

Comprehension of Business Strategy and Operational Procedures, Including Their Interconnections and Effects on Corporate Performance

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Abstract

Introduction: Increased competition, pickier customers, and a generally unstable economic climate in many nations have all contributed to an external environment that is always shifting, making life difficult for organizations.

Aim of the study: the main aim of the study is to Comprehension of business strategy and operational procedures, including their interconnections and effects on corporate performance

Material and method: The phrase "the general approach the researcher takes in carrying out the research project" describes the approach used to conduct research.

Conclusion: Manufacturing organizations now include a performance measuring system that supports operational planning as an integral part of their strategy creation processes to maintain growth in the increasingly competitive global market.

Keywords: Business Strategy, Operational Procedures, Interconnections, Effects, Corporate Performance, etc.

1. INTRODUCTION

1.1 OVERVIEW

Increased competition, pickier customers, and a generally unstable economic climate in many nations have all contributed to an external environment that is always shifting, making life difficult for organizations. Globalization has increased competition, and consumers are more price conscious. Organizations that want to make it in this cutthroat market are building their operations strategies on a few key principles: running operations at lower costs, with more reliability and speed, and a superior capacity to adjust and continuously improve. Rapid economic developments and an uptick in technology innovation define today's market climate. Meeting market demands in terms of adaptability, delivery performance, and quality has replaced maximizing efficiency via internal specialization and economies of scale as the primary focus considering increasing global competition. In response to competitive demands for lower-cost, faster-response, and more responsive products, several new operations paradigms, initiatives, and practices have evolved in the last few years. Furthermore, within the last forty years, there have been major shifts in the industrial sector. The

mindset of upper management, the standards set by customers, the capacity of suppliers, and the technology used in the creation of new processes and products are all subject to change. In today's world of constant globalization, every nation's economic development and survival hinges on its ability to achieve industrial excellence. There has been a steady increase in the number of quality-focused continuous improvement models (operations/manufacturing methods) over the last several decades. These models seek to do things like streamline production lines, reduce waste, and boost process quality. Although there have been numerous effective continuous improvement models applied to the manufacturing sector, Total Quality Management (TQM) and Total Productive Maintenance (TPM) have become the most popular manufacturing improvement drives in the realm of production and operations management.

TPM is a maintenance management program that focuses on improving the overall effectiveness of equipment by eliminating waste through effective participation of the work force, while TQM is a manufacturing program that aims to manage the entire organization in a way that excels on all dimensions of product and service that are important to customers. Each of these operational (functional) strategies is designed to assist firms improve their business performance by including a philosophy, methodology, and tools/techniques. While Total Quality Management (TQM) focuses on reducing or eliminating waste and mudas, Total Process Management (TPM) cannot put a process under statistical control on its own. Several industrial companies are using combined TPM×TQM programs to address these shortcomings. A complete and consistent set of production procedures aimed at increased performance may be achieved by the implementation of both quality management and maintenance management methods. Most studies in the literature on manufacturing productivity have focused on technical aspects when studying the effects of continuous improvement practices on operational and business performance metrics, ignoring the fact that these metrics are related to the overall dynamics of an organization. This leaves room for future studies to incorporate social factors. Consequently, TPM, TQM, and simultaneous TPM×TQM programs are technically sound methods for achieving manufacturing excellence in a plant shop floor setting. In contrast to "hard" or "technical" practices, which pertain to technological tools and production procedures, "soft" or "social" (or "support") practices are concerned with people and interactions. By working together as a team, workers and company executives may achieve manufacturing excellence, a method of continuous improvement that maximizes the value of the production process.

2. LITERATURE REVIEW

Marei, Ahmad & Ashal, Najwa & Abou-Moghli, Azzam (2024) Examining the role of sustainability as a moderator between strategic orientation and organizational performance within the Jordanian telecoms sector is the primary objective of the present research. The literature review served to identify a gap in our understanding, which informed the development of a research model. The 321 participants included both management and non-managerial staff members, chosen at random. According to the results of the hypothesis testing, the association between entrepreneurial orientation, technological orientation, market orientation, and organizational performance gets stronger when operational sustainability is included as a moderating component. Insufficient research has been conducted to establish a connection between organizational performance and strategic orientation through operational sustainability, even though integrating the two is crucial for achieving the desired level of organizational performance. The purpose of this research is to fill the knowledge gap by investigating the effects of strategic orientation on organizational performance in the context of Jordan's telecommunications sector. Specifically, we will look at how entrepreneurial, technological, and market orientations affect non-financial performance and how operational sustainability plays a mediating role.

