

DETERMINANTS OF THE  
MARKETING-MANUFACTURING INTERFACE

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**DETERMINANTS OF THE  
MARKETING-MANUFACTURING INTERFACE**

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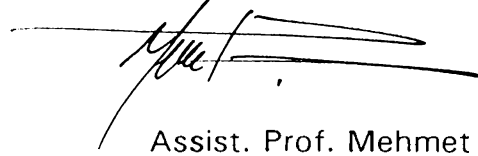
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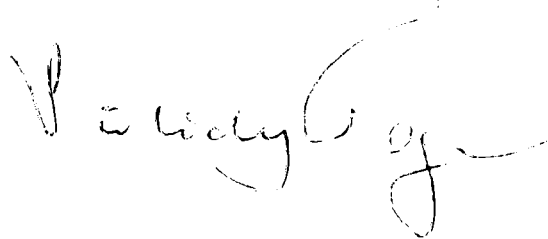
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## ABSTRACT

### DETERMINANTS OF THE MARKETING-MANUFACTURING INTERFACE

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M.B.A. Thesis

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Marketing and manufacturing departments play important roles in day-to-day implementation of the corporate strategy. The conflicts and interfacial gaps between these two functional departments will impede the successful implementation of corporate strategy. Therefore, understanding and managing the marketing-manufacturing interface are crucial for the company's success. This study investigates the gaps in the interface of marketing and manufacturing, and identifies the factors that affect these gaps within a theoretical framework. Furthermore, a survey instrument is developed to empirically identify the gaps and significant factors that affect these gaps.

**Keywords:** Marketing, Manufacturing, Interface, Survey

## OZET

### PAZARLAMA VE ÜRETİMİN KARŞILIKLI GİRİŞİMLERİNİ BELİRLEYİCİLER

HIKMET BURCU AKINCI

M.B.A. Tezi

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Pazarlama ve üretim bölümleri şirketin stratejisinin uygulanmasında önemli yer tutarlar. Bu iki bölümün arasındaki tezatlıklar ve ayrılıklar şirket stratejisinin başarıyla uygulanmasını engeller. Bu yüzden, pazarlama ve üretimin karşılıklı girişimlerini anlamak ve yönetebilmek, bir şirketin başarısı için çok önemlidir. Bu çalışmada pazarlama ve üretimin karşılıklı girişimlerinde bulunan ayrılıklar araştırılmış ve bu ayrılıkları etkileyen faktörler saptanmıştır. Bundan başka, ayrılıkların ve önemli faktörlerin deneysel olarak belirlenmesi için bir araştırma vasıtası geliştirilmiştir.

Anahtar kelimeler: Pazarlama, Üretim, Karşılıklı Girişim, Araştırma

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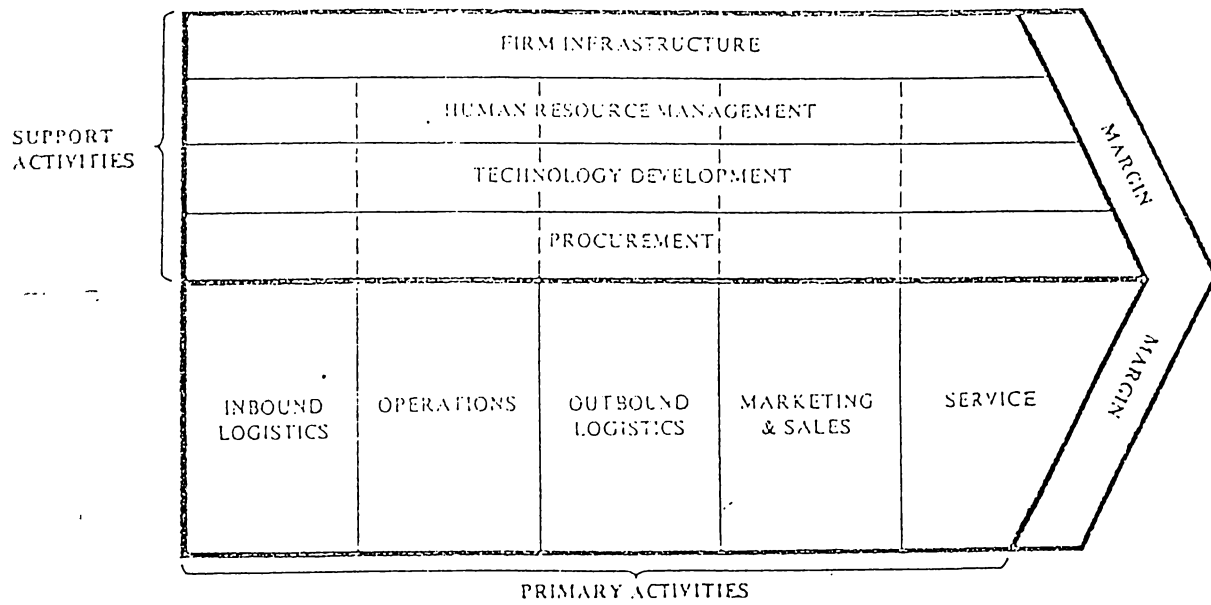
## I. INTRODUCTION AND LITERATURE REVIEW

