. The four main ideas in Pavlov's learning paradigm are drive, cue, response, and reinforcement. Drives may be inherited or taught; for example, hunger is a fundamental physiological drive, but ambition is learnt. However, drives are often hidden or inert until triggered by a stimulus. Hunger may be either internal or external, but either way, a reaction is necessary. This reaction is referred to as a "trial" in Rogers' model since reinforcement will only take place and the newly acquired behavior will become ingrained, or what Pavlov would have called a "conditioned response," if the result is positive [4]–[6]. The unconscious motives that shape and condition behavior are a focus of the Freudian psychoanalytic paradigm. With Ernest Ditcher's study, which focused mostly on consumer products, motivation research became popular in the 1950s. With the release of Vance Packard's Hidden Persuaders, this strategy fell out of favor, and it is now very marginally used. Finally, the Veblenian model suggests that social norms, including those of culture, subculture, social class, reference groups, and familial ties, influence people's attitudes and behavior.

However, each of these theories only offers a partial explanation, and it seems that actual purchasing decisions are a combination of conscious and subconscious responses to a range of inputs, some of which are objective, quantifiable, and "rational." The decisions or replies will therefore be the result of a variety of socio-cultural factors that reflect the decision maker's upbringing, associations today, and past as well as present values, beliefs, and attitudes.

## Novelty

Depending on the novelty of the circumstance to the buyer and the level of risk connected with the choice, the proportional weight of each effect will vary greatly. The degree of novelty must be evaluated from the perspective of the potential purchaser rather than according to the innovation's actual age. For instance, the first robots were sold in the 1950s, but the vast majority of manufacturing organizations had never considered purchasing one, so their application and use would have been completely novel to them. Although novelty occurs on a continuum, it is beneficial to categorize it into distinct phases, and the Robinson, Farris, and Wind schema of "new task," "modified rebuy," and "straight rebuy," introduced in the previous when addressing the Buy grid Analytic Framework, is the most useful.

Despite Robinson et al.'s focus on industrial buying, which is evident in their definitions of the three stages, the categorization is seen to be as relevant for consumer purchasing and is as follows: These definitions make it clear that the degree of risk felt by the prospective buyer is likely to be negligible for straight rebuys and quite significant in new-buy circumstances. It is necessary to talk about how risk and perception play a part in the choice to purchase.

### **Threat perception**

In fact, decision-makers are more bothered by ambiguity than danger. Risk can be evaluated objectively and expressed in terms of the likelihood of a particular outcome. For example, bookmakers clearly state the odds against the underdog defeating the favorite, average life expectancies are used to calculate life insurance premiums, and a no-claims bonus that reflects the insurer's knowledge of your prior driving history may result in lower auto insurance rates. While Bayesian analysts like Raffa and Schlieffen at the Harvard Business School have shown how one may use subjective expectations to estimate the worth to the decision maker of uncertain alternative courses of action, uncertainty cannot be evaluated objectively.

However, relatively few customers are aware with Bayesian analysis, which prevents them from using their subjective feelings of uncertainty in a rational and organized way. Source or brand loyalty is the tendency of consumers to stick with a tried-and-true provider in the face of uncertainty rather than taking a risk on maybe finding even greater happiness by trying something new.

It follows that it will take a very powerful stimulus, signal, or "precipitating circumstance" to even get someone to evaluate an alternative to what they have already determined to be acceptable. Given that such situations do occur, it is helpful to understand that perceived risk is made up of two elements: the real uncertainty around the decision's outcome and the implications of making other choices. Industrial purchasers should take four types of action, according to Sweeney et al., to manage these two dimensions:

- 1. Reduction of external uncertainty, such as visiting a supplier's facility
- 2. Elimination of internal ambiguity, such as consulting other purchasers

3. Reduce external consequences, for as by purchasing from many vendors.

4. Internal mitigation of consequences, such as consulting with senior management.

Again, it doesn't take much imagination to see how the first three risk-reduction techniques are utilized by lone consumers, and the fourth is pretty typical of family purchasing practices when husbands and wives decide together on large-ticket purchases in order to distribute the risk. To put it another way, participation in the decision is more significant than whatever skill the other side may bring to the table. These remarks make it clear that any tactic the seller may use to lower the risk felt by potential purchasers will aid in hastening acceptance.

Uncertainty, like success and failure, is a subjective condition unique to the individual company or person, and it is a dynamic state that changes over time, thus it is unfortunately difficult to put this advice into practice. For this reason, the marketing approach that urges suppliers to put themselves in the shoes of their potential consumers and consider the selling proposal from their point of view offers sellers in competitive marketplaces the best chance of success. Additionally, it explains why emphasis has been put on subjective elements in decision-making, not at the expense of objective and quantifiable facts, but rather as influences that temper or even distort these facts. Understanding the phenomena of perception, which is covered in every work on fundamental psychology, is required to comprehend why this happens.

It is important to understand that perception is the reviewer's attempt to put incoming inputs into a coherent framework. Both sensory elements and functional considerations play a significant role in this process. Because they are inherent to the stimulus, stimulus components are neutral in the sense that they will be seen identically by all receivers with normal sensory capabilities. The four fundamental inclinations of similarity, proximity, continuity, and context are used by the brain to organize the incoming inputs into patterns as soon as they are received.

When we talk about similarity, we mean the receiver's propensity to group items that are similar together, while proximity causes the notion that objects that are near to one another belong together. Similarity in marketing practice may be observed in the segmentation idea, while proximity is used in the usage of well-known personalities to advocate certain items, the use of generic trademarks like St. Michael, and so forth. It is especially clear that stimuli must be given a meaningful framework when it comes to continuity, which is directly related to closure. A simple graphic like that is effective in demonstrating the phenomena of continuity:

In this case, the dots are seen as straight lines rather than as individual ones, and as two long lines as opposed to four short ones. When one completes an otherwise unfinished design, image, text, etc., closure occurs. For instance, we all understand what "Beanzmeanz." Finally, perception will be significantly impacted by context, or the environment in which a stimulus is received. In this sense, context can have a similar 'halo' effect to proximity and is frequently used by marketers when they want to develop an image of a product by using media or a setting that conveys the overall impression they wish to create, for example, using the Sunday color supplements to convey a feeling of quality allied with value for money, or using young people in leisure situations to promote Coca-Cola.

As previously said, neutral stimulus variables produce feelings that are then interpreted in the context of what are often referred to as functional factors. Individuals may thus filter out sensations that they do not understand or do not want to acknowledge, just as they can alter stimuli to make them agree with us, a behavior commonly referred to as "selective

perception." The views of the fans of the American football teams Dartmouth and Princeton are a prime example of selective perception, according to Hastorf and Cantril. There were many events throughout the game that resulted in player injuries and penalties being given. While the majority of spectators who weren't participating believed that both teams shared culpability, the fans of each side were nearly united in their belief that the other team was to blame for all of the problems.

There are various causes for this propensity to 'see' what one wants to see. A very large number of stimuli may first be blocked out or ignored, allowing us to focus entirely on those that are more important or that stand out from other stimuli because of how they contrast with one another. According to research, the great majority of the commercials we are exposed to are screened out, and we really only see fewer than 1% of them. Advertisers must thus employ contrast to catch our attention, such as using color in a black-and-white medium, loud noise in broadcast media, luxury boat adverts in The Economist, etc. Similarly, we have perceptual defenses that keep out inputs that are hurtful or in any other way go against our beliefs or attitudes. Relevance is a crucial problem since, obviously, we are more likely to notice stimuli that meet our psychological and emotional demands than those that do not. Physical and emotional demands may sometimes clash with one another, creating doubt about the logic of acquiring a physical item to fulfill a need. In these situations, it has been shown that actual buyers pay greater attention to advertising and other stimuli pertaining to the product than do potential buyers.

Preparatory set, or simply the tendency for individuals to see things in terms of their own expectations, is another perceptual phenomenon that is significant to marketers. The employment of branding and price labeling is a well-known commercial expression of the effect of preparation sets. Customers thus have trouble telling unbranded items apart, but not when brand names are included. Similar to this, research by Gabor and Grainger, Shapiro, and others has shown that we use price as a gauge of quality and will choose goods with a higher price as "better" even when there are no differences between them and goods with a lower price, even when the more expensive goods are inherently inferior.

## A Model of Composite Buying Behavior

While it may be claimed that all buyer behavior models are insufficient since they are seen as pre-scientific in the sense that they are unites, our own real-world experience shows that models may be made useful in real-world situations. For instance, top executives' discussions on Baker's composite model indicate that it offers a helpful framework for structuring their own thought. This last need is crucial since it is impossible to expect any model to accurately reflect the complexity and dynamic nature of the purchasing process. Accordingly, the Baker model aims to combine the crucial factors stated in the pages that came before, but in order for the model to be effective, another crucial component must be added: the specialized expertise and experience of people knowledgeable with the particular product-market interface in question. In order to properly portray a highly elusive process, the model has undergone several modifications [7]–[10].

The necessity for a signal or stimulus to elicit a drive and start an action is mentioned in the Pavlovian or learning model of buyer behavior. Due to the fact that we are all continually exposed to both our own internal and external stimuli, this element appears at the very beginning of the equation in our model. As previously mentioned, these stimuli are selectively filtered by a selective perception process. FN, or "felt need," is described as those who are acknowledged and carefully responded to. The following stage is to determine whether or not there is a way to meet the need once it has been recognized. This is what our

model refers to as "enabling conditions," or EC. Enabling circumstances include all the elements that allow a potential buyer to profit from meeting a perceived need. A gas oven or television are useless without power or gas, respectively. Similar to how many businesses aim to avoid combining materials like steel, aluminum, and plastics since doing so raises the investment required in both plant and labor and demands various skills and procedures to employ. To put it another way, a potential purchase must be consistent with the user's existing situation and, often, their perception of themselves. Without these favorable settings, curiosity is likely to wane quickly and is unlikely to continue to an examination.

The following stage will be to check and confirm this by gathering and assessing further information, which is known as information search in the model. This is done after identifying the requirement and determining that it seems to be consistent with one's current position. There is little doubt that the kind and scope of this search will be highly influenced by a variety of criteria, such as the novelty of the item under evaluation, the perceived risk associated with the choice, and the quantity and accessibility of ways of satiating the desire. One is prone to do extensive information gathering while dealing with sophisticated advances with which they are unfamiliar, particularly when large costs are at stake. On the other hand, it is doubtful that someone will spend much time looking for more information than what is provided at the point of sale when presented with a new brand of inexpensive convenience product. While the model places the following phase, Cost Benefit Analysis, after Information Search, in many situations, this analysis will take place concurrently with the collecting of information and be utilized to decide whether or not to consider it. By include this component, the economic or rational school of buyer behavior, which sees purchase choices as the result of an attentive evaluation of the performance aspects connected with a purchase and the price requested for any given combination of features, is explicitly acknowledged.

As we've previously said, when it comes to individual consumer behavior, judgments are usually made without the thorough deliberation that the Marshallian or 'economic' model implies. On the other hand, the research shows that greater attention will be paid to defining performance variables and evaluating their cost-benefit in situations involving several people or when one person is acting on behalf of others. Nevertheless, it's crucial to understand that the study includes a lot of subjectivity due to cost-benefit and selective perception. This means that depending on the person, different performance criteria or qualities will be assigned different weights when deciding the advantage to be obtained. Furthermore, as the idea of decreasing marginal returns makes apparent, when we acquire more of something as well as over time, our perception of benefit will alter. These factors make it impossible for a single function to fully represent or capture the interactions between the model's variables. Comparably, in order to apply the model, each choice must be considered in light of its own circumstances.

An business that is thinking about buying a large piece of capital equipment is likely to put a lot of time into creating a thorough specification of the qualities or performance criteria desired. The entire cost benefit will then be determined with what seems to be excellent accuracy, and this specification will be used to evaluate competing products. On the other hand, individuals purchase homes and vehicles, which are proportionally riskier, with no formal consideration of more than a handful of important factors.

Most people first prefer to associate performance variables with objective or physical criteria, but as the growing body of research on service quality demonstrates, the word also encompasses subjective or intangible aspects. In a recent piece, Woodall describes how both dimensions are taken into account while making purchases. Woodall quotes Greenrooms,

who agrees with Swan and Comb that service goods may provide both "instrumental" and "expressive" results. Greenrooms concludes as a result of this that "satisfactory performance" in terms of the instrumental results "is a prerequisite for a satisfied customer." The deconstruction of service quality by Greenrooms, according to Woodall, led him to the conclusion that its primary constituents were technical quality, functional quality, and corporate image. The latter was primarily determined by both traditional and emerging marketing techniques, but it was also highly reliant on both expectations and perceptions regarding the first two.

This is more likely to happen when there isn't a clear alternative that should be chosen above all others based on our judgment. This happens often in most competitive marketplaces because sellers want to make sure that their offerings at least equal those of the competitors in terms of price and performance. In a market where there is competition, choice really refers to the availability of more than one closely matched alternative. By anticipating variances among possible clients and tailoring the product to their demands, segmentation, targeting, and positioning strategies are of course meant to address this issue. Where effective, this will have affected how the advantages were seen and how the customer reacted. If unsuccessful, the prospective buyer will be given the option between two items that seem to be similar, and will thus need to take the prior steps into account in order to make a selection.

#### CONCLUSION

In conclusion, the complicated decision-making process and activities that people or groups perform while making purchases of products or services are collectively referred to as buyer behavior. Buyer behavior is influenced by a number of variables, including psychological, social, cultural, and situational considerations. Marketing professionals may create efficient marketing strategies, customize goods or services to consumers' demands, and provide satisfying customer experiences by being aware of these aspects and the phases of the buyer decision-making process. Marketers can adapt and succeed in a dynamic environment by keeping up with changing trends in consumer behavior.Behavioral Response is the model's sixth and final variable. At its most basic level, this is the choice made after the completion of the cost-benefit analysis: whether to accept, postpone, or reject the offer. However, our behavioral response could also force us to reevaluate the whole process's earlier steps.

## REFERENCES

- [1] V. Svatosova, "Motivation of Online Buyer Behavior," J. Compet., 2013, doi: 10.7441/joc.2013.03.02.
- [2] W. M. Lim, "Toward a theory of online buyer behavior using structural equation modeling," *Mod. Appl. Sci.*, 2013, doi: 10.5539/mas.v7n10p34.
- [3] D. F. Wilson, "Why divide consumer and organizational buyer behaviour?," *Eur. J. Mark.*, 2000, doi: 10.1108/03090560010331207.
- [4] Y. Luo, "Analysis of Culture and Buyer Behavior in Chinese Market," Asian Cult. *Hist.*, 2009, doi: 10.5539/ach.v1n1p25.
- [5] I. Bergman, "Buyer behaviour," Eng. Manag. J., 2000, doi: 10.1049/em:20000311.
- [6] R. Dondapati and S. R. Basariya, "Green marketing products Buyer behaviour," J. *Crit. Rev.*, 2020, doi: 10.31838/jcr.07.17.178.
- [7] G. H. Haines, J. A. Howard, and J. N. Sheth, "The Theory of Buyer Behavior.," J. Am. Stat. Assoc., 1970, doi: 10.2307/2284311.

- [8] C. Kim and K. Takashima, "Retail buyer control systems: Implications of buyer behavior strategies for performance," *Australas. Mark. J.*, 2016, doi: 10.1016/j.ausmj.2016.02.008.
- [9] M. Stone, "Consumer Buyer Behaviour," in *Fundamentals of Marketing*, 2020. doi: 10.4324/9780203030783-14.
- [10] J. B. Sheu, "Buyer Behavior in Quality-Dominated Multi-Sourcing Recyclable-Material Procurement of Green Supply Chains," *Prod. Oper. Manag.*, 2016, doi: 10.1111/poms.12263.