Mendrofa, Syah & Sihite, Toga & Asrijal, Andi (2024) An prominent supplier of energy services in the sector, PT XYZ, is the focus of this research, which seeks to explore the influence of adopting strategic management on its performance. Adopting successful strategies is essential in today's business climate, where competition is fierce and where client requirements are always evolving. This research use PT XYZ as a case study using qualitative methodologies. We analyzed internal papers, conducted in-depth interviews with corporate management, and watched operational operations to collect data. According to the results, PT XYZ's performance improves once effective strategic management is put into place. The organization may strengthen its customer connections, increase its competitive advantage, and optimize resource utilization by implementing a clear and well-defined plan. In addition, businesses can deal with the risks that come with their operational operations because of strategic management.

Artha, Bhenu & Satriadhi, Bintoro (2023) There are two parts to every company's performance: financial and non-financial. In the early stages of a company's growth, it's crucial to manage and integrate both parts of performance. When a company's success is measured in terms of money and financial operations, we say that company is performing financially. On the other hand, when we talk about success in terms of things like brand reputation, customer satisfaction, organizational performance, and innovation, we say that company is performing non-financially. Finding out what factors affect company success was the driving force for our research. Twenty publications form the basis of this research, which is a literature review. The factors that affect company success are highlighted by this study's findings. There is potential for further research on the topic of company performance as a moderating component, as it was not found in this study.

Visedsun, Nimnual & Terdpaopong, Kanitsorn (2021) The correlations between management accounting systems and business performance have been the subject of much prior literature review. Despite the importance of management accounting tools, very little is known about the relationship between corporate strategy, objectives, and performance. There are two main schools of thought within management accounting: the more conventional and the more forward-thinking. Naturally, several accounting tools are used by each theme. This article looks at how big Thai manufacturing businesses' financial and non-financial performance are affected by their company plans and objectives, via management accounting systems. An online survey was created to collect the necessary information. A total of 205 out of 1500 organizations (13.67% of the total) were able to submit fully functional survey replies. To examine the interrelationships of the variables, structural equation modeling (SEM) was used. Based on the results, company leaders should have a better idea of how their business strategy, objectives, and management accounting systems will affect the company's success. Strategic management accounting systems showed a statistically significant effect on the financial and non-financial performance of Thailand's large corporations when mediated by corporate strategies and goals, but traditional management accounting systems had no effect. This study sheds light on the connections and consequences of which mediators would have been most useful in facilitating the development of company strategy and objectives and the production of fruitful outcomes for organizational performance. Organizational objectives and strategies may be advanced with the support of competent performance mediators.

Suša Vugec, Dalia & Ivančić, Lucija (2019) Corporate performance management (CPM) and business process management (BPM) are both hot topics in academia and the corporate world. A primary motivation for its use in businesses is the desire to boost OP, or overall performance. Due to this, the purpose of this piece is to investigate the connection between BPM and CPM, as well as how the two frameworks' respective stages of development impact the degree to which they are integrated. In addition, the essay discusses how OP is affected by BPM-CPM alignment. Research has shown that both BPM and CPM may boost OP on their own, but no studies have yet attempted to objectively examine the combined effects of the

two in terms of alignment, as far as the authors are aware. As a result, the purpose of this piece is to explain why BPM-CPM alignment and its relationship to OP are so crucial. A total of 159 responses were obtained from a survey that was administered to medium-sized and large enterprises operating in Croatia and Slovenia. Using the k-means method, we were able to divide the observed organizations into two groups: those with poor performance and those with excellent performance. We found that there were statistically significant differences between the two groups for every variable we looked at. Additionally, the results show that as the maturity levels of both BPM and CPM rise, so does the degree of alignment between the two. Additionally, two groups have been used to analyze the observed organizations' OP. A correlation between BPM-CPM alignment and OP was shown by the Mann-Whitney U test, which found statistically significant variations in OP variables between the high-performance and low-performer groups.