A strategy is a set of important decisions derived from a systematic decision making process conducted at the highest level of the organization (Gilbert et al. 1988; 10). The strategy is implemented through everyday tactical decisions taken at the functions like marketing, manufacturing, R&D, finance, etc. A central question in strategy is a firm's relative competitive position within its industry. The competitive advantage of a company can be derived from the value it creates to the customers. Porter (1985) presents a framework to analyze the series of activities a firm performs to provide a product to its customers (see Figure 1). In this framework, the primary value adding activities are inbound logistics, operations, outbound logistics, marketing and sales, and services. Looking at those activities, one can see the importance of marketing and manufacturing departments as all of the stated primary activities are part of these two departments.

In many organizations marketing and manufacturing are separate functional divisions and they have different responsibilities. Marketing

FIGURE 1

The Value Chain



Source: Porter M., Competitive Advantage: Creating and Sustaining Superior Performance, New York; Free Press, 1985.

division identifies target customer segments, selects product mix, and establishes pricing, promotion, distribution and service policies (Kotler 1991, Pearce & Robinson 1986) (see Table 1 for more details). Manufacturing functional division makes decision on capacity expansion, layout and location of facilities, process technology, quality control processes, schedules, inventory, purchasing and workforce policies (Hayes & Wheelwright 1984, Hill 1989, Pearce & Robinson, 1986) (See Table 2 for more details).

A better understanding of the interaction of value chain activities is necessary for analyzing the sources of competitive advantage. These primary activities should be in harmony in achieving the competitive advantage. Therefore, marketing and manufacturing departments should be interdependent and their activities should be well coordinated to attain the required harmony. The ex-vice president of 3M, one of the leading companies in the world, said that "Any enterprise who wants to grow and perform well in the market must understand and be able to organize marketing/manufacturing interfaces effectively... We believe we gain several things from this approach." (Pearson 1983).

The interdependency that marketing and manufacturing possess is referred to as "reciprocal interdependency"

**TABLE 1**  
**Functional Strategies in Marketing**

Key functional strategies	Typical questions that should be answered by the functional strategy
Product (or service)	Which products do we emphasize? Which products/services contribute most to profitability? What is the product/service image we seek to project? What consumer needs does the product/service seek to meet? What changes should be influencing our customer orientation?
Price	Are we primarily competing on price? Can we offer discounts or other pricing modifications? Are pricing policies standard nationally or is there regional control? What price segments are we targeting (high, medium, low, etc.)? What is the gross profit margin? Do we emphasize cost/demand or competition oriented pricing?
Place	What level of market coverage is necessary? Are there priority geographic areas? What channels of distribution are key? What are the channel objectives, structure, and management? Should the marketing managers change their degree of reliance on distributors, sales reps, and direct selling? What sales organization do we want? Is the sales force organized around territory, market, or product?
Promotion	What are key promotion priorities and approaches? Which advertising/communication priorities and approaches are linked to different products, markets, and territories? Which media would be consistent with the total marketing strategy?

Source: Pearce J. and Robinson R., Strategic Management, Irwin, 1986.

TABLE 2

**Functional strategies in POM (Production/Operations Management)**

Key operating strategies	Typical questions that should be answered by the functional strategy
Facilities and equipment	How centralized should the facilities be? (One big facility or several small facilities) How integrated should the separate process be? To what extent will further mechanization or automation be pursued? Should size and capacity be oriented toward peak or normal operating levels?
Purchasing	How many sources are needed? How do we select suppliers and manage relationships over time? What level of forward buying (hedging) is appropriate?
Operations planning and control	Should work be scheduled to order or to stock? What level of inventory is appropriate? How should inventory be used (LIFO/FIFO), controlled, and replenished? What are the key foci for control efforts (quality, labor, cost, downtime, product usage, other)? Should maintenance efforts be preventive or breakdown oriented? What emphasis should be placed on job specialization? plant safety? use of standards?