# **CHAPTER 9**

# **ADOPTION AND DIFFUSION OF NEW PRODUCTS**

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## **ABSTRACT**:

The adoption and diffusion of new products are essential processes for businesses seeking to introduce innovations into the market successfully. This abstract explores the concepts of adoption and diffusion and examines the factors that influence the rate and pattern of new product adoption among consumers. Adoption refers to the process by which individuals or organizations decide to accept and use a new product or innovation. Diffusion, on the other hand, refers to the spread or dissemination of the new product through a population or market over time. Understanding the adoption and diffusion process is crucial for businesses as it enables them to predict and influence consumer behavior, determine market potential, and develop effective marketing strategies.

# **KEYWORDS**:

Adoption Curve, Diffusion Process, Early Adopters, Early Majority, Innovators, Late Adopters.

#### **INTRODUCTION**

The generalized or composite model of consumer behavior mentioned in the pages above is mostly focused on the steps that a person or organization takes while selecting whether or not to purchase a product or service. Introducing the Robinson et al. Buy grid made it evident that intending purchasers are only likely to go through all eight Buy Phases in a New Task scenario. When presented with a Modified or Straight Rebuy, they could forego one or more steps of the procedure. The degree to which they are able to achieve this will also depend on the buyer's view of how involved the purchase is. The degree of the buyer's perceived risk associated with making a poor choice and the novelty of the purchase both go into whether a purchase is high participation or low involvement.

The five characteristics outlined by RogersRelative Advantage, Complexity, Compatibility, Divisibility, and Communicabilityhave a significant impact on the novelty level, which is obviously specific to the intended consumer. This is also true of perceived risk, which also carries a little chance of monetary loss. The problem of whether a product or service is seen as high or low participation will rely on its psycho-social value for the customer in addition to novelty and perceived risk. A particular product may thus be classified as either a specialty item that requires in-depth issue solving or as a convenience good or routine buy that just requires short-term problem solving. As a result, although some consumers may spend considerable time debating the wine's vineyard and vintage, others may readily purchase a varietal like Cabernet Sauvignon, Shiraz, or Chardonnay with little to no concern for any of these factors [1]–[3].

When the perceived danger is minimal due to the cheap purchase price, the issue of high or low engagement is equally crucial. When this is the case, as it often is with low-priced fastmoving consumer items, the easiest approach to decide whether or not to "buy" a thing is to sample it first. The choice to commit to buying it and any potential follow-up purchases should be postponed until after the test. Sometimes stated as proof of irrational purchasing behavior is the observation of people purchasing such minimal involvement items with little to no apparent examination? Contrary to popular belief, a complete assessment has a higher opportunity cost than it does a financial cost. For this reason, we choose Rogers' five-step model, which includes Awareness, Interest, Evaluation, Trial, and Action, over the more straightforward AIDA model, which omits Explicit Trial. In actuality, the concepts of idea and product testing, the topics of s 10 and 12, respectively, "trial" is important. Additionally, Everett Rogers' fundamental paper Diffusion of Innovations is responsible for popularizing the ideas of diffusion and adopter categories.

#### Adoption

The choice to utilize a product or service over complementary or replacement items that may be used to meet the same need is known as adoption. Adoption is the result of a decisionmaking process in which the person or business moves from ignorance of the product's or service's existence to a deliberate choice to prefer it over competing or inferior goods. The 'hierarchy-of-effects models', as shown in 3.4, depict the phases that the decision maker may pass through. All of the models have one thing in common: they all suggest that choosing to behave in a certain manner is the result of a process that begins before it reaches its ultimate end of adoption. Recognizing that the kind of choice to be made will significantly affect the duration and complexity of any or all of the phases is also critical. Therefore, with low involvement goods with a low unit price that are very similar to other existing products or brands that the consumer is familiar with, one may move right from the impulse purchase to the trial stage, delaying the decision to adopt until one's own experience confirms or otherwise proves the acceptability of the new thing. On the other hand, the decision-making process may be extremely difficult and time-consuming for high involvement items that may require the user to drastically alter their present behavior or include significant perceived risks.

## DISCUSSION

#### Diffusion

When discussing the product life cycle in 2, it was said that the idea is solidly rooted in biological sciences and that there is a ton of evidence to support the idea that it is a realistic portrayal of how products originate, thrive, mature, decline, and die. Studies in the area of rural sociology and studies in the field of education regarding the dissemination of ideas about curriculum development, novel teaching strategies, and similar topics support the observation that new methods and techniques follow this pattern. Studies of how new drugs are adopted by physicians in the field of medicine show the well-known S-shaped diffusion curve, as do numerous studies of specific, individual innovations in industries as diverse as plastics, man-made fibers, nuclear power, computers, and electronically controlled machine tools.

When considered together, these results inescapably support the presence of an underlying natural process. This may be summed up in essence as a replacement effect, where new items take the place of and displace the old. This process is known generally as diffusion. Diffusion is a process that results from an innovation's acceptance. According to Rogers, the diffusion process depends on the following four factors.

- 1. The new idea
- 2. It involves two people communicating with one another.

3. The appropriate social structure that these people are a member

#### 4. Time.

Novelty is both an objective and a subjective condition, as we've seen when talking about the characteristics of an invention. By determining the date of a product's first release, we may objectively assess uniqueness. However, a person who has no previous information or experience with the thing may still see it as new despite the fact that it has been around for months or even years. Additionally, the level of novelty inherent in an invention may be measurable empirically, but will often be assessed subjectively based on the knowledge and position of the prospective adopter. This in turn will have a huge impact on how quickly an idea spreads across a population and is fully adopted.

When the cumulative sales that result in the recognizable S-shaped curve are plotted in terms of actual sales per time period across the product's lifespan, the outcome is a normal distribution. A helpful classificatory scheme has been created utilizing the mean and standard deviation of such a distribution. We'll see that identifying and categorizing adopter types has significant ramifications for developing marketing strategies and marketing mix. When discussing the PLC, we go back to this topic in greater depth.

It is obvious that a key component of product strategy is product development. A significant amount of the literature emphasizes new product development in particular and therefore suggests that all NPD is focused on completely new items. Since many 'new' items are really upgrades or expansions of older models, this is plainly not the case. While the development of a new product is covered in this book as well, from idea generation to concept testing to physical product development and commercialization, it will be helpful to make a distinction between the two in order to lay the foundation for the concept of product line extensions, which are crucial to boosting growth and extending maturity.

Robertson put out one of the most well-known typologies of innovation, categorizing it as discontinuous, dynamically continuous, or continuous. A discontinuous innovation is one that entails a significant, drastic advancement in technology, resulting in new items that need altered behavioral patterns. Discontinuous developments include things like the steam engine, automobile, television, microprocessor, personal computer, cell phone, plastics, etc. By contrast, a dynamically continuous innovation provides the advancement of an existing technology without requiring a change in behavior. Examples include color television, compact discs, laptop computers, etc. As for ongoing developments, they often take the form of tiny technological advancements combined with minor alterations of already existing items, such as the addition of enzymes to detergents, squeeze bottles for ketchup, and washing-up liquid.

Very few inventions are the result of significant technical advancements or discontinuous developments; by far the majority are extensions or adaptations of already existing technologies. The intended user's response to the new product, as summed up in Rogers' five qualities, is the true measure of perceived novelty, since the more the perceived novelty, the more resistance to change there is likely to be and the slower the take-up or diffusion of that product. The adoption of major technology change is typically easier for final customers than for intermediaries who have greater expertise of it. While it may be a case of idiots going where angels fear to tread, the goal of the marketer is to attempt to take advantage of observed behavior rather than to question it. Therefore, end users often judge new goods based on the advantages they provide rather than the methods used to produce those advantages or potential modifications in the manufacturer's manufacturing process needed to adopt a new technology. As shown in a well-known example, as detailed by E. Acceptance of

this fact, according to Raymond Corey of the Harvard Business School, may have significantly sped up the development of aluminum sleeve bearings by the Aluminum Company of America.

In 1937, this alloy's bearings were made available for testing. Alcoa first limited the test programmer, which was carried out in collaboration with a producer of big diesel engines, since it was understood that defective bearings may result in significant engine damage if they failed. It was predicted that it would take between two and six years to gather enough test data on the performance characteristics of these bearings based on the constrained test schedule provided.

Tin shortages during the Second World War hampered further development of the bearings, but by 1944 there was enough tin available to allow for commercialization. The diesel engine builder who had taken part in the trials bought aluminum bearings for all of his diesel engines from a bearing manufacturer since the test results had convincingly shown aluminum's appropriateness for this use. Since small engines required thin-walled bearings and aluminum had to be used in a bearing with a ratio of wall thickness to diameter greater than could be accommodated in smaller engines, Alcoa initially focused its marketing efforts on the manufacturers of large engines. Solid aluminum bearings were cited in this application as having at least five benefits:

- 1. Better resistance to corrosion
- 2. Improved heat dispersion properties, preventing bearings from freezing on the shaft
- 3. Greater longevity, and absence of fatigue failure
- 4. The shaft wouldn't be harmed by the bearing if it failed.
- 5. Compared to current bearings, aluminum bearings were less expensive.

Aluminum bearings' reduced cost was mostly a consequence of the considerably easier manufacturing method they needed. In essence, this included automated lathe machining of a cylindrical casting, followed by boring machine finishing. The bonding of a bearing surface, such as copper, lead, or tin onto a made-of-steel foundation, on the other hand, requires far more expertise and manufacturing for traditional bearings. It would appear obvious that aluminum bearings provided much higher performance and cost-benefit characteristics than the traditional bearings they aimed to replace based on the five considerations mentioned.

## **Market Expansion**

Alcoa made the decision to market bearing castings rather than selling the alloy in ingot form for fabrication by third parties for a number of reasons. Alcoa's motivations included a need for quality assurance and after-sales support, as well as the expectation of better profits due to higher added value after forward integration into fabrication. Alcoa began marketing their goods nationwide in 1945 with the goal of attracting customers. Alcoa gave a list of the biggest bearing manufacturers in response to the information request and advised the engine builder to contact them. Despite the bearing manufacturers' keen interest in this invention, no orders materialized, and inquiries revealed that although the salesmen for the bearing manufacturers were following up on Alcoa leads, they typically suggested their own bearings rather than aluminum [4]–[6].

Corey goes into great depth on Alcoa's 1946–1954 attempts to market its new product. However, at the latter date, yearly sales of aluminum bearings were just a tiny portion of the predicted market potential, and the vast majority of sales were going to diesel engine manufacturers who built their own bearings. Sales of aluminum bearings were accounted for mostly by one big bearing producer since they were required to meet strict requirements from one of their clients. As in this instance, Corey notes, "a company may have no choice but to try a variety of approaches until one is successful due to the inability to predict market reception of the product." It is obvious that following such advise presupposes that one's top management is aware of the potential length of the initial period and is prepared to see market growth as a risk against future sales success. Even so, a close examination of Alcoa's initial marketing strategy does allow us to make educated guesses about some of the factors that contributed to resistance to an innovation that was objectively superior in terms of both performance and cost characteristics to the products it aimed to replace.

Large bearing manufacturers, small bearing manufacturing companies, diesel engine builders, and diesel engine users are the four distinct market groups identified by Corey in his book as having a potential interest in aluminum bearings. He makes suggestions as to why each of these groups may have responded differently to Alcoa's core message. Large bearing manufacturers' resistance is similar to how linoleum makers reacted to vinyl flooring. There was no compelling need to promote aluminum per se since aluminum sleeve bearings would be a straight replacement for their current production. Due to the incompatibility of the two manufacturing methods, aluminum bearings have to be manufactured differently than conventional bearings, necessitating significant expenditure.

Another potential concern on the side of the bearing makers was that because aluminum bearings were made much more readily, much of the mystery now attached to them would be gone, weakening their ability to retain consumers. It is possible to predict that more engine manufacturers would decide to produce their own aluminum bearings rather than relying on bearing suppliers. In addition to this unpredictability, Alcoa may always integrate even further forward and into the bearing manufacturing industry. Given the circumstances, it was scarcely unexpected that the major bearing manufacturers would not choose for what they may have seen to be a kind of suicide for their businesses.

Alcoa had determined that it would be improper to approach the market in the instance of small bearing manufacturers who had showed a great deal of interest in aluminum bearings early on since such tiny manufacturers were not already supplying big diesel engine producers. According to Corey, there was a particularly tight interaction between bearing makers and engine builders. He says: The engine builder should thus depend on his usual bearing suppliers for bearings as well as for technical support and guidance, unless there are compelling reasons to make changes. Even if aluminum bearings offered improved performance characteristics, there would not be a push for change as long as a diesel engine and the bearings in it provided the user with satisfactory performance. By using our language, Corey is implying that there was no precipitating situation that would have caused the engine builder to actively explore using a material that was not advised by their trusted bearing manufacturer in place of a known and reliable source of supply.

The manufacturer of diesel engines is the third market segment that Corey has identified. Within this category, it is possible to distinguish between builders who have their own bearing production facilities and those who purchased their bearings from specialized vendors. For the former group, using aluminum castings provided cost savings when manufacturing finished bearings since they would immediately see the results of the savings. The situation is very different when it comes to engine manufacturers purchasing bearings because, as we noted when discussing the bearing suppliers, there was no particular reason why the engine builders should take the risk of utilizing a new and to them unproven bearing,

which is probably only a very small portion of the overall value of their end product. Finally, the situation was significantly different for engine users. Corey observes

Diesel engine users started to run into problems when using traditional bearings as highpower output diesel engines and engine lubricating oil additives were more widely used. Therefore, their interest in aluminum bearings resulted from a realization that they needed to find a bearing type that would need less frequent replacement and would not interfere with engine maintenance. It is clear that engine users encountered severe precipitation, and as Corey points out: Initial attempts to introduce aluminum bearings may have rationally been anticipated to be most effective in this sector of the market if engine users could be identified as that group of consumers having both the highest motivation to embrace the new product and the least opposition to it. With the benefit of hindsight, the lesson seems obvious, but before writing off Alcoa's early marketing efforts as ineffective, one must take into account the challenges a materials supplier has when attempting to reach the final end user. Although it is obvious that this is a matter of opinion, as Corey points out, once Alcoa committed to selling to bearing manufacturers and later to engine builders, it was almost difficult for them to compete with traditional bearings with aluminum. Delaware Floor Products, the company that invented the selling of vinyl flooring, was not constrained by such formalities and was thus free to emphasize the benefits of vinyl over linoleum to the fullest.

#### Searching For Major Innovations in the Market

Major or discontinuous changes, as previously said, necessitate that consumers alter their usual behavior. Such research, as Rot and Schoolman's have noted, presents considerable challenges in contrast to product line expansions, where there is already a body of knowledge about customers and their behavior. There are three main challenges.

- 1. The issue of choosing responses
- 2. The difficulty of comprehending significant inventions
- 3. Issues in regard to time and social dynamics.

It is suggested that, in order to solve the problem of choosing the right respondents, one should focus on need assessment research to identify the issues that consumers face because these issues are more likely to be connected to their behavior than expressed needs and wants: "When presented with a radically new technology, consumers may not understand what needs the technology can satisfy. The reason for this is because customers are unable to connect the physical attributes of the product with the implications of the innovation. Since the advantages or repercussions that the consumer perceives affect their receptivity, it is crucial to identify them. According to research, persons with more product expertise are less able to infer advantages from perceived features than specialists. Therefore, while deciding how to position the invention, one should do study with such experts or proxy experts.

While word-of-mouth endorsement has a significant impact on an innovation's adoption, the majority of consumer research focuses on the individual rather than interactions between them. Similar to this, adoption is the result of a lengthy, multi-stage process, although most study is cross-sectional rather than longitudinal. As a result, efficient consumer research should aim to solve both of these problems; the difficulty is, of course, the time and cost required. Oort and Schuurmans talk about studies done on the introduction of video telephones in the consumer market and the potential introduction of telematic information services in an industrial market using techniques geared to overcome the challenges discovered.