3. METHODOLOGY

The phrase "the general approach the researcher takes in carrying out the research project" describes the approach used to conduct research. Studies in the social sciences have mostly used one of three main approaches: quantitative, qualitative, or mixed-method research. One method of studying the interplay of factors is quantitative research, which relies on numerical data expressed as scores or numbers to draw conclusions. In contrast, qualitative research is a technique to study that gathers and analyzes narrative or textual data conveyed via words and pictures to delve into people's experiences with a topic. There has been heated debate between proponents of the quantitative and qualitative research paradigms for over a hundred years. The first step toward the development of mixed-method research was the blatant rejection of previous approaches on both sides of the argument.

3.1 RESEARCH DESIGN

"Procedures for collecting, analyzing, interpreting, and reporting data in research studies" is one definition of research design. Triangulation, embedding, explanatory, and exploratory designs are only a few examples of the many types of mixed-method studies. As we'll see below, each one is best suited to a unique set of circumstances. The triangulation design is the most popular and famous way to blend approaches. There is only one stage to the process. The data is interpreted simultaneously and equally once both techniques have acquired it. Because all of the data is gathered at once, it saves time and is more efficient. The embedded design is a second kind of mixed-method research; in this design, one data set serves mostly as a supporting variable in a study that relies on the other data type. This layout makes use of method-specific analysis to supplement method-specific analysis. The embedded design incorporates both qualitative and quantitative data, with one form of data serving an auxiliary purpose within the design.

3.2 QUANTITATIVE RESEARCH PHASE

The process for data collection and the selection of survey participants are covered in this section. The quantitative study mostly used survey research as its strategy. To gather targeted data from respondents at various organizational levels, two distinct comprehensive survey instruments were developed using the indicated features illustrated in Tables.

3.3 QUALITATIVE RESEARCH PHASE

Our study motivation could not be explored without comprehensive data about the strategy development process. The whole procedure of introducing a new product to manufacturing lines and the market is included in new product development (NPD) in the manufacturing industry. One of the key differentiators

for manufacturing companies is the product development process. This is especially true in today's market, where the speed of product development and launch is a key differentiator due to factors such as rapid technological advancement, increasing customer demand for high-quality products, the need for so-called product customization, and the variety of items being released. Some insights on market orientation, strategy formulation, manufacturing strategy, production planning, supplier partnerships, etc., may be gleaned from this qualitative method, which primarily aims to understand the new product development and commercialization process in a manufacturing setting. For a thorough comprehension of the intricate interplay between company strategy and production methods, a case study technique provides researchers with access to comprehensive, first-hand data on all the aspects they need to examine.

4. RESULTS

4.1 QUANTITATIVE PHASE

4.1.1 Construct Reliability and Validity

Table 4.1 Independent Variables & Constructs of Research Model 1: Reliability & Validity Results

| Variables | Construct | No of Items | % Variance | Cronbach's α | KMO |
|--|----------------------------------|-------------|------------|---------------------|-------|
| Top Management Involvement & Leadership | Top Management Involvement | 8 | 46.27 | 0.833 | 0.884 |
| | Leadership | 8 | 46.63 | 0.836 | 0.879 |
| Human Resource Development | Employee Empowerment | 6 | 53.51 | 0.782 | 0.815 |
| | Employee Participation & Rewards | 7 | 45.83 | 0.802 | 0.836 |
| Total Quality Management | Quality Management | 6 | 50.21 | 0.801 | 0.850 |
| | Strategic Quality Planning | 8 | 56.87 | 0.817 | 0.840 |
| | Process Management | 14 | 49.68 | 0.888 | 0.896 |
| | Customer Driven Excellence | 7 | 45.27 | 0.797 | 0.829 |
| Total Productive Maintenance | Autonomous Maintenance | 11 | 55.23 | 0.881 | 0.910 |
| | Preventive Maintenance | 8 | 47.11 | 0.838 | 0.842 |
| | Predictive Maintenance | 5 | 55.70 | 0.801 | 0.805 |

| | | | | | |
|--------------------------------|------------------------------|----|-------|-------|-------|
| | Jishu Hozen & Kobetsu Kaizen | 9 | 52.99 | 0.888 | 0.912 |
| | Product Quality Maintenance | 9 | 53.06 | 0.900 | 0.920 |
| Transfusion of TPM *TQM | | 16 | 60.23 | 0.923 | 0.950 |