Source: Pearce J. and Robinson R., Strategic Management, Irwin, 1986.



(Thompson 1967) - an output of one organization is an input to the other and performance outcomes are inextricably tied (St. John & Rue 1984, 199). In the short run, marketing depends on manufacturing as it supplies the products, and manufacturing depends on marketing to have the necessary information about what, how much, and when to produce. In the long run, marketing and manufacturing depend on each other for information and decisions about capacity expansions and planned capacity utilization, investment in new manufacturing technology, development of new products, target quality levels, breadth of product line, and customer service policies (St. John 1991, Hayes & Wheelwright 1985, Pendlebury 1987, Crittenden 1992, Griffin & Hauser 1992, Freeland 1980).

In light of this important interdependency between marketing and manufacturing, one can argue that their relationship should be smooth and managed with extreme care. However, on the contrary to the expectations the nature of the relationship is combative rather than cooperative. Hayes & Wheelwright (1984) stated that "Many managers when asked about the relationship between the marketing and manufacturing functions in their companies, are likely to describe it as troubled and strained- or at best, ambivalent... Our experience suggests that the marketing/manufacturing interface is the focal point of much

more frequent and heated disagreement than occurs between other pairs of functions." (Hayes & Wheelwright 1984, 199).

As a result of these, numerous studies were done about marketing and manufacturing interfaces. These studies can be gathered into two categories. First category comprises the studies about marketing/manufacturing interface in strategic decision making. Among these studies, some dealt with the problem of manufacturing's not contributing to strategic decision making (Skinner 1985, Hayes & Wheelwright 1984, Hill 1991, Hayes & Wheelwright 1985, Pendlebury 1987). Others developed their own frameworks about manufacturing policies and product strategies (Hayes & Wheelwright 1979, Stobaugh & Telesio 1983, Kotha & Orne 1989, Kusiak 1986).

The second group of studies looks at the marketing/manufacturing interface at the operational level. Among these, some researchers tried to find out the conflict areas between marketing and manufacturing and the reasons for this conflict (Shapiro 1977, St.John 1991). A number of studies propose some solutions to decrease the conflict in all of the potential conflict areas (Pearson 1983, Meredith 1988, St.John & Rue 1991, Griffin & Hauser 1992, Chen et al. 1992). Some authors develop their own models to optimize the relationship between marketing and

manufacturing in particular conflict areas (Tuite 1968, Leitch 1974, Freeland 1980, Eliashberg & Steinberg 1987, Porteus & Whang 1991, Crittenden 1992).

Most of these studies theoretically investigate the interface between marketing and manufacturing. They either identify conflict areas, the causes of the conflict and ways to solve them, or develop a framework and/or model to optimize the relationship between marketing and manufacturing in a single potential conflict area. The important thing is that neither of these studies are proven by an empirical study.

There is only one empirical study carried out by St. John (1991). That study was conducted in a single industry to find out the areas that marketing and manufacturing groups tend to disagree which is one of the gaps between them, and management by objectives linked to performance appraisal encourage a common strategic vision.

This thesis differs from the existing literature on the following points:

- (1) This study develops a framework to identify the gaps in different dimensions of the marketing manufacturing interface:
  - a. The order-winning characteristics of the current product profile

b. The order-winning characteristics of the product profile that best fit to current manufacturing and market conditions.

(Chapter 2)

(2) This study tries to determine the factors that affect these gaps based on earlier studies in this field. (Chapter 3)

(3) This study also develops a survey instrument to empirically investigate the marketing-manufacturing interface and the factors affecting this interface, across different firms and industries.

(Chapter 4)

## II. THE FRAMEWORK AND CONCEPTUAL BACKGROUND

In this framework, the interface of marketing and manufacturing functions will be examined only at the operational level, because production/operations division of the company does not generally contribute to strategic decision making and has a reactive role in corporate strategy (Skinner 1985, Hill 1991, Hayes & Wheelwright 1984).

Skinner (1985) and Hill (1991) state the following reasons for manufacturing function's low degree of involvement in strategic decision making:

(1) Production/operations managers think that their role is to perform as well as possible to what is asked from their department. They think that they are being asked to "do their duty and perform as good soldiers", doing what was asked without complain.