Combining voice and moving visuals over regular telephone connections is now feasible because to advancements in data signal coding and compression. The innovation was obviously driven by technology, and the challenge was how consumers would respond to it and how these responses may be taken into account throughout the product's development. In order to respond to this question, the authors avoided examining how consumers generally responded to the idea and instead focused on specific use scenarios, or "behavioural domains." It was specifically determined that video phones could be used for telework, telecare, and distance education: "In telework, it was assumed that the video telephone would be helpful in the communication between the students and instructors. It was assumed that teleworkers would benefit from the video phone for communication between their workplace and home office. In tele-care, it was assumed that those who needed additional care because they were sick or were unable to leave their homes may utilize the video phone.

The researchers chose certain behavioral domains and heeded their own counsel for how to deal with challenges associated with doing this sort of study. Because of this, the study concentrated on communication issues within certain behavioral areas, which were then used to determine if they may be handled by using a video phone and, if so, whether this would be the best option, such as would a conventional phone and fax be better? Focus groups of five to seven participants who had knowledge of the relevant behavioral area and had greater experience than the norm with cutting-edge communication devices and services were employed.

It quickly became clear that the development of distant learning was a response to issues with teacher-student relationship. Video phone use would be restricted since both parties would need to be accessible at the same time; therefore, e-mail and fax were favored ways of communication. The video telephone was seen as "an inadequate surrogate of face-to-face contact" in tough situations when human touch was deemed necessary. Ironically, most individuals want to work from home because they don't want to be bothered and want to avoid interaction, therefore there don't appear to be many communication issues with telework. The video telephone would allow for communication, when necessary, but it had little benefits over a regular phone, fax machine, or personal computer with a modem. In the context of tele-care, the video phone was once again considered as a stand-in for in-person interaction that may be helpful when distance made it difficult. However, it was decided that physical touch was preferable [7]-[10].

These results suggested that the video phone would not resolve the alleged communication issues. Nearly all focus groups also identified the common issue with video phones, which is that their usage needs both parties' consent and that failing to activate one's video might be seen as a slight. These results won't come as a surprise to innovators. The general public often views the very first adopters of dramatic technology change as abnormal. Finding the outliers who will introduce the product to a bigger audience is a difficulty for companies looking to introduce radically novel new items. Given the increasing adoption of 3G mobile phones, it would be foolish for a product manager to interpret this data as implying there is no demand for a video phone. The second study looked at the possibility of offering market gardeners in the Netherlands' horticultural glass-house business telematic information services. The opportunity in this instance came about as a result of switching from a copper connection that was used to regulate the energy supply to a glass-fibre network with a substantially greater information flow capacity. The researchers conducted a market analysis to determine the current issues and unmet information demands of market gardeners and the ways that telematic information services may address them. This was done to assess the potential of this technological breakthrough.

The creative sub-group that specializes in the cultivation of flowers and vegetables and has substantially invested in cutting-edge, often fully computerized climatic systems and robotic crop handling was selected as the example. The researchers interviewed 55 market gardeners and asked them to explain the primary information flows between them and the people they dealt with. To create an information map, these relationships were further categorized by subgroup, such as suppliers, customers, and professional services like accounting. Direct questioning was used to determine the communication format, topic, and level of engagement for each group. In addition, respondents were asked to list any telematics information services, such as telebanking, that they believed may be beneficial to their own businesses. According to the study, regular face-to-face interaction between customers and sellers is common in the market gardening industry because of product delivery and pickup. Although orders were confirmed over the phone, face-to-face non-verbal interactions were infrequent. Market gardeners and their business environment communicate verbally informally, which may be summed up as an information flow. The farmers were unable to come up with any additional telematics information services that they needed accept databases and specialized weather forecasts, neither of which required the glass-fiber network.

It would be incorrect to accept these results at face value and conclude there is no need for further information services, as was the case with the video telephone. What the study by Rot and Schoolman's plainly demonstrates is that individuals often struggle to recognize unmet demands and frequently experience what we can refer to as the Pan Gloss syndrome. Indeed, it is not difficult to imagine prior generations being content with the current solution in the cases of both the telephone and greenhouse climate management. For instance, postal services were far better than they are now before the telephone was created and widely used. Similar to how the fax has gained popularity quickly, telephone conversations need the presence of two people, which makes them both invasive and cumbersome forms of communication.

#### CONCLUSION

In conclusion, new product acceptance and dissemination are complex processes impacted by many variables. Businesses looking to effectively launch innovations into the market need to understand customer perceptions, motives, and societal factors. Businesses may increase the adoption and dissemination of their new goods, resulting in market success and sustained development, by proactively addressing these issues and using marketing tactics to target diverse adopter groups. Businesses may use their knowledge of the adoption and diffusion processes to create powerful marketing plans. This involves locating and concentrating on early adopters and thought leaders who can promote adoption and sway others. The diffusion process may also be facilitated by using compelling message, offering trial chances, resolving customer concerns, and removing adoption hurdles.

## REFERENCES

- [1] M. Schreier, S. Oberhauser, and R. Prügl, "Lead users and the adoption and diffusion of new products: Insights from two extreme sports communities," *Mark. Lett.*, 2007, doi: 10.1007/s11002-006-9009-3.
- [2] G. Yalcinkaya, "A culture-based approach to understanding the adoption and diffusion of new products across countries," *Int. Mark. Rev.*, 2008, doi: 10.1108/02651330810866281.
- [3] E. M. Rogers, "New Product Adoption and Diffusion," J. Consum. Res., 1976, doi: 10.1086/208642.

- [4] C. Morvinski, O. Amir, and E. Mullera, "'Ten million readers can't be wrong!,' or can they? On the role of information about adoption stock in new product trial," *Mark. Sci.*, 2017, doi: 10.1287/mksc.2016.1011.
- [5] A. M. Kennedy, "The Adoption and Diffusion of New Industrial Products: A Literature Review," *European Journal of Marketing*. 1983. doi: 10.1108/eb027331.
- [6] T. H. Dodd, "Factors that Influence the Adoption and Diffusion of New Wine Products," *Hosp. Res. J.*, 1996.
- [7] D. R. Lehmann and J. R. Parker, "Disadoption," *AMS Rev.*, 2017, doi: 10.1007/s13162-017-0093-8.
- [8] P. Sharma and D. Jasuja, "Socially Responsible Investing and Stock Performance A Study on Comparison of Sustainability Indices in India (Arch & Garch Approach)," *Delhi Bus. Rev.*, 2020, doi: 10.51768/dbr.v21i1.211202016.
- [9] A. Horvat, V. Fogliano, and P. A. Luning, "Modifying the Bass diffusion model to study adoption of radical new foods-The case of edible insects in the Netherlands," *PLoS One*, 2020, doi: 10.1371/journal.pone.0234538.
- [10] S. Taylor and P. Todd, "Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions," *Int. J. Res. Mark.*, 1995, doi: 10.1016/0167-8116(94)00019-K.

# **CHAPTER 10**

# AN ASSESSMENT OF THE PRODUCT LIFE CYCLETHEORY

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## **ABSTRACT**:

The product life cycle (PLC) is a conceptual framework that illustrates the stages a product goes through from its introduction to its eventual decline in the market. This abstract explores the theoretical concept of the product life cycle, its stages, and the implications for businesses. The product life cycle theory suggests that products have a limited lifespan and go through distinct stages: introduction, growth, maturity, and decline. The introduction stage is characterized by the product's initial launch into the market, where sales are typically low, and the focus is on creating awareness and generating early adopters. As the product gains traction and acceptance, it enters the growth stage, marked by rapid sales growth, increasing market share, and profitability. During this stage, competition intensifies as more companies enter the market, and marketing efforts focus on differentiation and market expansion.

#### **KEYWORDS**:

Decline, Maturity, Market Saturation, Obsolescence, Product Life Cycle.

## **INTRODUCTION**

According to Scheming, up until the 1960s, engineering and manufacturing personnelwho were far distant from the ultimate customer and had nothing to do with the marketing of the resultant productshad the initiative for and control over new product programs. The result was unavoidably a hit-and-miss proposition since technology factors were probably to take precedence over marketing factors. Following the post-war boom and the rediscovery of the marketing idea, the shift to a buyer's market made fresh product creation crucial for survival and success. As a result, new product management received extensive top management attention and support, being "accepted and institutionalized as an integral and essential part of a firm's marketing effort".

The issues of product policy and management have developed into a separate sub-field within the marketing disciplines as a consequence of these developments, and a substantial body of literature addressing the topic has resulted. As a direct result of the marketing idea, Scheming was one of the first to create a specialized book based on the idea that "the principal guiding force of all new product management efforts should be a thorough understanding of consumer behavior."

With its focus on the role of product management, the development of new goods, and the basic marketing program, Schering's book is still widely read by students and professionals today. This is somewhat true of his treatment of the dissemination of inventions, but the last, which is dedicated to the product life cycle, is what makes it of special relevance to the current writers.

The idea of the Product Life Cycle was the focus of a lot of study in the 1960s, particularly at the Harvard Business School and the Marketing Science Institute via it. Robert D. Buzz ell, one of the top experts in the subject, defined the product life cycle as "a generalized model of

the sales trend for a product class or category over a period of time, and of related changes in competitive behavior," which is still often quoted today. This definition supports the choice of the PLC concept as the central organizing idea for the current book since it is thought that the fundamental model offers a solid basis for the construction of a normative theory of product management and policy [1]–[3]. The authors are aware that PLC, as a concept and theory, has been vigorously contested by several people and rejected by a number of others, therefore they chose to embrace this description and the fundamental model that explains it. It is feasible to understand how this difference developed if we go back to the 1960s.

In the specific instance of the PLC, once the generic model had been articular- ted, the hunt for more honed variations had begun, particularly in cases where they might be employed as predictive models. Victor Cook and Rolando Polly were two researchers who took on this problem with the help of the Marketing Science Institute. While Buzz ell's description "is principally correct, a few qualifications are in order," Scheming alludes to their work in his suggestion. There are two primary criteria put forward. First, there are outside factors that might distort the image; Scheming mentions the three that Cook and Polly picked out: population increase, changes in personal consumption, and price fluctuations. Second, it's important to understand whatever level of aggregationproduct, product line, or product categoryyou're dealing with. Unfortunately, there aren't any definitions that are widely accepted to guarantee that these descriptors are applied consistently.

The product may be differentiated in some manner from other items that are quite similar to it, but at its core it is the lowest common denominator. This means that there are 48 possible product combinations for the number 8 screw, which may be made of steel, stainless steel, brass, or plating. It can also have a countersunk or round head with a straight, Phillips, or Pozidrive slot. Consumer items that would otherwise be almost identical substitutes may be identified by their brand name, such as Coke and Pepsi, Camel and Marlboro, Daz and Surf, M&Ms and Smarties, etc. A product line is made up of many related items that are near substitutes for one another but unique enough to establish a sub-group within the product category that identifies all the items that meet the same fundamental demands. As a result, the main manufacturers in the product category "carbonated beverages" have a variety of flavors, such as cola, orange, lemon, etc., that directly compete with one another at the brand or product level and less so at the product line level, which encompasses all the various brands.

The primary focus is at the brand or product level, which is where the action is, for predictive and tactical objectives. But the product category is crucial for planning and strategic objectives. Product categories are built on unique production processes and technologies, and they usually establish their own specialized channels for distribution and post-sale support. An "industry" is referred to as a group of companies that produce products in direct competition with one another. Both strategy and tactics are addressed in this book, but the company and the steps it must take to maintain its success are the main topics of discussion. We think the PLC idea offers a great framework for analyzing and planning the firm's competitive strategy via the management of its product mix, but we'll be focusing more on courses of action and their execution than on specific brand marketing forecasts. In light of this, the idea of the product life cycle has been chosen as the organizational and analytical framework.

#### DISCUSSION

#### The Product Life Cycle

Introduction, Growth, Maturity, and Decline are the four phases of the product life cycle. In this book, we'll focus on a PLC with seven phases that has been "stretched" by adding

"Gestation" before the Introduction stage, "Saturation" as a stage between "Maturity" and "Decline," and "Elimination" as the last stage. We place special focus on the phases of gestation, or new product development, introduction, or launch, and elimination. This emphasis is justified because it both acknowledges that most marketing management books focus on the Growth/Maturity phases as these are the areas where the majority of marketing activity occurs, i.e., the source of most revenue and profit, and it also reflects the authors' own research interests. Additionally, the marketing management function's main emphasis is on it.

The primary argument in favor of product life cycles is the ability to identify a distinct pattern that resembles, when analyzing sales trends for goods, particularly those that have gone through the most, if not all, of the phases. Additionally, the phases or stages of the product's developmental cycle closely resemble the phases seen in the life cycles of living things, suggesting that drawing comparisons to biological life cycles may be useful in gaining understanding of the reasons behind how PLCs behave. Following is how Baker expressed the parallel in Market Development.

The biological sciences and the knowledge that living beings go through an inveigh cycle from conception to gestation to development leading to maturity provide a solid foundation for the analogy of a product life cycle. The adult creature then starts to gradually deteriorate until its existence comes to an end in death. Normal creatures must go through this cycle, which is inevitable. But even then, a bio scientist would only speculate about any unique organism in terms of some kind of probabilistic statement relating to expected outcomes. It would be foolhardy to attempt to generalize about the expectations of a specific organism before determining its genus, species, and sub-species.

Referring to ourselves as humans makes it simple to show that this claim is true. The citizens of mature, wealthy economies have significant differences in life expectancies from their less fortunate siblings and sisters in poorer nations. Therefore, an Indian has a life expectancy of just 58 years, compared to the average British male's 74 years. The difference in life expectancy between a Briton and an Indian would, however, be rather minimal if we were to compare two people who are both 30 years old. Means or averages are generally worthless without some knowledge of variation around the mean, which is a well-known issue in the area of descriptive statistics.

Infant mortality is relatively high among Indians, and the age distribution at death is strongly skewed toward young people. On the other hand, the likelihood of living a decently long life is very high if a kid in India survives the perils of infancy. Brits follow a pattern that is basically comparable in that teens and adults are less likely than newborns and small children to get illness or pass away due to an accident or genetic flaw. On the other side, allowing fragile species to survive infancy raises the risk of mortality in middle age, leading to virtually equal life expectancies for mature individuals in developed and developing nations [4]–[6].

Actuaries are well aware of this and base the cost of life insurance on average possibilities. The idea that your policy was built with you in mind is untrue since no actuary would make the assumption that they knew your actual life expectancy. Ironically, even while all of these risks are quite normal and acceptable to us as insurance consumers, as managers we demand equivalent models to have a degree of predictive power that is impossible to accomplish with extremely large populations of basically homogenous units.

The amount of knowledge we are likely to have about a category of products, such industrial fasteners or detergents, is trivial in compared to the demographic information on individuals

in general or countries in particular. Nevertheless, we attempt to turn a generalization about a successful product's sales history into a very accurate forecasting tool. In truth, PLCs may be used as forecasting tools, but only if the product, or a product similar to it, and the market into which the product is to be launched, are well understood. However, in this situation, the PLC is relevant because it serves as a continual reminder of the need of change and does reflect the phases that all successful products go through.

## Each of the Product Life Cycles Seven Stages

#### **First Stage: Gestation**

As a result of accelerated technological advancement and rising competition, businesses have found it essential to launch an increasing number of new goods in an attempt to stand out from the crowd and obtain a competitive advantage. Two implications follow almost automatically: the average product life cycle is becoming shorter as successful new goods replace the old, and many new products are stillborn or survive for a very short time. As a result, marketing management is impacted in two key ways. First, the real time needed to produce the new product must be accelerated; this is known as the "Time to Market" problem, which we go into great detail about. The second need is to use a Total Quality Management method to do it correctly the first time.