Table 4.2 Dependent Variables & Constructs of Research Model 1: Reliability & Validity Results

| Variables | Construct | No of Items | % Variance | Cronbach's α | KMO |
|---|--------------------------------|-------------|------------|---------------------|-------|
| Manufacturing Excellence Parameter | Strategic Business Performance | 7 | 49.98 | 0.833 | 0.872 |
| | Employee Competencies | 8 | 51.34 | 0.864 | 0.900 |
| | Quality | 5 | 50.15 | 0.750 | 0.811 |
| | Manufacturing Productivity | 7 | 45.06 | 0.796 | 0.800 |
| | Cost | 4 | 53.81 | 0.713 | 0.743 |
| | Flexibility & Delivery | 4 | 58.43 | 0.762 | 0.722 |
| | Safety | 4 | 52.32 | 0.701 | 0.710 |
| | Employee Morale & Contribution | 4 | 53.19 | 0.705 | 0.736 |

Statistically, one may evaluate the reliability of a scale's design using the Kaiser-Meyer Olkin Measure of Sampling Adequacy (KMO) test. According to Table 4.1, the KMO values for all independent variable constructions varied from 0.805 to 0.950, suggesting that the sampling strategy is sufficient. Table 4.2 shows that all dependent variable constructs had KMO values between 0.710 and 0.900, which is higher than the minimal score of 0.60. This proves that all of the dependent and independent variable constructs are legitimate and dependable.

4.1.2 Analysis and Results of Production Perspective Study

Table 4.3 Results of Linear Regression Analysis on the Relationship between Top Management & Leadership and Manufacturing Excellence Parameters

| Nature of Relationship | R Square | F-Statistic | Probability (F-Statistic) |
|------------------------|----------|-------------|---------------------------|
|------------------------|----------|-------------|---------------------------|

| | | | |
|---|-------|-------|------|
| TOPMang <input type="checkbox"/> Strategic Business Performance | 0.484 | 8.31 | 0.00 |
| TOPMang <input type="checkbox"/> Employee Competencies | 0.499 | 8.86 | 0.00 |
| TOPMang <input type="checkbox"/> Quality | 0.561 | 11.35 | 0.00 |
| TOPMang <input type="checkbox"/> Manufacturing Productivity | 0.465 | 7.72 | 0.00 |
| TOPMang <input type="checkbox"/> Cost | 0.427 | 6.60 | 0.00 |
| TOPMang <input type="checkbox"/> Flexibility & Delivery | 0.424 | 6.54 | 0.00 |
| TOPMang <input type="checkbox"/> Safety & Hygiene | 0.450 | 7.26 | 0.00 |
| TOPMang <input type="checkbox"/> Employee Morale & Contribution | 0.365 | 5.09 | 0.00 |

When looking at the regression findings in Table 4.4, we can see that the association between HRD practices and manufacturing performance measures is generally weaker, with r^2 values ranging from 0.238 to 0.501. The HRD practices and employee morale and contribution parameter had the poorest connection ($r^2 = 0.238$). Strategic Business Performance was shown to have the strongest association ($r^2 = 0.501$).

Table 4.4 Results of Linear Regression Analysis on the Relationship between Human Resource Development and Manufacturing Excellence Parameters

| Nature of Relationship | R Square | F-Statistic | Probability (F-Statistic) |
|---|----------|-------------|---------------------------|
| HRD <input type="checkbox"/> Strategic Business Performance | 0.501 | 13.04 | 0.00 |
| HRD <input type="checkbox"/> Employee Competencies | 0.449 | 10.58 | 0.00 |
| HRD <input type="checkbox"/> Quality | 0.400 | 8.65 | 0.00 |
| HRD <input type="checkbox"/> Manufacturing Productivity | 0.369 | 7.60 | 0.00 |
| HRD <input type="checkbox"/> Cost | 0.430 | 9.80 | 0.00 |
| HRD <input type="checkbox"/> Flexibility & Delivery | 0.415 | 9.22 | 0.00 |
| HRD <input type="checkbox"/> Safety & Hygiene | 0.441 | 10.27 | 0.00 |
| HRD <input type="checkbox"/> Employee Morale & Contribution | 0.238 | 4.07 | 0.00 |