(2) The companies also view the role of production/operations function

being reactive and oriented towards short-term decision making in spite of the fact that they are entrusted with the responsibility for 75% of the firm's investment, 80% of the firm's personnel, and 85% or more of the firm's expenditures for materials and equipment (Skinner 1985; 4).

(3) Production/operations managers cannot explain their function clearly and effectively to others within the organization due to the technical terms they are using.

In order to build a successful business, there should be consensus between marketing and manufacturing groups on key competitive strengths, company goals and implementation actions (St.John & Rue 1991, Pearson 1983, Pendlebury 1987). However, it is hard to find a company in which production/operations management has an active role in strategic decision making (Hill 1991, Skinner 1985, Pendlebury 1987, Hayes & Wheelwright 1985). Therefore, this study will not deal with the marketing-manufacturing interface at the strategic level. Following sections will investigate the marketing-manufacturing interface at the operational level in order to identify possible gaps in this interface.

## II.1. Gaps in the Marketing-Manufacturing Interface

Shapiro (1979) identified eight areas where cooperation between marketing and manufacturing is necessary, but there is potential conflict (see table 3). These conflict areas are as follows:

### (a) Capacity planning and long-range sales forecasts

The solution to this conflict is clear: have exactly the right capacity at the right time. In order to have the right capacity at the right time, the sales forecasts must be precise. As sales forecasting is not a science, sales forecasts are not always true. Due to this fact, conflict arises between marketing and manufacturing. If capacity is too low, marketing people are upset due to lost sales, i.e. foregone profits. If the capacity is too high relative to sales, manufacturing people are upset due to high operating costs.

### (b) Production scheduling and short-range sales forecasting

One reason for this conflict is sales forecasts' not being precise, same as above. The other reason is, not having totally flexible schedules.

### (c) Delivery and physical distribution

This conflict area, like the previous two, involves precise sales

**TABLE 3**  
**Marketing/Manufacturing Areas of Potential Conflict**

Problem Area	Typical Marketing Comment	Typical Manufacturing Comment
Capacity planning and long-range sales forecasting	"Why don't we have enough capacity?"	"Why don't we have accurate sales forecasts?"
Production scheduling and short-range sales forecasting	"We need faster response. Our lead times are ridiculous."	"We need realistic customer commitments and sales forecasts that do not change like wind direction."
Delivery and physical distribution	"Why don't we ever have the right merchandise in inventory?"	"We can't keep everything in inventory."
Quality assurance	"Why can't we ever have reasonable quality at reasonable cost?"	"Why must we always offer options that are too hard to manufacture and that offer little customer utility?"
Breadth of product line	"Our customers demand variety."	"The product line is too broad-all we get are short, uneconomical runs."
Cost control	"Our costs are so high that we are not competitive in the marketplace."	"We can't provide fast delivery, broad variety, rapid response to change, and high quality at low cost."
New product introduction	"New products are our life blood."	"Unnecessary design changes are prohibitively expensive."
Adjunct services such as spare parts inventory support, installation, and repair.	"Field service costs are too high."	"Products are being used in ways for which they weren't designed."

Source: Shapiro B.P., "Can Marketing and Manufacturing Coexist?", Harvard Business Review, September-October 1977.



forecasts going from marketing to manufacturing and manufacturing's response through the management of a capability. Manufacturing needs inventory for smoothing the production and marketing needs inventory for customer service.

(d) Quality assurance

Marketing and manufacturing have different perceptions of quality. Marketing people accept the "user-based" definition of quality- the goods that best satisfy consumers' preferences are those that they regard as having the highest quality- and they often perceive customers as desiring advanced features and options. Manufacturing accepts the "manufacturing-based" definition of quality that is conformance to requirements. As these two definitions tend to oppose to each other when used blindly, the conflict arises in the quality assurance area.

(e) Breadth of product line

Marketing wants a broad product line contrary to manufacturing. If the product line is too narrow, the result will be lost sales through loss of competitive advantage as a "full line" supplier, distributor and sales force support, and economies of scale. If the product line is too broad, the result will be an increase in cost due to added inventory

cost of material on hand, increased cost of manufacturing changeover because of loss of capacity, setup changes, scrap generation, added order processing and transportation costs. Broad product line also causes possible sales force, distributor, and customer confusion and displeasure.

As most of the costs related with marketing are not quantitative, an optimum solution cannot be achieved and hence conflict is unavoidable.