According to studies conducted by McKinsey in the early 1990s, time to market seems to be the more significant of the two difficulties. They came to the conclusion that a company putting a new product to market on schedule but six months late would lose up to 50% of its profit potential based on three assumptions: a PLC of five years, annual growth of 15%, and price erosion of 12% per year. A product that was launched on schedule but 50% over budget would only lose 4% of its potential earnings. The purpose of the processes, methods, and techniques mentioned in following sections is to produce a product that precisely satisfies the demands of the intended consumer. Of course, this is the ideal situation. Having said that, it must be acknowledged that very few managers, if any, possess flawless foresight, and no known method of market research can provide 100% accuracy in forecasting how a target market would really react to a new product. As a result, the company that debuts a less-than-perfect product but has the capacity to adapt quickly and effectively to consumer responses and input may very well surpass the "perfectionist" company that takes considerably longer to come to market. There will be more in-depth discussion of these problems and the associated trade-offs.

#### Second Stage: Initiation

Ted Levitt's essay "Marketing myopia" was one of the foundational works that helped marketing to be rediscovered. Overall, Levitt's study came to the conclusion that change is inevitable because customers would always look for new and more effective methods to meet their demands. To ensure their existence and expansion, manufacturers are compelled by this to innovate and release new goods into the market. Based on this diagnosis, Levitt reasoned that companies that understand consumers' demands the best would succeed; 20 years later, Peters and Waterman would coin the phrase "close to the customer." In fact, there is plenty of recent research to support the assumption that goods designed with customer input and/or cooperation have a significantly higher chance of success than those that don't.There is no denying, however, that a new product's debut or launch period is the most crucial in its development since, if it survives infancy, its possibilities of a respectable life and an adequate return on investment are rather high. It is also true that a new product will face more opposition and take longer to catch on or spread if it varies significantly from the existing, widely accepted solution to a problem. Scheming quotes Buzz ell's explanation of a few possible causes for the introduction phase's sluggish take-up as follows:

1. Growth of manufacturing capacity delays;

2. Technical issues, such as "working out the bugs"

3. Delays in consumers being able to purchase the goods, particularly while trying to get enough distribution via retail stores; and

4. Customer inertia, mostly brought on by resistance to alter ingrained behavioral habits.

These undoubtedly represent concerns and difficulties on both the supply and demand sides.

### **Stage 3: Development**

A new product's development stage signifies its triumph over the difficulties of infancy and holds out the hope of financial success. Growth often results from changes on the demand and supply sides of the market, as well as on what are known as "pull" and "push," as was hinted at in the previous paragraph. The above-described contagion model is obviously in play on the pull or demand side. New product owners like showing them off, and talking about them with others is a well-known strategy for easing one's own self-justification and easing post-purchase dissonance. Resistance decreases when awareness and word-of-mouth promotion gain traction, and more consumers request supply of the new product. Potential suppliers that have not yet joined the market, often because they don't want to cannibalize current sales, will undoubtedly be aware of these shifts in customer sentiment. However, new suppliers will join the market and provide their rendition of the new product in place of some of their current supply in order to avoid losing market share. The bandwagon has already rolled out!

The growth phase is particularly dynamic because it gives new entrants the chance to compete with existing providers and gain market share. This encourages small-scale product invention and development, which might very well result in a significant increase in demand for the product category as well as a much wider acceptance and usage among customers than before. Managing expansion has its own unique challenges, not the least of which is the ease with which errors may be made, which may not have an impact on market growth but may be deadly to the unfortunate organization that makes them. These concerns are thoroughly discussed in 5. However, as was previously said, the growth and maturity stages are the major focus of marketing management literature, therefore we will limit our discussion to product-related difficulties.

#### Fourth stage: maturity

When a new product successfully displaces a product, it was intended to replace, it has reached maturity when all of the previous product's suppliers have either shifted to the new product or have left the market. By the time the product form reaches maturity, it will have reached a point where little to no additional physical growth is possible. Variations won't continue to proliferate as they do throughout the development stage. Customers are mature when they know exactly what they want and are familiar with and comprehend the physical characteristics of the goods. Additionally, market segmentation based on physical attributes and use patterns becomes challenging, if not impossible [7]–[10]. As a consequence, in order to gain and keep market share, providers to the market must seek to various types of distinction. Therefore, the professional marketer is most extensively involved in creating and implementing an efficient marketing mix at the maturity period. As growth slows and sellers

seek to avoid price concessions in an increasingly challenging market, competition becomes much fiercer and more targeted. As supplier businesses compete for market share, non-price competition centered on advertising, distribution, and serviceboth before and after the salepredominates.

#### Fifth stage: saturation

The latter stage of maturity is called saturation. By this point, the market has stabilized, with three or four main competitors often providing the mass market and a cluster of small businesses serving the niche requirements of the minority. A few big companies will typically account for 80% of revenues, while a lot of little companies will make up the other 20%, according to the 80/20 or Pareto principle. Since there is a very significant link between market share and profitability, as the PIMS research plainly shows, there will be fierce rivalry in the mass market as providers try to maintain or even expand market share. Profitability doubles with every 15% rise in market share.

However, the larger companies will want to avoid direct price rivalry wherever feasible, with the dominant business setting the standard for the sector. This is not to imply that businesses won't use pricing as a short-term promotional tool directly via discounts, coupons, and other methods, or indirectly by giving customers more for less. Overall, though, mass market pricing levels will continue to be quite stable. For the rest, niche players will typically target either the budget-conscious consumer who views the product as a commodity and will therefore purchase it from the vendor offering the lowest price with little to no expectation of sophisticated packaging, promotional tools, or service, or the select group of consumers who are willing to pay a premium for a product variant that precisely meets their individual needs.

The phase of maximum profit and maximum risk is saturation. Success-fully securing one's position in the developed market-now is the time to benefit from one's labors. Even though one will still need to put a lot of effort into marketing themselves in order to maintain their position, at worst there is no competition at all and at best there is peaceful coexistence because the established entry barriers keep everyone but the most foolish individuals from trying to enter a firmly established, non-growing sector. Customers are often satisfied with their lot and reluctant to change, in addition to the providers who are established and secure in their positions.

The product is currently in its most developed state, with little room for further improvement, is well-known and understood by usersmany of whom will have developed strong supplier preferences and, thanks to competition, is likely accessible at a lower real-world price than it was earlier in the life cycle. It is hardly surprising that the complacency that Levitt cautions us against develops. Every sector previously had growth; therefore, you have to be successful before people realize you've failed.

It seems sense that people who have succeeded in developing new goods and markets would be hesitant to risk all by attempting to replicate the process given the difficulties of gestation and launch in the past. This is particularly true for basic items, whose mature phase of the life cycle lasts a very long time and for which it is hard to imagine a significant technical advancement that would fundamentally alter the supply-side organization of the business. It is essential to pay close attention to how the product performs against certain criteria.

The influence of a rising population and the post-war boom had led to continuing increase in the markets for consumer goods up to the mid-1950s in the USA, and somewhat later in Europe. The mid-1950s American depressions were the first to make people realize that markets could not be expected to develop indefinitely due to population increase, raising the

specter of widespread stagnation in growth and wealth. In fact, it was this precise realization that would eventually spur environmentalism and the realization that there are "limits to growth," as well as the rediscovery of the marketing idea and its focus on customer pleasure as the foundation of competitive advantage. The goal for an established company is to maintain its market position for as long as feasible; the challenge for a new company is to upset the balance and start a fresh cycle of change. The opportunity to do this is almost always made possible by a technical advance, which ushers in the decline stage of the life cycle.

## Sixth stage: decline

Entrepreneurs and innovators will disrupt the status quo as they come up with new methods to meet client requirements and introduce their ideas to the market. For all the reasons mentioned previously, innovations may have a limited initial effect, and the more radical the invention, the more opposition there will be to its adoption. Unavoidably, some inventions will be successful, and as they take market share from established firms in a crowded market, their fortunes will inevitably deteriorate. Although industry sales may start to fall, the major companies are often the last to see these consequences.

Big companies by definition serve the majority, and the majority is considerably more likely to be change-resistant than are those consumers who have specialized needs for the primary product. Therefore, the first listeners to transition from LP records or tape to compact discs were those who judged the sound quality to be sufficiently superior to warrant the expense of new equipment and the increased unit price of each recording. If the promises made about CDs are true, they will eventually become more readily accessible and less expensive CD players and discs will start to become available.

As soon as the major companies see their market share is shrinking quickly and must decide on their next step in the competition, contagion and bandwagon effects will start to appear. This tendency may also be seen in the displacement of video by DVD, which led Dixons, a large UK electronic goods shop, to stop selling video recorders in 2005. There are really just two choices. Either you contemplate voluntary extinction or you fully oppose the change at the risk of extinction. These problems and associated approaches of solving them.

#### **Seventh stage: Elimination**

Although change is inevitable and most, if not all, goods have limited shelf lives, this additional stage of the life cycle has been introduced to acknowledge that evolution is about the survival of the fittest and that management's job is to secure the survival of the species. In this comparison, the species is obviously the business, and the survival of the business and its product will only be identical if the business only sells one product. Usually, it isn't because businesses want to create a portfolio of goods at various phases of their unique life cycles because they tacitly or overtly comprehend the implications of the PLC and realize its effects.

The idea of the product portfolio, often referred to as the "Boston Box," will be discussed again later. In the meantime, it is necessary to understand that the choice to discontinue or remove a product must be made with the same level of awareness and consideration as its development and debut. The basic idea of product life cycles was briefly explained in the pages before. We have quickly discussed some of the key characteristics of the seven phases of the PLC, which serve as the framework for this book, and we have highlighted some of the underlying factors that seem to account for the rise and fall of species/products using a biological analogy. The next examines how the PLC idea is used in management.

#### CONCLUSION

In conclusion, a theoretical framework for comprehending the usual phases a product goes through, from introduction to decline, is provided by the product life cycle theory. It helps companies in determining the best tactics and steps to take at each stage to optimize market success. However, since the real-life cycle and product development might differ greatly, it is crucial for firms to adapt and innovate within the framework of their own industry, product, and market dynamics. The product life cycle theory acts as a roadmap for company decisionmaking, enabling them to proactively manage the lifespans of their goods and adjust to changing market circumstances.

## REFERENCES

- [1] S. L. Mitchell and M. Clark, "Reconceptualising product life-cycle theory as stakeholder engagement with non-profit organisations," *J. Mark. Manag.*, 2019, doi: 10.1080/0267257X.2018.1562487.
- [2] A. Mullor-sebastián, "The Product Life Cycle Theory: Empirical Evidence," J. Int. Bus. Stud., 1983, doi: 10.1057/palgrave.jibs.8490530.
- [3] J. L. Funk, "The product life cycle theory and product line management: The case of mobile phones," *IEEE Trans. Eng. Manag.*, 2004, doi: 10.1109/TEM.2004.826020.
- [4] K. Hashimoto, "Product life cycle theory: A quantitative application for casino courses in higher education," *Int. J. Hosp. Manag.*, 2003, doi: 10.1016/S0278-4319(03)00017-3.
- [5] D. Mercer, "A Two□Decade Test of Product Life Cycle Theory," *Br. J. Manag.*, 1993, doi: 10.1111/j.1467-8551.1993.tb00063.x.
- [6] X. Jian, S. Cai, and Q. Chen, "A study on the evaluation of product maintainability based on the life cycle theory," *J. Clean. Prod.*, 2017, doi: 10.1016/j.jclepro.2016.09.073.
- [7] P. Windrum and C. Birchenhall, "Is product life cycle theory a special case? Dominant designs and the emergence of market niches through coevolutionary-learning," *Struct. Chang. Econ. Dyn.*, 1998, doi: 10.1016/S0954-349X(97)00039-8.
- [8] B. Fatimazahra, M. Fri, C. Mabrouki, and A. Semma, "Dry port-seaport system development: Application of the product life cycle theory," *J. Transp. Logist.*, 2016, doi: 10.22532/jtl.267840.
- [9] G. C. Michael, "Product Petrification: A New Stage in the Life Cycle Theory," *Calif. Manage. Rev.*, 1971, doi: 10.2307/41164370.
- [10] G. J. Tellis and C. Fornell, "The Relationship between Advertising and Product Quality over the Product Life Cycle: A Contingency Theory," J. Mark. Res., 1988, doi: 10.1177/002224378802500106.

# **CHAPTER 11**

# PLC CONCEPT AND ITS RELEVANCE FOR STRATEGIC DECISION-MAKING

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# **ABSTRACT**:

The product life cycle (PLC) concept is a valuable tool for managers in understanding and effectively managing the life cycle of their products. This abstract explores the managerial applications of the PLC concept and its relevance for strategic decision-making throughout the different stages of a product's life cycle. Managers can apply the PLC concept to gain insights into the current position of their products in the market and make informed decisions about resource allocation, marketing strategies, and product development. During the introduction stage, managers focus on creating awareness and generating demand for the new product. They allocate resources to research and development, product design, and marketing communication to effectively introduce the product to the target market. It has remained, like so many other fascinating theories in economics, physics, and sex, a remarkably resilient but virtually unemployed and seemingly unusable piece of professional baggage. Its inclusion in the rhetoric of professional discussion lends the notion that marketing management is in some way a profession the much-desired but ostensibly unachievable legitimacy.

#### **KEYWORDS**:

Advertising Strategy, Competitive Analysis, Cost Management, Decision-Making, Marketing Strategy, Pricing Strategy.

#### **INTRODUCTION**

A significant essay by Ted Levitt was published in the Harvard Business Review five years after the release of his groundbreaking work, "Marketing Myopia," in which he advised practitioners to "EXPLOIT the Product Life Cycle" in order to turn a tempting idea into a management tool of competitive advantage. He made the following comment at the beginning of this piece: By this point, the majority of perceptive senior marketing executives are aware with the idea of the product life cycle. Even a small number of distinctly modern and cosmopolitan business presidents are acquainted with this alluring idea. However, in a recent study I conducted of these CEOs, I discovered that neither one had ever utilized the idea in a strategic manner of any type, nor that only a pathetic handful had even used it in a tactical manner. In addition, there is a lingering impression that the life cycle notion lends luster and credence to the repeated assertion in certain quarters that marketing is on the verge of becoming a science [1]–[3].

Today's understanding of the product life cycle is comparable to that of the Copernican theory of the cosmos 300 years ago: many people are aware of it, but few seem to apply it in an efficient or beneficial manner. In order to provide a shared context for a discussion of "ways of using the concept effectively and of turning the knowledge of its existence into a managerial instrument of competitive power," Levitt first defined the concept in his essay. Although she claims that the idea has outlived its usefulness and should be allowed to die in

line with its own precepts, Laurie Wood seems to have reached the same conclusion 25 years later. This is a subject we will return to in the following section.

According to Levitt's study, the market goes through four stages: market development, market growth, market maturation, and market decline. More crucially, he focuses on the fundamental issues that informed executives should be considering in light of the purported presence of a PLC, specifically: Given a proposed new product or service, to what degree can the shape and length of each stage be predicted? How can one tell what stage a product is in given that it already exists? How can this information be utilized successfully given what we know now?

Only the most gullible would anticipate rigid solutions to such questions, yet regrettably, that is exactly what the majority appear to want. It is very hard to provide advice on how to handle one's affairs that is universally beneficial, as Levitt himself notes. This is true of many business-related issues, but possibly marketing is special in this respect. Giving guidance that is applicable to a large audience on how to anticipate or forecast the trajectory and length of a product's life is undoubtedly very challenging. Business management will likely never be a science - always an art - and will pay exceptional rewards to managers with rare talent, enormous energy, iron nerve, and great capacity for accepting responsibility and bearing accountability. Indeed, it is precisely because so little specific day-to-day guidance is possible in anything, and because no checklist has ever been by itself very useful to anyone for very long.