Table 4.5 Results of Linear Regression Analysis on the Relationship between Total Quality Management and Manufacturing Excellence Parameters

| Nature of Relationship | R Square | F-Statistic | Probability (F-Statistic) |
|---|----------|-------------|---------------------------|
| TQM <input type="checkbox"/> Strategic Business Performance | 0.718 | 9.35 | 0.00 |
| TQM <input type="checkbox"/> Employee Competencies | 0.666 | 7.32 | 0.00 |
| TQM <input type="checkbox"/> Quality | 0.608 | 5.68 | 0.00 |
| TQM <input type="checkbox"/> Manufacturing Productivity | 0.585 | 5.17 | 0.00 |

| | | | |
|--------------------------------------|-------|------|------|
| TQM □ Cost | 0.561 | 4.69 | 0.00 |
| TQM □ Flexibility & Delivery | 0.554 | 4.55 | 0.00 |
| TQM □ Safety & Hygiene | 0.652 | 6.87 | 0.00 |
| TQM □ Employee Morale & Contribution | 0.603 | 5.57 | 0.00 |

Table 4.6 Results of Linear Regression Analysis on the Relationship between Total Productive Maintenance and Manufacturing Excellence Parameters

| Nature of Relationship | R Square | F-Statistic | Probability (F-Statistic) |
|--------------------------------------|----------|-------------|---------------------------|
| TPM □ Strategic Business Performance | 0.749 | 8.95 | 0.00 |
| TPM □ Employee Competencies | 0.691 | 6.69 | 0.00 |
| TPM □ Quality | 0.610 | 4.69 | 0.00 |
| TPM □ Manufacturing Productivity | 0.629 | 5.09 | 0.00 |
| TPM □ Cost | 0.607 | 4.63 | 0.00 |
| TPM □ Flexibility & Delivery | 0.585 | 4.22 | 0.00 |
| TPM □ Safety & Hygiene | 0.681 | 6.40 | 0.00 |
| TPM □ Employee Morale & Contribution | 0.668 | 6.03 | 0.00 |

Past studies by several academics have shown that a company's manufacturing performance may be greatly improved via the infusion of TQM-TPM programs. According to Table 4.7, the results of the linear regression analysis are consistent with those of the prior study. By looking at the results of the linear regression in Table 4.7, we can see that there is a substantial association between the combination of TPM and TQM factors and most manufacturing performance measures. The R-square values for these parameters range from 0.707 to 0.836. The findings show that when TPM and TQM are used together, they explain most of the variation in manufacturing performance metrics.

Table 4.7 Linear Regression Analysis on the Relationship between Transfusion of TQM & TPM factor and Manufacturing Excellence Parameters

| Nature of Relationship | R Square | F-Statistic | Probability (F-Statistic) |
|--|----------|-------------|---------------------------|
| TPM*TQM □ Strategic Business Performance | 0.836 | 6.00 | 0.00 |
| TPM*TQM □ Employee Competencies | 0.788 | 4.39 | 0.00 |
| TPM*TQM □ Quality | 0.748 | 3.50 | 0.00 |
| TPM*TQM □ Manufacturing Productivity | 0.735 | 3.27 | 0.00 |
| TPM*TQM □ Cost | 0.716 | 2.98 | 0.00 |
| TPM*TQM □ Flexibility & Delivery | 0.707 | 2.85 | 0.00 |
| TPM*TQM □ Safety & Hygiene | 0.784 | 4.29 | 0.00 |

| | | | |
|--|-------|------|------|
| TPM*TQM □ Employee Morale & Contribution | 0.756 | 3.67 | 0.00 |
|--|-------|------|------|

4.2 QUALITATIVE PHASE

4.2.1 Findings Of Cross-Case Analysis

4.2.1.1 Planning, Technology & Design Approach

Gaining insight into the company's strategy and approach to developing new products is the goal of this category. Designing, upgrading, and conceptualizing a product in response to consumer demand and marketing it to a certain demographic are all parts of product development. Product development is an artistic endeavor, but it need a methodical strategy to direct the practical procedures needed to launch a new product. As we spoke, the interviewers brought up several buzzwords that described their strategy for creating new products. Table 30 provides a summary of these descriptions.