Nevertheless, Levitt is still certain that seeking to provide answers to the issues he raised would be advantageous. He is very much following Eisenhower in saying that "planning is all, the plan is nothing" by doing this. The key is to identify the problems and occurrences that will affect the process and develop plans and methods to cope with them. As we'll see in a moment, much work has gone into identifying and attempting to quantify the variables that affect customers' decision-making, whether it be to embrace a new product, stick with an old product, or shift their loyalties to something new.

It will be hard to develop a single treatment that will work for all conditions for all the reasons outlined by Levitt; more often than not, the adage "physician heal thyself" will be applicable.

Only those directly engaged will be able to produce a thorough enough diagnostic to allow for prescription given the particular and complicated nature of the situation. Therefore, training in diagnostic techniques and analytical methods within a broad analytical framework is required. The idea of the product life cycle offers this [4]–[6].

## DISCUSSION

George F. Mackenzie, one of the proponents of the product life cycle, said that it may be the most effective day-to-day marketing and planning tool accessible to corporate management. Mackenzie's enthusiasm for the PLC concept is based on the conviction that its value lies in the development of a straightforward but essential attitude:

"The required attitude is simply the act of recognizing that a manufacturer or service company should base its entire business operation on the actual requirements and timing of its potential markets in terms of products which they must have and will purchase at a price sufficient to yield a significant profit." In other words, a manufacturer or service company should base its operations entirely on the actual requirements and timing of its

The PLC's constituent parts, in Mackenzie's opinion, "are empirically self-defining." Therefore, it is feasible to identify the phases of the PLC and take appropriate action, in contrast to management thinking, which considers "estimating and forecasting the timing factor associated with a product's present and future development" as impossible. For instance:

1. With the introduction of a big new competition, the market development of an important new product will come to an end. This will signal the beginning of the time of fast expansion.

2. The arrival of a number of new rivals, heightened price competition, and more promotional activity often mark the end of fast growth.

3. An observable decrease in market size overall signals deterioration.

However, Mackenzie's claim that the PLC may be used as a tool for operational planning ultimately needs to acknowledge that its usage will be strongly dependent on management's diagnostic and predictive abilities, and nothing other than the advantages of experience is recommended to achieve this. Chester R. Wasson wrote a piece on the problem of PLC predictability. As said by Wasson:

Market planning requires a core theory of the fashion cycle that may explain the unceasing changes that are readily visible and their subsequent progression. The only way the explanation will make sense is if it is based on observed patterns of human behavior and how people's reactions to the kind of stimuli known as a new product are influenced by both inborn and learned human reasons. The hypothesis must also be able to predict at least the general direction of the next fluctuation and the time of at least the first symptoms of a new swing in order to be helpful [7]–[9].

Wasson contends that a framework for such a theory already exists, that it can be inferred from the documented findings of product acceptance research when interpreted in the context of the social psychology of perception and motivation, and that it can be put to the test in unpublished proprietary research, at least for some types of products. The idea that fashion is a "synthetic creation of the seller" is obviously at odds with its existence. Wasson compares the fashion industry's acceptance cycle to the theorized progression of the human life cycle. This differs from a craze by having a modest rather than sudden decrease in popularity after an initially gradual surge in popularity. But as many have noted, "any theory loses most of its potential utility with such an empirical after-the-fact basis for distinction." What is required is a hypothesis that can predictably separate fads from other novel items. Wasson believes that such a theory must be founded on established patterns of societal and individual behavior and assist in explaining:

1. Why and how new items succeed as well as the reasons why others do not.

2. Why some new products develop quickly while others take their time.

3. Why certain items become "standards" while others experience popularity swings, and why fads lose favor just as their sales reach their pinnacle.

4. how and why classics endure in the world of fashion.

Wasson views decision-making as a compromise between competing goals and reasons that are dynamic and vary over time. When he states: "The oscillation will tend to be polar, swinging from one extreme to the opposite, because the satisfaction-yield span of any one design will extinguish the very drives which led to its adoption and bring to the fore those drives least well fulfilled by the design," he also acknowledges the paradox implicit in our own maxim, "The act of consumption changes the consumer." Wasson believes that an extra factor is necessary to explain the speed and thoroughness of the adoption of most new fashions since the 'desire-set' differs so much amongst people. This component is societal acceptance, which often encourages "over adoption" by those who don't genuinely profit from the new product. This over adoption causes an avoidance response, which in turn starts the drop from the peak.

The three principles of product acceptance, intrinsic pursuit, compromise, the shifting hierarchy of motivation, and the propensity toward over-adoption, according to Wasson, "furnish a necessary and sufficient explanation of the swings of fashion," but they do not explain "the classic"! Wasson views classics as "midpoint compromises" that meet basic function requirements and have the lowest likelihood of going out of style. Contrarily, this implies that the traditional client is unlikely to react to a trend but may be among the first to respond to a radical innovation if it were thought to best fit the requirements for the core function. These kinds of seeming irregularities are common in marketing. Wasson provides the following examples:

Before World War II, soluble coffee had been around for more than a century, and even after wartime innovations lowered the cost, it took six years to fully realize the market's potential. Another product that benefited from the war was frozen orange juice, which grew as quickly as facilities could be built and reached its peak market in three years. Even if there isn't much else grown now, the astounding advantages of hybrid corn yields were not enough to pique the attention of more than 6% of farmers during the first six years they were on the market. But when 2- 4-D and similar pesticides were made available to farmers after the war, they were so eagerly sought after that they actually posed a health risk. According to the justification, the product is only one component of a use-system, which is the actual source of satisfying the desire-set. Only in the framework of some well-established set of procedural habits arranged around their usage can products fulfill their prospective satisfactions. Only when seed corn is acquired, planted, nurtured, harvested, and stored according to a properly thought-out and well-learned system of habitual actions can it produce the desired crop.

Habits and experiences are often hard-won and should not be easily abandoned. In fact, in accordance with the pleasure-pain principles, we often adopt behavioral habits because they make us happy. The level of enjoyment or satisfaction may subsequently fall, but research indicates that we will only give up current behaviors if they really cause us to feel unsatisfied or if we are presented with a signal or stimulus that promises higher fulfillment. According to Rogers and Shoemaker, we are more likely to acquire anything new if it is congruent with our current behavioral pattern. Thus, although hybrid seed corn and quick coffee required acquiring new habits and behaviors, new orange juice and pesticides readily integrated into current operations. According to Wasson, each new offering may cause issues with one or more of the following three types of learning:

1. Acquiring new motor habits in succession.

2. Learning to value new advantages and so be willing to pay for them. 3. Acquiring the ability to downplay one's contribution to the product's utilization.

As a result, it is believed that the amount of learning required to comprehend and utilize the new product will determine how quickly it is adopted. Wasson bases his assertion that his model is valid on three different types of evidence. First, "known proprietary research amply demonstrates that taste and fashion are predicted before promotion and sales, and even before design, on the basis of analysis of consumer reaction." Another point is that "it is possible to cite at least a few examples of situations in which a simple learning-content analysis would

have greatly improved otherwise extensive research on product acceptance." The third point is that "some limited observation and research has proved successful in predicting a fashion cycle".

Examples are given to back up his statements, but as he points out, there weren't many of them in the early 1960s since the term "innovation" wasn't as well-known as it was by the end of the decade. Since then, a growing amount of research has provided significant support for his conclusions, to the point that the majority of marketing management manuals now include prescriptive models for the best marketing strategies and methods to use at each step of the PLC. Such a description of some important traits and activities to be done at various phases of the life cycle is best in the conclusion of this, we go back to the topic of operationalizing the PLC. Before doing so, it's crucial to understand that PLC theory and, more specifically, its implementation, have its detractors.

- 1. As Thomas recalls us, the advice given in a now-famous piece was to "forget the product life cycle." Thomas goes on to say
- 2. Arguments from both the conceptual and operational sides supported their leadership. The theoretical reasons were as follows:
- 3. Because products are not living entities, the biological metaphor is completely false.
- 4. A product's life cycle, which depends on how it is handled through time, is referred to as a dependent variable. Without a doubt, it is not an independent factor.
- 5. The product life cycle is not applicable to brands, product classes, or product forms.In fact, a brand name's crucial role is to establish a franchise with lasting value that enables modifications to the product's formula.
- 6. It is a fruitless exercise in taxonomy to try to fit product life-cycle curves into actual sales data.
- 7. The following are the key operational arguments:
- 8. The life cycle's four stages or states are not easily defined.
- 9. Since it is hard to know precisely where a product is in its life cycle at any one time,
- 10. The idea cannot be used as a tool for planning.
- 11. There is evidence that businesses that have attempted to utilize the product life cycle as a planning tool have lost money-costing possibilities.

It is surprising that the PLC was not immediately removed from the marketing toolkit in the wake of such harsh criticism! However, Laurie Wood continued to foresee "The end of the product life cycle" in the Journal of Marketing Management 14 years later. Wood's article "seeks to provide a critical appraisal of PLC theory and to examine the value of this pervasive concept in educating our future marketing managers into the next century," according to the abstract. She comes to the conclusion that the PLC should be abandoned as a viable marketing idea since it has outlived its own life cycle. The PLC is compared to biological life cycles, the physical sciences, and the periodic table by Wood in his introduction, but he believes that the PLC's roots are in economic theory: "This combination of scientific rationale - derived from biology, chemistry, and economics - served to enhance the legitimacy of marketing as a profession and has endowed the concept with its enduring appeal."

The traditional S-shaped curve and its four or five phases are then described by Wood, citing, among others, Rogers, Levitt, and Kotler. Despite being a notion that is universally understood, the PLC has not been much exploited as a marketing strategy. Two limitations have limited attempts to experimentally support or invalidate the life cycle concrete. The difficulties of empirical study, in that by observing sales patterns over time, we unavoidably see the influence of management techniques on the life cycle itself, as well as the absence of a clear definition of whose 'life' we are truly examining.Regarding the former, it is evident

that several writers have chosen significantly varied definitions, ranging from economics' industry life cycle to authors like Levitt's market life cycle, brands' life cycles, and ideas such as product class and product shape. Given this variety of definitions, it is not unexpected that "the "traditional" product life cycle concept" lacks a comparable and acceptable empirical confirmation.

Polly and cook showed that just 17% of product classes and 20% of product forms for over 100 consumer items fitted with the traditional S-shaped curve of PLC theory, but Cox's study identified at least six types of life cycle curve. The management's actions to alter market behavior via promotional and sales activities are mostly responsible for these differences. If we accept Levitt's initial assumption that the primary benefit of the notion comes in the fact that the life cycle can be handled, variations in the PLC are negligible, writes Wood. If the life cycle may be influenced by marketing activity, it must be a dependent variable.We consider this viewpoint, which seeks to use the PLC as a marketing tool rather than accept it as reflecting an inveigh deterministic process for "survival" products in the absence of any managerial or other intervention, to be the fundamental misunderstanding that the PLC is the consequence rather than the cause of marketing strategy decisions. In other words, the PLC identifies the fundamental mechanism underpinning development and decay, enabling the separation and potential application of variables that can speed up or slow down the process. The comparisons must be understood at a higher level. If one wants to utilize the PLC as a foundation for creating mix strategies, they must be able to respond to the following three questions that Levitt presented on page 114:

1. How and to what degree can the form and length of each stage be anticipated given a proposed new product or service?

- 2. How can one determine what stage a product is in given that it already exists?
- 3. How can this information be utilized successfully given what we know now?

According to Wood, Kotler's research demonstrated that it is difficult to respond to these issues since there is a dearth of data on how well items function in the marketplace. The PLC "represents the outcome or summary of numerous forces for change in the relevant product-market, each force acting in concert with others to facilitate or inhibit the rate of product sales growth or decline," according to Day's analysis, which Wood references. In order for managers to have a practical grasp of product management, Wood contends that one must return to fundamental marketing ideas when creating marketing strategies and avoid the "dangerous "short-circuitry" of the PLC and "formula" marketing."

Wood continues by arguing that the 1950s and 1960s, when support for the PLC originally emerged, saw a substantial shift in the focus placed on marketing, and that this shift exposes the theory's limitations as a tool for the industry. Thus, in the 1960s, authors like Levitt and Kotler argued in favor of the PLC's usage as a forecasting and planning tool. In a more indepth assessment of the PLC published more recently, Kotler emphasizes the PLC's value in evaluating previous sales trends and performance for planning and control instead of forecasting, where he views its usage as severely constrained. Wood comes to the conclusion that the PLC idea has outlived its usefulness and should be removed from the marketer's arsenal in order to avoid misleading the next generation of marketing professionals.

In his canonical article on "Product life cycle management" in the IEBM Encyclopedia of Marketing, Doyle makes it plain that he does not share this viewpoint. Doyle notes that the lack of a universally agreed-upon definition for the term "product" is a contributing factor in the issue. As seen in 4.2, Doyle advises starting with client demands before examining

demand, modern technology, product, product forms, and brands in that order. As long as their creators "change the technological, design, and service content of the offer while still retaining the brand values," brands may exist indefinitely.Given these classifications, it is clear that even while overall demand may be dropping, certain product categories, such as tea, instant, and herbal teas, may be seeing phenomenal growth. According to Doyle, there are six reasons why the PLC is not very useful for marketing strategy:

1. Concept not clear.

2. Because "actual sales development is shaped by both outside events and by the strategies of competition," there is no typical pattern.

3. Unanticipated turning moments.

4. Uncertain ramifications, for example, quick expansion may not result in large profits in extremely competitive areas like electronics, yet the decline period may be very profitable, for example, in the foundry supply industry, where there is less rivalry.

5. non-exogenous, i.e., the PLC is often the consequence of management decisions rather than external causes, especially if management recognizes that change is inevitable and employs the tactics and strategies necessary for the subsequent stage. When this is done, the PLC develops a self-fulfilling prophecy.

6. The PLC is a production-focused notion rather than a marketing-focused one, according to the product-oriented PLC. The company's success is not dependent on its goods, but rather on five other major factors that affect its capacity to sustain a competitive edge. These are the forces:

- a. The shifting needs of consumers.
- b. The goals and tactics used by rivals.
- c. How appealing the market is to potential rivals.
- d. The introduction of new technologies that can take the place of current remedies.
- e. the effectiveness and strength of the businesses that provide the company with resources, raw materials, and components.

These are the factors that have rendered the product outdated. Doyle claims that this leads to the conclusion that "it is better to tune managers into concentrating on the causes of change rather than its consequences." According to Doyle's conclusion, there are common mechanisms that influence markets but no uniform, predictable product life cycle or pattern of market development.

Managers may create effective competitive strategies by analyzing these processes in order to predict how markets and competition will evolve. Doyle then goes on to examine market dynamics in terms of the five main players, or the five forces popularized by Porter: consumers, competition, new entrants, replacement products and technologies, and supply linkages. The activities and behaviors of these five components that may change in the market are extensively examined. According to Doyle, the market's five essential elements are subject to evolutionary pressures, and he thinks that these changes may be broken down into four stages:

- a. Developing Market
- b. The period of rapid growth
- c. The Advanced Stage
- d. The Phase of Decline

The Boston Consulting Group and other portfolio approaches advise divesting and exiting in the "decline" phase, but Doyle explains the conditions and changes associated with each of these phases in some detail and makes the point that this is not very practical advice as more and more firms find themselves in such industries/markets. In essence, Doyle is advocating the more sophisticated application of the PLC that we have long supported - a theory that offers insight into the factors that influence market opportunity and competitive action and that management must consciously take into account in order to maintain the viability and success of their company [10]–[12].

#### CONCLUSION

In conclusion, throughout all phases of a product's life cycle, the PLC idea has useful management applications. It offers managers a framework for deliberating on how to allocate resources, implement marketing plans, create new products, and position themselves competitively. Managers may maximize their product's performance, lengthen its life cycle, and find chances for innovation and expansion by properly implementing the PLC idea. Managers must understand that the duration and structure of the product life cycle may differ between markets, products, and sectors. Depending on variables including technological improvements, customer behavior, and market dynamics, various items may have varied life cycle patterns. Managers must thus modify the PLC concept's applicability to the unique circumstances of their sector and product.

#### REFERENCES

- [1] N. H. Taba, "A Spring Model□: A new Information Technology system development methodology to combine software engineering stages and project management factors," *Int. J. Appl. Inf. Syst. ISSN 2249-0868*, 2012.
- [2] C. Dawson, R. McAlpine, and S. Woolley, "An Employee Resource Accounting System Applied to Public House Managers," *Pers. Rev.*, 1989, doi: 10.1108/00483488910133314.
- [3] K. Taesun, "Modeling Structural Change in New Product Diffusion from a Management Perspective: An Empirical Study of Wireless Subscribers," *Korean Mark. Rev.*, 2010.
- [4] C. projects, "Analysis Report," *Figshare*, 2015.
- [5] J. Šípal, "Monitoring the efficiency of particular compressors of the station," *Elektron. ir Elektrotechnika*, 2008.
- [6] C. Projects, "Project topics and project materials," *Figshare*, 2015.
- [7] M. N. Yuniarto and A. W. Labib, "Designing an online and real time simulation, control and monitoring of disturbances in an intelligent manufacturing system," 2003. doi: 10.1109/INDIN.2003.1300279.
- [8] C. Krishnamurti and S. R. Vishwanath, "Accounting and financial analysis," in Investment Management: A Modern Guide to Security Analysis and Stock Selection, 2009. doi: 10.1007/978-3-540-88802-4\_6.
- [9] K. Govindan *et al.*, "Industry Surveys IT Consulting & Other Services.," J. Clean. *Prod.*, 2018.
- [10] M. Bohm, "Programmable logic controls: what does this black box offer today's stampers?," 1993.

- [11] J. A. Laub, "Assessing the servant organization; Development of the Organizational Leadership Assessment (OLA) model," *Diss. Abstr. Int.*, 1999.
- [12] J. A. Laub, "Assessing the servant organization; Development of the Organizational Leadership Assessment (OLA) model. Dissertation Abstracts International," *Procedia Soc. Behav. Sci.*, 1999.

# CHAPTER 12

# PRACTICAL APPLICATION OF PLC CONCEPT AND ITS IMPLICATIONS

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# **ABSTRACT**:

Operationalizing the Product Life Cycle (PLC) is a strategic approach that enables businesses to effectively manage their products throughout each stage of their life cycle. This abstract explores the practical application of the PLC concept and its implications for operational decision-making. Operationalizing the PLC involves translating the theoretical framework into actionable strategies and tactics. It begins by assessing the current stage of the product's life cycle, understanding its market dynamics, and identifying the key challenges and opportunities at each stage. This analysis allows managers to align their operational decisions with the specific needs and goals of the product at different points in its life cycle. During the introduction stage, operational efforts focus on product development, market research, and establishing distribution channels. Managers need to allocate resources effectively to ensure smooth production, efficient supply chain management, and a robust marketing launch. Pricing strategies and promotional activities should be aligned with the goal of creating product awareness and generating early adopters.

#### **KEYWORDS**:

Decision-Making, Evaluation, Implementation, Key Performance Indicators (KIPS), Measurement, Monitoring, Operationalization.

#### **INTRODUCTION**

We have highlighted the PLC's significance as an analytical framework throughout our presentation rather than a forecasting tool. Even the most successful managers need frequent reminders of the inevitable destiny of the business that fails to adapt to its changing environment at the level of grand strategy or policy formulation. The two headline articles in Fortune's 75th Anniversary Issue, describing the attempts of two of the biggest companies in the world, General Motors and General Electric, to turn around their fortunes in the face of rising global competition, are not without importance. Evolution has been a continuous process of adaptation to change in order to live, as the biological example makes apparent. If this is understood, systems may be created to continually monitor the environment, using the input to modify rules and practices in reaction to change.

Even dinosaurs might go extinct in the event of a rapid and catastrophic shift, but most of the time, evolution can be seen as a slow adaptive process in which species fight with one another for limited resources, resulting in some species succeeding and flourishing while others fail and become extinct. Such dissatisfaction as has been raised with the PLC often stems from the managerial approach that is most focused on regional strategies for ongoing brand maintenance. There is a belief that the S-shaped logistic growth curve may be converted into a precise formula that can properly anticipate the behavior of individual brands in a market because of its alluring consistency. Although the PLC is a generalization about a successful product that endures all stages, this erroneous idea nevertheless holds true

[1]–[3]. Like Shakespeare's seven ages of man, the seven stages of the PLC only apply if nothing disrupts the 'normal' flow of events. To do everything required to give the product the greatest opportunity of becoming the norm is the actual task facing the brand manager. For instance, the UK had a decrease in infant mortality from 142 per 1000 in 1902 to 6 per 1000 in 1996. It was 139 per 1000 people in India in 1972 before dropping to 105 per 1000 people in 1982 and 74 per 1000 people in 1995. Additionally, as was already said, an Indian has a 58-year life expectancy at birth compared to a Briton's 74-year average.

Since we typically understand what causes the variations in human life cycles stated above and take efforts to make sure the anticipation becomes reality, medical science is clearly more advanced than marketing science. The issue with trying to use the PLC as a forecasting or predictive tool is that it won't work unless we take all the preventative measures required to ensure proper antenatal care, a safe delivery, and constant monitoring during the formative years until a sufficient level of environmental respect, self-monitoring, and self-care have been achieved. Our greatest resource for estimating the duration of the different stages must be previous observation and experience. The initial period is likely to be quite brief for certain goods, especially those that are just slightly different from the product they intend to replace. If the new version provides enough benefits over the old one to justify the switching costs, intended consumers will be able to see right away.

A choice will be taken with ease and the new product will begin a period of fast expansion before maturing if the perceived advantages of it outweigh the expected switching costs. However, items that represent merely a little advance over the status quo are often likely to be quickly displaced by another small innovation. Since each stage will be much shorter than those of a more radical invention, the life cycles of such new goods may possibly take the form of the traditional life cycle. Another assumption is that products with the most unique core technologies will also have the longest life cycles, which are correlated with the longevity of the infrastructure required to support such technologies. For instance, entering or using the technology of a significant industrial sector like steel has needed a significant amount of investment.

Therefore, in order to repay their initial investment, current manufacturers have a stake in retaining the outdated technology for as long as feasible. Existing manufacturers won't think about transitioning to a new technology until entry costs are reduced to the point where new rivals can arise as a result of that innovation. As a result, the traditional steel producers in the USA and Western Europe were slow to recognize the advantages of direct reduction and continuous casting, which removed several expensive steps from the conventional processes of casting ingots, reheating ingots, slabbing, and transferring molten iron to a steel furnace. Old suppliers weren't forced to upgrade their facilities to compete until new international competition that used these new technologies emerged. This process was sped up by the emergence of mini-mills that used electric smelting of scrap as a way to avoid the astronomical upfront costs associated with turning ore into steel.

This conversation makes it very evident that although the PLC is generally relevant to all items, its particular application requires considerably more in-depth familiarity with individual products and sectors. There are at least two situations that might occur. First, we are in charge of launching a new product, and as part of a much longer-term strategic plan that tries to project our expectations well into the future, we are obliged to produce a clear operational strategy for the launch. Second, we are in charge of managing an already-existing brand or line of goods. We will start with the second instance since it occurs more often in a marketer's career. To utilize the PLC operationally, the product/brand manager must first determine what the PLC would look like for a certain product and what stage it has reached

on that PLC. To do this, according to scheduling, one needs concurrently analyze three complementing indicators: sales volume, the pace at which sales volume changes, and the profit-loss curve. These three complementing metrics provide a reliable estimation of the life cycle stage, provided that fundamental tendencies rather than transient changes are being noticed.

This makes it easy to see how the three curves have changed in comparison over the life cycle. We will start to make money as soon as sales start, and after the first sluggish growth, both volume and revenue will increase quickly. However, due to the large launch expenses, cash flow is always negative during the first phase, therefore profits won't start to be realized until the business starts to develop. Naturally, determining when a product will start to break even is arbitrary and will be determined by the firm's internal accounting practices. A useful discipline is to set one's cost recovery so that the onset of growth, which marks the end of the launch or introductory phase, marks the break-even point between total revenue and cost for the product. This assumes that the original sales forecast/budget was developed in anticipation of exponential rather than linear growth.

Comparing the relationships between our three metricsparticularly between sales volume and the rate of change in sales volumeis more crucial than comparing the firm's internal costing practices, since this is the key indicator of what is occurring in the market. The graph and our model demonstrate that growth in the early stages is modest as the new product tries to establish itself against formidable opposition. However, because of the very low sales volume and the fact that every additional dollar will represent a larger growth percentage than at any subsequent stage of the cycle, "the rate of growth is increasing faster than the sales volume itself." All three indicators advance quickly during growth, but it's important to notice that the pace of sales growth peaks in the middle of the real growth period. The success of the new product will have been recognized by rivals by this point, and they will have started to get on board, thus earnings are also expected to peak around this time. As they do this, margins will erode and competition will worsen as sellers try to increase market share by actively using the marketing mix.

The height of maturity is when the growth rate of sales starts to decline; after that, everything goes downhill. Although unit profit is still dropping, there will still be a sizable positive cash flow for the successful survivors with sizable market shares. Naturally, once decline sets in, the loss of sales volume to new rival products will quicken. Internal accounting procedures will once again determine if this would result in a loss on unit sales as the statement says. Despite this, management must acknowledge that items in the decline phase need a very rigorous assessment to decide whether they are profitable or not owing to increased expenses brought on by decreasing volumes [4]–[6].

The underlying patterns are what matter, as scheming emphasizes, and one must work to smooth out transient oscillations surrounding them. The inflection points, which serve as decision-making moments, are what matter. This is especially true for the rate of change curve. Sales continue to increase as this shift into reverse, therefore it might take a daring manager to suggest that you start considering a substitute product now. The challenges associated in the second scenariocreating a strategic plan for an entirely new productremain much the same, with the important exception that one will not have any sales or cost data for the actual product from which to derive the PLC curve's parameters. If we are to operationalize the PLC in this situation, at least two things seem essential. First, we must persuade our coworkers that, other things being equal, the new product's real sales pattern would resemble a PLC's trajectory. Second, we must make an educated guess as to how long each phase may last.

The vast majority of managers choose linear predictions for unclear reasons. If the product does follow a typical PLC with a sluggish start-up followed by accelerating growth, such linear projections may have major consequences for the perceived success of the product, as one of us has discussed elsewhere. Given the shape of the PLC, it would seem reasonable to expect that such sales targets would exhibit an exponential progression, with very slow initial headway followed by rapid growth until the market is saturated. However, in order for a firm to judge the success or failure of a new product, it must have some predetermined sales target against which it can measure this. Although my evidence for this is primarily anecdotal and based on a limited number of actual examples with which I have firsthand experience, it is thought that many businesses do utilize linear predictions.

The risk of adopting linear extrapolations for sales objectives is well shown. It is evident that this method grossly underestimates the pace at which a new product might enter an existing market or create a brand-new one. As a result, the new product regularly falls short of expectations, which is likely to draw senior management's attention since they fear it may fail. Even worse, the situation first becomes worse as the gap between the prediction and the actuality widens. When faced with such a situation, the issue becomes how long one can put up with not meeting sales goals before choosing to stop trying and withdrawing the product, so admitting failure. Naturally, a lot will rely on the product itself and management's prior success in introducing new items. One would anticipate fairly early indications of the new product's acceptance for minor product improvements in frequently purchased low-value items, but for radical innovations, one would anticipate a fairly drawn-out launch period that could last for several years.

Therefore, it seems reasonable to assume that a portion of commercial new product "failures" may have actually been potential successes, but were instead pulled off the market too soon due to management's unwillingness to give them enough time to penetrate the market or their unrealistic sales targets for the introduction phase. Additionally,these managers persisted until the sales of the new product "took off," they could have anticipated a period of outperformance relative to their linearly extrapolated expectations, which would have more than made up for the underperformance in the beginning. The solution seems simple on the surface: convince individuals in charge of establishing sales goals for new items to use exponential rather than linear forecasting models. There is no guarantee that doing this will reduce the number of new product failures; in fact, it might have the opposite effect and encourage managers to hold onto products whose sales are stagnant or growing very slowly, not because they are going through a long gestation, but because very few customers are interested in them, indicating that the product is a genuine failure [7], [8].

We are firmly convinced that the PLC curve provides the finest picture of reality that is currently accessible to us for strategic planning, with the exception of the aberrant circumstances.

It is obvious that we need to persuade our colleagues of this and reject any other underlying hypothesis until someone can provide a more compelling counterargument, i.e., the PLC is the null hypothesis. When the planner uses past experience and knowledge of the market, customers, the current environmental conditions, and the performance of other similar products to estimate the anticipated length of the stages of the life cycle, acceptance of an S-shaped growth curve is likely to be confirmed. The proposed new product's acceptance or rejection will happen faster and its total life cycle will be shorter the more closely it resembles the current items. On the other hand, with radical inventions, the introduction period may persist for several years, and projection will need to rely on comparisons to comparable prior discoveries.

#### DISCUSSION

#### **Product portfolios**

The vast majority of employees work for small businesses, despite the fact that most textbooks tend to be written from the viewpoint of the professional manager working by a global, multi-divisional corporation. 96% of the workforce in the UK and Australia, for instance, works for companies with less than 200 workers, and the similar trend is certainly true in the majority of other nations as well. Therefore, the majority of businesses do not have a number of discrete strategic business units that each sell items into unique end markets. In fact, the reverse is true, and the vast majority of businesses are highly specialized, offering only one product or a small selection of products to a single or small number of geographically different markets. In these conditions, the business strategy and the marketing strategy are one and the same. What function does product policy serve in a small company with a limited number of products? In this article, we address this problem and make the case that even the smallest business must give serious consideration to the development of a product portfolio in order to remain in business. We first establish and explain the idea of the product portfolio.

The criteria to be considered in selecting the size and composition of the portfolio are then examined as a foundation for studying some of the most well-known portfolio models. This in turn prompts discussion of the factors to be taken into account while creating a model specific to the requirements of the particular company. The idea of the product life cycle, which highlights that eventually all goods and the technology that underpin them will change, implies the value of having a portfolio or variety of various products. Thus, the adoption of new and better ways of doing things in place of outdated ones leads to advancements in humankind and economic prosperity. Therefore, as a consequence of technical advancement even the most popular items eventually grow outdated and are replaced by more effective alternatives. For example, for many years, the only means of transportation for those desiring to travel between Europe and North America was by water. Nowadays, it is very difficult to book a transatlantic sea journey, and those that are accessible are unlikely to satisfy travelers' criteria for convenience or affordability.

The majority of other goods and technology operate similarly. Indeed, as we've seen in previous sections, the creation of new products and processes has evolved into the cornerstone of competitive activity across a wide range of industries since both general strategies of cost leadership and differentiation rely on innovation. In turn, this has accelerated the replacement of outdated items with new ones and shortened product life cycles. In such a situation, it is obvious that the company must take proactive measures to prevent falling prey to market myopia. We presented handoff's Growth Vector Matrix as a straightforward description of the possible strategic possibilities. The company must concurrently pursue its market penetration, market expansion, and product development strategies in order to survive, much alone expand [9]. The fourth alternative, diversification, was seen as dangerous since it entails altering both the product and the market at the same time, in contrast to the previous three choices, which maintained touch with either one or both of the two primary components of the exchange process, namely, the goods and/or consumers.