Table 4.8 Characterization of Planning, Technology & Design Approach of the Companies

| | A | B | C | D | E | F |
|---|-------|------|-------|-----------|---------|-------|
| Sector | F & B | Auto | E & E | Packaging | Plastic | Paper |
| Criteria Fulfilled for Product Planning, Technology & Design Approach | | | | | | |
| High Styling and Aesthetics Targeted | | * | | | | |
| Common/Majority Taste Targeted | * | | | | * | * |
| Differentiation by Design | * | * | | * | | |
| Technological Newness | | * | * | * | | |
| Product Newness is Targeted | * | * | | * | * | * |
| Strategic Choice Ability | * | * | * | | | |
| Long Range Planning Ability | * | * | * | | | * |
| NPD by Business Goals | * | * | * | * | * | * |
| NPD by Image & Branding | * | * | * | * | * | |
| NPD by Roles & Objectives in Value Chain | | * | * | | * | * |
| Persistent Investment Possible | * | * | | | | |

| | | | | | | |
|--|---|---|---|---|---|---|
| Strategic Importance of NPD | * | * | * | | | * |
| Firm's R&D intensity | * | * | * | * | * | |
| Large Application Scope | | | * | * | * | |
| Design Intensity | | * | * | | | |
| Utilization of External Designers | | * | * | | | |
| Search for New Design Forms | | * | * | * | | |
| Product Low-Price is Targeted | | | * | | * | * |
| Focus of Product Development | | | | | | |
| Generic (Market Pull) | * | | | | * | * |
| Technology Push | | * | * | * | | |
| Platform Products (Same Technological Subsystem) | * | * | | * | * | * |
| Process Intensive | * | * | * | * | * | * |
| Customization | | | * | * | * | |
| * indicates Presence of Criteria | | | | | | |

Factory A: A new product has been invented; it is sweet lemon juice that is naturally refreshing and includes all the advantages of actual sweet lemon. It has a distinctive flavor and texture thanks to the use of actual sweet lemon pulp particles during the blending process. This new product idea is a natural progression from pulpy orange juice, an existing product that has been very profitable in the Indian market. The manufacturing process for pulpy sweet lemon juice would be identical to that of pulpy orange juice, which is already bottled by the same business. The blending procedure is the only point of variation. So, the freshly created juice is a commodity with a consistent formula that differs in flavor thanks to the addition of actual delicious lemon pulp. The company's competitive strategy, therefore, is product differentiation.

Factory B: The brand-new hatchback from the business is built on the heartect platform, which has allowed it to save a lot of weight, leading to improved agility and performance. Launched in 2005, the new hatchback is the company's fifth iteration of the popular hatchback. In its first year on the market, it quickly became the most popular hatchback in India. When it comes to the Indian passenger car market, it's a top-tier A2 small hatchback. Differentiating it from other hatchbacks, its daring and aggressive design targets a younger demographic. It is a unique vehicle offered by the company's premium dealership brand. Its improved engine performance and fuel economy are because of its reduced weight and increased strength. Thus, product differentiation is the company's competitive strategy in this scenario as well.

Factory C: An 800KV dry type smoothing reactor is the latest offering from the business. Power supply systems and variable speed drives are two examples of the many power electronics applications that make

use of these reactors. These reactors are used to convert direct current systems to alternating current systems by reducing the amount of ripple current in the direct current system. Based on the specifics of each industrial application in the power transmission sector, the firm provides a wide range of customizable product designs. China is the go-to place for affordable, high-quality components utilized in the assembly of freshly designed products. In the Indian subcontinent, Africa, Central Asia, and the Middle East, the firm manages a wide range of turnkey projects. The firm receives these turnkey contracts because of competitive bidding, namely the lowest quotation. Focus (low cost) is the competitive strategy adopted by the firm because it creates high quality modules for the power infrastructure industry exclusively at low cost.

Factory D: A client's natural juice production business in Northern Gujarat is the recipient of the company's most recent aseptic packaging equipment system. Creating an accessible electrical system and equipment for packing 45 ml of juice was the central focus of the project. Customers want fast and accurate equipment so businesses may take advantage of economies of scale. In addition, the business had insisted on visually appealing packaging for its goods. The company's many clients include producers of food and drink; it is the preeminent provider of processing and packaging solutions on a global scale. Manufacturers of food and drink may take use of the company's individualized processing solutions because of its capacity to deliver novel designs, materials, and improved functionality in response to client demand. Their reach extends to over 160 nations. The corporation has a stranglehold on the market since most of its technologies are patent protected. And so, the firm's competitive strategy is Focus (differentiation).