However, it was also said that although market growth may propose new chances for product development, product development might also result in a market development by drawing in new consumers. As a result, both types of development may result in diversification - new items in new markets - but through a less dangerous path.

The most important thing to take away is that businesses must always search for new goods and clients in order to thrive. A general rule of thumb in marketing, however, suggests that acquiring new customers costs five to six times as much as retaining existing ones. This is the reason why current marketing trends have shifted the focus from the sale to the connection. The propensity of consumersindividual and corporateto choose returning to a dependable source of supply may amount to satisficing behavior, yet the majority of us act in this manner. Why would someone desire to alter their behavior if it produces satisfying outcomes and there isn't any strong evidence to the contrary? It is also a well-known truth that many of the finest ideas for new goods come from consumers who see ways to enhance or modify current items so they function more effectively.

Given these facts, it is acceptable to say that maintaining and expanding one's customer franchise should be one's top focus. This means that if someone else can provide a superior product at a lower cost, then the customer will move to the new supplier. In the end, a company's consumers are ultimately loyal to themselves, their families, and their organizations. To prevent this, one must anticipate the wants of the consumer, which necessitates the creation of a line of goods or portfolio of products that can be tailored to meet shifting needs and circumstances. It goes without saying that the concept of the product portfolio is derived from investment management, where the investor looks to purchase a variety of stocks and shares that will fulfill his or her demands. These requirements often include the need for both current income and capital growth.

The purpose of portfolio analysis, on the other hand, is to ascertain the composition of the ideal or optimum portfolio taking into account fundamental preferences for fixed or variable yields, short- or long-term returns, etc. Investment management theory, in turn, is derived from the broader field of economics in which the portfolio may comprise any kind of asset. It follows that an organization's overall goals and attitude toward the fundamental trade-off between risk and return will have a significant impact on how a product portfolio is constructed. The kind of products required to attain the appropriate balance may be determined after these have been defined. In his article "Managing for business effectiveness" in the Harvard Business Review, Peter Drucker suggested that products could be categorized into one of six groups: breadwinners, todays, tomorrows, and yesterday's also-rans, failures in-betweens, and so on. This was one of the earliest contributions to the idea of creating a portfolio of products [10].

The basis for Drucker's categorization was the product's contribution to total profitability. Once the problem had been identified, the treatment was straightforward: encourage the breadwinners of today and future, "milk" the breadwinners of yesterday, decide on the inbetweeners, and discard the also-rans and failures. This categorization is rather straightforward if the criteria value can be measured. The challenging choice is balancing the portfolio to accomplish the ultimate goal. In order to make this choice, Wind contends that the following questions must be addressed:

- 1. What criteria have to be used while building a product portfolio?
- 2. What are the existing methods for managing a portfolio and how do they vary from one another?
- 3. How can recommendations for product marketing choices be created using the portfolio management approach?

Wind advises that one must first choose the appropriate degree of business analysis, the level of the market, and the temporal dimension of analysis before attempting to answer these issues. The depth of the firm's current portfolio will have a significant impact on the degree

of business analysis. Many tiny firms will only have one line, albeit it may have variations within it depending on where they are in their life cycle and how they fit into Drucker's sixway categorization. The biggest strategic business units will have many product lines, whilst larger businesses may have two or more separate lines. The particular product line serves as the core analytical unit, regardless of the number of product lines, and a thorough grasp of each is necessary for any higher-order level of comparative strategic analysis.

Regarding the "level" of the market, Wind is referring to the level of analysis's disaggregation rather than agree- ration. The recommendation in this case is to break down the market into various profit groups and then analyze the characteristics of the consumers who make up each segment since users' perceptions are what drive consumption behavior. But it's also crucial to keep in mind that even brand-loyal consumers sometimes move to competitor companies, and that their decision is often affected by a larger product selection. A packaging manufacturer specializing in metal containers could use its customer franchise to move into, say, plastic or glass packaging. This means that in addition to macro-segmentation factors, one should also keep in mind different markets that may be more attractive than existing markets but accessible to the firm, given its assets and resources. Regarding the temporal aspect, Wind points out that the majority of product studies focus on their present rather than their potential future positions. Given the PLC's consequences, it is evident that one should also consider future trends and attempt to forecast whether the product is heading up, down, or in either way, since this would have a significant impact on one's strategy and planning.

#### CONCLUSION

In conclusion, the PLC may be efficiently managed by enterprises at every step of the product life cycle by operationalizing the PLC. Managers may optimize resource allocation, improve operational efficiency, and maximize profitability by matching operational choices with the distinct demands and objectives of the product at various phases. A packaging manufacturer specializing in metal containers could use its customer franchise to move into, say, plastic or glass packaging. This means that in addition to macro-segmentation factors, one should also keep in mind different markets that may be more attractive than existing markets but accessible to the firm, given its assets and resources. Regarding the temporal aspect, Wind points out that the majority of product studies focus on their present rather than their potential future positions. Given the PLC's consequences, it is evident that one should also consider future trends and attempt to forecast whether the product is heading up, down Utilizing technology and data analytics improves operationalization even further. Overall, putting the PLC idea into practice helps companies manage the complexity of the product life cycle and achieve long-term success.

# REFERENCES

- J. Hernantes, P. Maraña, R. Gimenez, J. M. Sarriegi, and L. Labaka, "Towards resilient cities: A maturity model for operationalizing resilience," *Cities*, 2019, doi: 10.1016/j.cities.2018.07.010.
- [2] M. U. Tariq, "Title□: Operationalizing Variables in Theoretical Frameworks□: A Comparative Analysis," *Durreesamin J.*, 2015.
- [3] W. Handayani, M. R. Fisher, I. Rudiarto, J. Sih Setyono, and D. Foley, "Operationalizing resilience: A content analysis of flood disaster planning in two coastal cities in Central Java, Indonesia," *Int. J. Disaster Risk Reduct.*, 2019, doi: 10.1016/j.ijdrr.2019.101073.

- [4] A. P. de Man and D. Luvison, "Collaborative business models: Aligning and operationalizing alliances," *Bus. Horiz.*, 2019, doi: 10.1016/j.bushor.2019.02.004.
- [5] A. Asadzadeh, T. Kötter, P. Salehi, and J. Birkmann, "Operationalizing a concept: The systematic review of composite indicator building for measuring community disaster resilience," *International Journal of Disaster Risk Reduction*. 2017. doi: 10.1016/j.ijdrr.2017.09.015.
- [6] C. Canca, "Operationalizing AI ethics principles," *Communications of the ACM*. 2020. doi: 10.1145/3430368.
- [7] E. Mertens, P. Van'T Veer, G. J. Hiddink, J. M. Steijns, and A. Kuijsten, "Operationalising the health aspects of sustainable diets: A review," *Public Health Nutrition*. 2017. doi: 10.1017/S1368980016002664.
- [8] K. K. Acharya and H. Zafarullah, "Institutionalising federalism in Nepal: operationalising obstacles, procrastinated progress," *Public Adm. Policy*, 2020, doi: 10.1108/PAP-03-2020-0013.
- [9] T. D. Cosco, A. Kok, A. Wister, and K. Howse, "Conceptualising and operationalising resilience in older adults," *Health Psychology and Behavioral Medicine*. 2019. doi: 10.1080/21642850.2019.1593845.
- [10] A. S. van der Veen, J. A. Annema, K. Martens, B. van Arem, and G. H. de A. Correia, "Operationalizing an indicator of sufficient accessibility – a case study for the city of Rotterdam," *Case Stud. Transp. Policy*, 2020, doi: 10.1016/j.cstp.2020.09.007.

# **CHAPTER 13**

# **EXPLORING THE IMPORTANCE OF EFFECTIVE PRODUCT PORTFOLIO**

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# **ABSTRACT**:

The product portfolio is a collection of products or services offered by a company, representing its range of offerings in the market. This abstract explores the various factors that influence the composition and management of a company's product portfolio. A well-managed product portfolio is crucial for companies to meet the diverse needs and preferences of customers, seize market opportunities, and drive business growth. Several factors come into play when determining the composition and evolution of the product portfolio. One key factor is market demand and customer preferences. Companies must continuously analyze market trends, consumer insights, and competitive dynamics to identify emerging opportunities and align their product offerings accordingly. Understanding customer needs, demographics, and buying behaviors helps companies make informed decisions about product development, innovation, and portfolio expansion.

# **KEYWORDS**:

Competitive Landscape, Customer Preferences, Financial Performance, Industry Trends, Market Demand, Market Segmentation, Product Differentiation.

#### INTRODUCTION

As previously said, the goal of creating a product portfolio is to allocate resources to the company in a way that maximizes it's potential for long-term development and profitability. As a result, choosing metrics for evaluating the existing or projected contribution of certain items to the portfolio is necessary in order to do this efficiently. Such measurements may be more subjective, such as competition strength, perceived risk, or stage in the product life cycle, or they may be more objective, such as sales, profitability, or market share. Plotting the performance of individual products on a two-dimensional matrix has come to be standard, as will be seen when discussing some of the standardized approaches to portfolio analysis, such as a summary or surrogate for others. However, it will be helpful to first look at the metrics available before reviewing some of the standardized ways that have been created.

If for no other reason than the fact that actual or projected sales establish a company's revenue and that the timing and amount of revenue relative to expenditure influence the success or failure of a company, sales may be the most evident and commonly used statistic. When building a portfolio matrix, measurements of sales may be substituted for real sales in the computation of profitability and/or market share [1]–[3]. A number of unique sales metrics are needed for analysis. The company will, of course, be aware of its actual sales at any given moment, but this data will be of little use unless it can be compared to the overall sales of the product category and those of other significant rivals. In order to determine market share, this information is necessary, but it will also be of little use unless it summarizes historical sales patterns and forecasts them into the future. In other words, one must determine if sales of the

product category are increasing, decreasing, or stable, as well as how their own product is doing in relation to these market trends. It should be feasible to determine the stage of the industry life cycle and that of the business's own offering by charting both industry and firm sales, and from this, forecast future sales for both.

Traditionally, volume, or units sold, and value are used to record sales. The analyst will be able to generate an opinion on the demand curve's shape and price elasticity, both of which are crucial factors for formulating a competitive strategy or organizing the development of new products, if both are optimally quantified. When comparing pricing to measure sales, it's important to compare like with like, avoid comparing prices from manufacturers, wholesalers, and retailers, and confirm that the data pertain to the same time period.

The calculation of market share, one of the key aspects of the growth-share matrix developed by the Boston Consulting Group, requires comparative sales data as an important input. Since the release of the PIMS research, which demonstrated a substantial correlation between market share and profitability, market share is often mentioned as an essential indicator of competitive success. If for no other reason than the fact that they are challenging to calculate consistently and meaningfully, market share comparisons should not be overstated. In addition, for the vast majority of competitors in a market, it may be a meaningless statistic.

The difficulty in correctly determining a market share is primarily due to definitional issues. One extreme viewpoint holds that regardless of the amount of sales, every company has a 100% market share. This viewpoint is based on the idea that a company's clients must think of its product as different in some manner for them to choose it above other similar alternatives. The more traditional perspective is that we may identify markets for a category or product, such as carbonated drinks, detergents, gasoline, etc., determine the overall sales value of these goods, and then determine each seller's market share by dividing their sales by the total sales to produce a percentage.

The performance of certain brands within a company's product range, such as colas vs fruit flavors, diet and non-diet variants, and so on, may differ significantly from calculations of this kind for a product class, concealing major differences. Major suppliers are likely to analyze market share at both the product class and brand level in the case of big marketplaces of this kind with sizeable and different segments. For a small producer of a given product serving a local market, however, such calculations would be meaningless. It might, however, be significant to calculate the small firm's penetration or market share of its tightly defined geographical market area provided that the value of knowing this statistic was greater than the cost of establishing it.

This is not a minor problem since, as we've already said, the vast majority of businesses are tiny, and doing assessments that could be helpful or even critical for big businesses might cost far more than they would really gain. As noted by Wind, determining a brand's market share 'requires the explanation of numerous concepts: the unit of measurement, the product definition, the borders of the market and rivals; the time horizon involved, and the nature of the denominator in the share calculation'. Wind then discusses these elements in detail over the course of four pages. For the majority of small businesses, a more subjective, judgmental approach would appear more suitable, it is questionable if such an exercise in definition and measurement would be beneficial. It depends on the person's perspective as to whether these mostly subjective methodologies qualify as a product portfolio analysis or a more comprehensive strategic overview.

Baker limits his treatment of portfolio analysis in Marketing Strategy and Management to the BCG growth-share matrix and labels other comparable analytical frameworks like Shell's

Directional Policy Matrix as a "strategic overview" in the same book. This difference is created because there are several additional subjective and qualitative elements top management may like to take into account when formulating a strategy, in addition to the fact that gathering the type of objective data required for portfolio analysis may be time-consuming and expensive. Other writers, however, combine all of these strategies. To be thorough, we will do the same while maintaining the belief that the BCG strategy narrowly focuses on product portfolios, while the other approaches use a broader, strategic viewpoint.

## DISCUSSION

## **The Bag Growth–Share Matrix**

Bruce Henderson, the company's founder, created the Boston Consulting Group growth-share matrix in the late 1960s, and it dominated strategic thinking for more than ten years. It continues to have strong support and is often mentioned in books, lectures, and seminars that deal with the creation of marketing strategies. As we will see, it has also drawn a great deal of criticism, particularly in light of the market fragmentation brought on by growing global competition, the speeding up of technical progress, and the effects of information technology. As a consequence, rather than being a planning approach in and of itself, it continues to be valuable as an analytical framework that promotes structured study of the implications of the product life cycle for competitive strategy.

The matrix was created based on Henderson's prior research on experience curve effects, which he used while working at Westinghouse as a buying agent to assist explain the relationship between growing expertise and reducing manufacturing costs. Although the phenomena were not brand-new, Henderson gave it actual notoriety and showed how it might be used for tactical planning. In essence, the learning curveor experience curve, as it was more often called until Henderson published Perspectives on Experience in 1968has been understood for hundreds of years. It is best summarized by the proverb "practice makes perfect," as Winfred B. Hirschman noted in "Profit from the learning curve".

With practice, we develop the skills necessary to do activities more effectively and efficiently, leading to considerable increases in productivity. Of course, these benefits are not always automatic, and they won't definitely result in cost savings unless they are actively sought for. Henry Ford's first goal when creating an inexpensive automobile was to sell it for \$500, which was less than half of the going rate in the early 20th century. Not even ten years after commencing manufacturing in Baton Rouge, in 1918, he had reduced the price to \$258. No one else could expect to match this price unless they were able to attain Ford's level of sourcing, manufacture, marketing, and distribution efficiencies.

However, experience effects are not just a result of learning effects or scale economies. For instance, scaling effects are time-independent. The cost of increasing capacity or production will often not rise proportionally with an increase in project size, although this connection is not time-dependent. is experience.

Similar to this, learning effects strictly refer to the idea that when a person learns a task, productivity would increase with familiarity and repetition. The concept of experience, on the other hand, encompasses a variety of other aspects. Schnarr's lists them as follows:

- 1. The inclinations to learn
- 2. labor specialization
- 3. Process improvements
- 4. fresh resources

- 5. Standardization of goods
- 6. Redesigning a product.

It is obvious that these aspects are interconnected. With expertise, one finds innovative products and processes as well as new, more effective methods to complete the work at hand. The BCG offered two idealized experience curves in Henderson's Perspectives on Experience, where total units generated are plotted against cost or price per unit. The outcome is akin to a smooth curve on a linear scale. The latter is said to be more useful as it demonstrates "the unique property of showing percentage change as a constant distance, along either axis at any position on the grid," which can be read straight from the plot." However, when plotted using double logarithmic scales, the result is a straight line similar to that.

Nevertheless, the linear plot best captures the characteristics of the experiment: costs per unit decrease as production volume rises, albeit at an accelerating pace. Depending on the industry, the nature of the connection varies, but typically, expenses decrease by 10% to 30% for every doubling of production, with 20% being considered average. Contrarily, experience curves are defined in the opposite manner, thus a 90% experience curve suggests that expenses will decrease by 10% for every doubling of production, a 20% decrease in costs for a 75% experience curve, and so on. The experience curve analyzes the correlation between expenses and volume, and this must be emphasized. The company's success will be based on the pricing it can get in the market. The BCG research pays particular attention to this and implies that depending on the general competitive environment, the relationship between price and cost will change.

Regardless of whether the market circumstances are s or s, expenses often surpass prices when a product is initially released. Prices decline as experience costs rise, and two unique patterns emerge. In modern marketplaces, price reductions follow increases in cost efficiency. However, in untapped areas, demand exceeds supply during the expansion period, allowing sellers to command better margins because it is not essential to pass on cost savings via price increases. The outcome is mostly in line with what economic theory would suggest. Profit margins above average encourage fresh investment and an expansion of supply. However, costs will often decline more swiftly than prices if demand keeps growing more quickly than supply. As the market reaches saturation, demand will inevitably stop increasing, and there will be a shake-out as providers lower their prices to hang onto their market share. Only the strongest will survive, but after excess capacity has been eliminated, the mature market will become stable again, and the surviving competitors will typically refrain from exploiting price as a means of competition [4]–[6].

#### **Creation of Novel Products**

An outline of the steps necessary to come up with fresh product ideas and effectively introduce them to the market is made in this effort. There are three s in the. The first outlines the activities that need to be managed through the history of NPD models; the second gives a brief overview of what has grown into a vast field of academic and practitioner research, namely the factors associated with success and failure in developing new products; and the third discusses how the models might be developed to reflect the lessons to be learned from studies of success and failure and gives an overview of the organizational structure.

# **Models For New Product Development**

Models for new product development are often templates or road maps that may be used to explain and direct the steps needed to take a product from an idea or opportunity to a

successful market launch. They are generic in their direction because, like other models, they try to capture the essence of the activities needed to accomplish a project; as a result, they are often criticized for not being appropriate in particular circumstances. For instance, it has been argued that the development of new services requires different stages and emphasis on stages than the development of new products, or that the development of high-tech products differs from the development of fast-moving consumer goods, or that the development of "really new products" is a distinct category in itself. Nevertheless, it is also true that NPD models come in a variety of shapes and have improved in terms of prescription over time. Compared to the tools we have now, early models of new product development were relatively crude. They often focused on the departments or functions that are in charge of the different tasks carried out while describing the NPD process. In a business-to-business, technology-based setting, it is common to assume that ideas originate in the R&D department.

The design of the new product is handled by the design department, with the engineering function in charge of prototyping. Production then handles manufacturing issues, followed by marketing, which organizes and executes the launch. These depictions are a little dated. It is now widely acknowledged that the 'pass-the-parcel' or 'relay' approach to new product development from one department to the next is not only needlessly time-consuming, but also does nothing to foster ownership of, or strategic responsibility for, new products. Additionally, since marketing is given the product to market, there is no way to obtain market feedback. Major corporations like Air Products and Chemicals, Bausch and Lomb, and Kraft Foods—to mention just threeas well as the literature that studies NPD have largely abandoned these approaches. Numerous models that were focused on activities rather than departments were developed during the 1980s and 1990s; one well-known example is Booz, Allen & Hamilton. PACE and Cooper's Stage-Gate model are two prominent examples of these activity-staged frameworks that now additionally concentrate on the phases of decision making that follow each set of activities.

The choice to go on with the development is made at review points, or gates, which follow phases of activity. The actuality and significance of feedback loops are made clear by this method, which are often underemphasized while not being impossible within the framework of the more basic activity-stage models. Each step is examined in terms of its potential output using the decision-stage models. Since the activities, and in some cases the decisions, were initially thought to be the responsibility of different departments or functions, these types of approaches have also come under fire for encouraging a pass-the-parcel approach to NPD. However, most of them now emphasize the importance of multi-functional teams; for instance, take a look at PRTM's website. Cooper, DeGette, and Kleinschmidt observed that cross-functional teams and cross-functional collaboration on teams were significant differentiators between the top and worst NPD performers in a comprehensive benchmarking study.

These results coincide with those that Griffin presented in the 'Best Practices' study from the Product Development Management Association.

Despite the fact that the foundations for these models were established more than 20 years ago, a recent report by Booz, Allen and Hamilton published in 2004 on their website noted that, in contrast to the widespread belief that a "killer idea" is what makes a successful new product, the really important capabilities have to do with managing the NPD process to ensure the effective use of limited resources. In other words, the growth of skills that are often included into the NPD model frameworks. Next these opening comments, the looks at the phases of the Booz, Allen, and Hamilton core activity/decision model, including some of the decision or assessment gates.

# A Review of The Stages Involved in New Product Development

# Strategy

In research for Booz, Allen Hamilton, Bereans et al. discovered that most companies struggle to maintain control over their product development operations. Symptoms included a lack of robustness in the process and its management, frequent reprioritization of projects and the discovery of projects by senior management that were previously unknown to them. A lack of a strategic emphasis on product innovation, to put it another way. The effects of such behaviors include working on initiatives that are unlikely to be profitable, overworking R&D personnel, missing deadlines, and raising the likelihood of failure. On the other hand, developing a clear strategy for new product development establishes the primary criteria against which all projects may be managed up to the debut of the product on the market. It also offers guidance for resource allocation. The well-known attack on Caterpillar by Komatsu in the 1970s and 1980s included a variety of tactics, including the regular introduction of new products designed to expand the product lines, future new products based on envisioning initiatives, and a period in which increased product variety was matched with efficiency gains. The Product Innovation Charter and Protocol, often known as new product strategy.

# **Thought creation**

This is a deceptive word since ideas often do not need to be 'produced' in organizations. However, they do need management. This entails locating sources of inspiration and creating strategies for bringing those sources to life. The goal of this phase of the process is to create a bank of concepts that adhere to the guidelines established by the "new product strategy." There are resources for fresh product ideas both within and outside the company. Technical divisions inside the business, such as research and development, design, and engineering, produce applications and technologies that will be converted into fresh product concepts. Likewise, business operations like sales and marketing would be vulnerable to suggestions from clients and rivals. If not, many workers of the organization could have good suggestions: service technicians, customer care representatives, manufacturers, and warehouse staff are often exposed to "product problems" that might be transformed into new product concepts. Competitors, customers, distributors, innovators, and universities are excellent sources of information that may be used to develop new products. Revitas Minis, the relaunched Hove's pack, and Bliss are examples of products that were released after considerable customer research. However, it could be necessary to arrange all information sources so that ideas can be extracted. Simply said, the sources must be activated. Activating sources of fresh ideas may be done through a variety of approaches.

# Screening

The following step in the product development process comprises a preliminary evaluation of the level of demand for the ideas created and the company's manufacturing capabilities. Only a preliminary evaluation may be made of a concept at this level, which is the first of numerous evaluation phases; the idea will not yet be defined in terms of design, materials, features, or cost.

To determine if the proposal has promise, is realistic, would meet market demand, and could be produced by existing plant, as well as to estimate the payback time, internal business opinion from R&D, sales, marketing, finance, and production will be gathered. The end result of this phase is a collection of concepts that are acceptable for future exploration. To help in this procedure, several checklists and forms have been developed.

# **Concept Creation and Evaluation**

After being screened, an idea is developed into a concept that is more precisely defined, and testing is then done to see whether the concept fits with the capabilities of the organization and if it meets customer expectations. Making a choice on the idea's shape and substance is necessary for developing the concept from the idea. For instance, a food manufacturer that has come up with the notion of a low-calorie spread as a sandwich filler would choose the kind of spread: a low-calorie fish, meat, or peanut butter. These several idea iterations might all be described and put to concept testing. Internally, the development team must understand which variations are best suited for the present manufacturing facility, which need the purchase of new plants, and which require new suppliers.

Externally, the development team must consider which variants are most appealing to consumers. The latter entails doing direct consumer research to see if the product idea or alternative concepts are appealing to the target market. It is worthwhile to put time and effort into concept testing since the data that is gathered will be used to support the comprehensive business analysis.

# **Business Evaluation**

The crucial 'go-no go' choice will be taken at this point. Because expenses would soar beyond this point, the corporation has to be certain that the operation may be profitable. The study is based on the most comprehensive information currently accessible to the business. It consists of:

1. An examination of the market's potential size, expected market share within a certain time frame, competing goods, probable prices, break-even points, early adopters, and particular market segments are all included.

2. Technical details, expenses, manufacturing consequences, supplier management, and further R&D are all expressly stated.

3. a justification of how the project ties up with business goals. Both internal and external sources of information, including any prior market or technical study, are used at this point. An initial marketing strategy and a development plan with a budget will be the results of this stage.

# **Product Testing and Development**

At this point, prototypes are actually created. This development has many tasks associated with it. The final product will first be evaluated for its degree of functionality. The product has only ever existed theoretically or as a mock-up up until now. The effectiveness of the theoretical product can only be proven if its component pieces are combined into a usable form. Innocent Smoothies' founders spent £500 on fresh fruit to "product test" their ideas at a music festival before deciding to launch their company. It is also the first concrete phase in the production process. Although manufacturing factors were taken into account during earlier discussions, changes to the specification or to the production configurations cannot be created or implemented until the prototype is built. Third, prospective buyers must try the product in order to get their general opinion of it. Customer testing is more appropriate for certain product categories than others. For instance, it is difficult to get prospective customers to evaluate capital equipment in the same way that a chocolate bar can be taste-tested or a dishwasher can be put through an in-house trial. However, 'Beta-testing', a developing industrial marketing approach, is used indiscriminately by many industrial product developers [7]–[10].

# **Market Testing**

Small-scale testing with clients makes up test marketing, the last stage of the development cycle. Up until this point, the concept, the idea, and the product have all been "tested" or "evaluated" in a rather fabricated setting. The new product may have been compared to competing offerings in some of these studies, but other components of the marketing mix and potential rival marketing strategies have not been assessed. At this point, the product's attractiveness is evaluated in the context of the variety of market launch activities, including salesmanship, advertising, sales promotion, distributor incentives, and public relations. It's not always possible or desirable to do test marketing. Management must determine if the extra information that will be acquired will be sufficient to support the expenditures of test marketing. Additionally, not all goods are appropriate for a small-scale introduction. For instance, passenger automobiles must undergo market research prior to the debut, yet once some products are introduced on a small scale, they cannot be withdrawn, such as personal insurance. Finally, the competition may benefit from the delay in bringing a new product to market by taking advantage of the chance to be "first-to-market." Competitors may also wait for a company's test market findings to be released and utilize the data to aid their own launches, or they may manipulate the test results using other strategies. Additionally, since there are fewer physical components to invest in for certain services, the relative cost of launching a new product is cheaper, making a direct market entrance an attractive choice. A fabric, design, and cut are often introduced into shops right once, especially in the fashion business. If they prove successful, further designs utilizing the same fabric, concepts, and other elements are then added.

The creation and use of computer-based market simulation models, which employ fundamental models of consumer purchasing as inputs, have been motivated by some of the issues encountered as a consequence of test marketing. The adoption of the new product is predicted using data from stores or restricted surveys on customer awareness, trial purchases, and repeat sales.

# Launch or Commercialization

It costs a lot to complete this early development process stage. Information gathered throughout the development phase will be used to guide decisions on the product's launch date, location, method, and target market. Important factors to keep in mind with relation to time include:

- 1. The product's seasonality
- 2. If the launch should coincide with any commercial or trade event
- 3. Whether the new item will replace the previous one
- 4. Being the first to market is favorable or not.

For major businesses, location will specify the number of nations into which the product will be introduced, as well as whether or not the national launches will take place simultaneously or one after the other. The choice will be limited to a smaller geographic area for smaller businesses. The criteria used to make these judgments rely on the lead periods needed for products to reach all distribution points as well as the relative strength and influence of channel participants. Any necessary advertising and trade promotions are included in the launch plan. Both for the official launch and for the pre-sales into the distribution pipeline, space has to be reserved and written and graphic content created. To successfully market the new product, the sales team may need additional training. At this point, companies who have produced a product with the market in mind and who have carried through the different testing phases shouldn't be making important decisions on the ultimate target segments. Identification of the product's probable early adopters and messaging tailored to them should get greater attention. Early adopters often pioneer new markets in industrial marketplaces. The creation of a powerful, cohesive message to promote to the market should be the main focus of the launch. Following commercial acceptance, the company will seek input to continue refining and developing the product.

# CONCLUSION

In conclusion, several variables, including as market demand, strategy alignment, financial concerns, competitiveness, internal capabilities, and regulatory constraints, have an impact on the product portfolio. Companies may optimize their product portfolios to fulfill consumer wants, accomplish strategic goals, and foster sustainable corporate success by carefully examining and controlling these aspects.

The product portfolio is consistently monitored, evaluated, and adjusted to maintain its relevance and competitiveness in a changing market. The product selection may also be influenced by legal and regulatory considerations. Companies are required to abide by laws governing their industry, product safety requirements, intellectual property rights, and other matters. Failure to adhere to these standards may result in reputational harm, legal troubles, or market entrance hurdles.

# REFERENCES

- [1] F. Guo, X. Cheng, and Y. Zhang, "A Conceptual Model of Trust Influencing Factors in Robo-Advisor Products: A Qualitative Study," *WHICEB 2019 Proc.*, 2019.
- [2] M.-H. Jank, C. Dölle, and G. Schuh, "Product Portfolio Design Using Prescriptive Analytics," in Advances in Production Research, 2019. doi: 10.1007/978-3-030-03451-1\_57.
- [3] P. Shah, "Product Deletion in the Information Technology Industry," *IEEE Eng. Manag. Rev.*, 2019, doi: 10.1109/EMR.2019.2948165.
- [4] A. B. Dessie, A. A. Abtew, and A. D. Koye, "Determinants of the production and commercial values of Eucalyptus woodlot products in Wogera District, Northern Ethiopia," *Environ. Syst. Res.*, 2019, doi: 10.1186/s40068-019-0132-6.
- [5] M. Bouargan, R. A. H. A. Halim, N. H. Husaini, N. A. Jusniah, N. H. M. H. Ahmad, and M. N. Almunawar, "The utilization of social media by small and medium food vendors in Brunei Darussalam," *Int. J. Asian Bus. Inf. Manag.*, 2020, doi: 10.4018/IJABIM.2020010109.
- [6] Cris Abraham Kochukalam, "Factors Influencing Choice Of Banks In A Millennial Customer Perspective," *Glob. J. Commer. Manag. Perspect.*, 2018, doi: 10.24105/gjcmp.7.1.1801.
- [7] T. Knoke, K. Messerer, and C. Paul, "The Role of Economic Diversification in Forest Ecosystem Management," *Current Forestry Reports*. 2017. doi: 10.1007/s40725-017-0054-3.
- [8] M. Y. Huang, J. R. R. Alavalapati, D. R. Carter, and M. H. Langholtz, "Is the choice of renewable portfolio standards random?," *Energy Policy*, 2007, doi: 10.1016/j.enpol.2007.06.010.

- [9] T. Formánek and R. Tahal, "Socio-demographic and lifestyle determinants of loyalty program participation in the Czech Republic," *Manag. Mark.*, 2017, doi: 10.1515/mmcks-2017-0031.
- [10] R. Mutschler-Burghard, "Improving Energy Performance Indicators with the Help of Multivariable Linear Regression," *Chem. Eng. Technol.*, 2019, doi: 10.1002/ceat.201800666.