Factory E: Creating PET preforms for liquor producing companies in southern India is the latest initiative the business has undertaken. Because glass is impervious to both oxygen and carbon dioxide, almost all distilled liquors are packaged in glass bottles. This allows the liquors to be kept in the bottles for a longer period. However, plastic bottles are not suitable for storing spirits since plastic contains chemicals that may seep out over time. Nevertheless, a new way of storing alcoholic beverages in PET bottles has been developed by the business. When full, these bottles weigh about 30% less than glass and are completely breakproof. Compared to glass bottles of the same quality, these PET bottles are around 200 percent less expensive. The business provides clients with affordable solutions. Like PET bottles used in the pharmaceutical business, these bottles have undergone technical improvement. Several firms across a wide range of industries have been taking advantage of the company's affordable PET packaging solutions. As the respondents pointed out, the company's competitive strategy is cost leadership, which is based on the virtues of low cost.

Factory F: The company's latest creation is a multi-layer coated board that will find several uses in the packaging business. The firm is planning to increase its production capacity for packaging boards and leave the less lucrative newspaper market. Pharmaceutical, healthcare, culinary, and cosmetic industries are among the most prolific users of high-grade paperboard, which has been seeing annual demand growth of 12%. The current paper mill will be redirected towards printing and writing paper, multi-layer coated board, and other demand-and profit-driven products, while the newspaper manufacturing operation will be downsized. Mass production and an updated production system are two ways the corporation plans to maintain its low-price market supremacy. Therefore, the firm's competitive strategy is cost leadership.

4.2.1.2 Product Development Process

Table 4.9 Characterization of Product Development Process of the Companies

| | | | | | | |
|--|---|---|---|---|---|---|
| | A | B | C | D | E | F |
|--|---|---|---|---|---|---|

| Sector | F & B | Auto | E & E | Packaging | Plastic | Paper |
|---|-----------|-----------|-----------|-----------|----------|----------|
| Type of Project | | | | | | |
| Radical | | | | | * | |
| Partnered Platform | | * | | * | | |
| Incremental | * | | * | | | * |
| Phases of Product Development Process (Allocated Time % of Total Duration) | | | | | | |
| Conceptualization | 10.00 | 27.78 | 26.67 | 30.00 | 22.22 | 11.11 |
| Project/Service Definition | 10.00 | 16.67 | 6.67 | 20.00 | 16.67 | 11.11 |
| Project Concept Feasibility | 40.00 | 11.11 | 20.00 | 10.00 | 27.78 | 11.11 |
| Development & Design Verification | 30.00 | 11.11 | 33.33 | 10.00 | 11.11 | 27.78 |
| Scale Up: Transfer to Pilot Production | 10.00 | 33.33 | 13.33 | 30.00 | 22.22 | 38.89 |
| Product Development Phase Duration | | | | | | |
| Duration of Project | 10 Months | 36 Months | 30 Months | 20 Months | 6 Months | 9 Months |
| Product Development Strategy | | | | | | |
| Acquisition (Patent or License) | | * | * | * | | |
| Own New Product Development Effort | * | | | | * | * |
| Production Strategy (DELIVERY) | | | | | | |
| Make to Stock (MTS) | * | * | | | | * |
| Assemble to Order (ATO) | | * | | * | | |
| Make to Order (MTO) | | | * | * | * | * |
| Engineer to Order (ETO) | | | * | * | * | |
| * indicates Presence of Criteria | | | | | | |

Factory A: An incremental innovation, the new product development project is. Similar to orange pulpy juice, sweet lemon pulpy juice has a similar texture and flavor. There has been no change to the product packaging either. The flavor is the only thing that stands out. Ten months were required to finish the project, with 40% of that time going into determining the viability of the idea and conducting ingredient experiments. This new product, a delicious lemon pulpy juice, was created in-house at the company's research and development facility. The biggest obstacle is trying to foresee how customers' preferences will evolve so you can standardize your goods accordingly. Currently, the juice is only available in India. The bottling process for sweet lemon pulpy juice would also remain mostly unchanged. The blending procedure

is the only point of variation. Pulpy sweet lemon juice may be bottled using the same hot-fill manufacturing method as pulpy orange juice.

Factory B: Collaboration on a platform is at the heart of the new product development initiative. Various markets in Asia, Europe, the Americas, Africa, and Australia were considered when the vehicle was developed, with the Japanese contributing to the idea of the car's design. The car's design was sent down from the parent firm in Japan, but the Indian R&D section had to rework it where needed to fit the technical specifications laid down by the Indian Automobile Regulatory Board. The car's development team collaborated with many OEM suppliers to ensure that certain parts would be suitable for the roads in India. In addition, to keep costs down, certain product characteristics and construction quality are altered (in comparison to the identical product on other continents). It took about 36 months for this product to reach commercialization, with roughly a third of that time going into refining the manufacturing process to produce the newly created automobile and nearly a quarter going into planning, or conception.

Factory C: An incremental innovation, the new product development project is. Most of the time (26.67%) and effort (33.33%) went into the ideation and development phases of the product development process, which lasted about 30 months. Power electrical system design and conceptualization need a myriad of stimulations and permutations to minimize power losses. Consumers place a premium on an efficient power electrical system. The components are supplied from the company's production factory in China, which is known for its cheap cost, high quality, and efficiency. Companies' needs in different nations' electric power infrastructures influence product design.

Factory D: Collaboration on a platform is at the heart of the new product development initiative. The United States, Sweden, Singapore, China, Japan, India, and Brazil are all home to the company's product development facilities. Due to the client's emphasis on speed and accuracy, the development of a packaging material and method for 45 ml of juice was a formidable task. After the project was conceptualized in the Indian R&D center, additional R&D centers provided feedback before the equipment design and packaging material were finalized. Various research and development units within the corporation have patented all of the process technology that the company has. The Indian R&D center was able to cut down on product development time by acquiring a license for knowledge transfer. The native vendors in the area also contributed to the development of several systems. Conceptualization consumed 30% of the whole 20-month project period, followed by establishing product and service requirements at 20%, and finally scaling the NPD project to pilot production level at 30%. The product development phase was kept short since the firm promises to reduce the time it takes for its clients to produce new products.

Factory E: The new product development initiative is an innovative and groundbreaking endeavor, according to the corporation. Among the many industries that have benefited from the company's PET packaging solutions over the last three decades are the following: food and beverage, packaging, catering, pharmaceutical, construction, and soap and detergent. Having mastered PET packaging over the last 30 years, the firm now plans to bring its knowledge to the booze market as well. They began working on a tiny bottle, which is a little container that usually holds 50 milliliters of alcoholic drinks like spirit, whiskey, or wine. Project feasibility (27.78%), conception (22.22%), and scaling up the idea to production (22.22%) accounted for the bulk of the project's roughly 6-month timeframe. Because plastic molding machines are so versatile, the business has refrained from allocating more funds into research and development of process technologies. Consequently, the company's product development periods tend to be shorter.

Factory F: An incremental innovation, the new product development project is. Scaling up the idea to production (38.89%) and development and design verification procedure (27.78%) consumed the majority of the project's nine months. Coated and uncoated duplex board paper, premier cream wove, deluxe cream wove, super deluxe newsprint, regular newsprint, prime cream wove, tissue, and poster paper are all now manufactured by the same business. High speed lines and higher quality products are the outcome of all these technologically enhanced product lines. The firm plans to increase production of multi-layer coated board and leave the less profitable newspaper market. The company's efforts extended beyond only conceptualizing the new idea; they modified the newspaper production line technologically so that the same machine could make both newsprint and multi-layer coated board. This meant that the bulk of the work spent developing the product went into making sure the idea could be scaled up for the manufacturing lines. Consequently, process configurators were created so that newspaper and multilayer coated board could be produced on the same machine.

5. CONCLUSION

Manufacturing organizations now include a performance measuring system that supports operational planning as an integral part of their strategy creation processes in order to maintain growth in the increasingly competitive global market. The most difficult part of operational planning is coordinating the company's most important resources with its most fundamental strategic objectives. Business processes that are well-aligned with the company's strategic aims and organizational resources are a key component of operational planning, which in turn helps the organization succeed in the long run. This is why the current study is so important; it generalizes empirical findings from the manufacturing sector to provide light on the conceptual underpinnings of the phenomena that link corporate strategy with operational practices.

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