(f) Cost control

Marketing managers tend to attribute cost that are too high to incapability of manufacturing, and manufacturing managers tend to attribute the high cost to "unreasonable" marketing demands.

(g) New product introduction

New product introduction is a primary competitive weapon, but it upsets the plant as it requires new processes, new equipments, employee training etc. The variety of "new" problems make the production manager's job more complex (Skinner 1985).

(h) Adjunct services

Adjunct services include installation and field service or repair.

Marketing and manufacturing have different perceptions about these adjunct services. For example, manufacturing people see installation as the final manufacturing operation while marketing people view it as a customer satisfaction function.

In this study, these eight conflict areas will be merged with the framework developed by Hill (1991) (See figure 2 for the framework). This framework shows five steps to be taken to provide an analytical and objective structure in which the corporate debate can be made and consequent actions can be taken.

These five steps are as follows:

- (1) Define corporate objectives
- (2) Determine marketing strategies to meet these objectives.
- (3) Assess how different products/services win orders against competitors.
- (4) Establish the most appropriate mode to manufacture these sets of products or provide these sets of services-process choice.
- (5) Provide the infrastructure required to support production/operations process.

**FIGURE 2:**  
**Framework for reflecting the production/operations strategy issues in corporate decisions**

1 Corporate objectives	2 Marketing strategy	3 How do products/ services win orders in the market-place?	Production/operations strategy	
			4 Process choice	5 Infrastructure
Growth Survival Profit Return on investment Other financial measures	Product/ service markets and segments Range Mix Volumes Standardization versus customization Level of innovation Leader versus follower alternatives	Price Quality Delivery: Speed Reliability Demand increases Colour range Product/ service range Design leadership Technical support supplied	Choice of various processes Trade offs embodied in the process choice Process positioning Capacity: Size Timing Location Role of inventory in the process configuration	Function support Operations/ planning and control systems Quality assurance and control Systems engineering Clerical procedures Payment systems Work structuring Organizational structure

Source: Hill T., Production/Operations Management Text and Cases, Prentice Hall, 1991.

When these five steps are examined carefully, it can be seen that the marketing and manufacturing come across with each other at most in step 3. Therefore in this study the items that will help to measure the gaps in the marketing and manufacturing interface will be composed of the factors given at the third step of Hill's (1991) framework and the eight conflict areas stated by Shapiro (1977).

### **II.1.1. Dissimilarities in the Perceptions of Marketing and Manufacturing about the Current Product Profile**

Related with this subject, an empirical study was conducted by St. John (1991) in the carpet industry in USA. The author tried to find out the differences between marketing and manufacturing groups in evaluating the importance of various competitive pressures, assigning importance to different hypothetical objectives, and recommending implementation actions.

First gap that we will examine is somewhat similar to the study done by St. John (1991). This gap arises from the different perceptions that marketing and manufacturing have about the current product profile. In the remaining parts of this study these differences in perceptions of marketing and manufacturing people about the current product profile

will be referred to as GAP1.

### **II.1.2. The Misfit Between Process and Market Characteristics**

In successful companies, production competence is tightly meshed with the business purpose. The tasks of the manufacturing system are highly dependent on the product strategy. Production expertise, like any other valuable corporate asset, must be deployed carefully to obtain a competitive advantage (Stobaugh & Telesio 1983). A number of studies have been performed to investigate the match between the product and process characteristics.

First study about this match was conducted by Hayes and Wheelwright (1979). They developed the product/process life cycle matrix (see figure 3).

In their framework Hayes and Wheelwright (1979) use the product life cycle as one of the dimensions, since it is useful primarily in planning a firm's marketing strategy. The product life cycle concept demonstrates the product's evolution over time and the change of priorities that govern manufacturing behavior as products and markets evolve (Hayes & Wheelwright 1984). The dimensions of the product life cycle with its

FIGURE 3

**Matching Major Stages of Product and Process Life Cycles- the Product-Process Matrix**

Process structure Process life cycle stage	Product Structure Product life cycle stage			
	I Low volume, low standardization, one of a kind	II Multiple products, low volume	III Few major products, higher volume	IV High volume, high standardization, commodity products
I Jumbled flow (job shop)	Commercial printer			Void
II Disconnected line flow (batch)		Heavy equipment		
III Connected line flow (assembly line)			Auto assembly	
IV Continuous flow	Void			Sugar refinery

Source: Hayes and Wheelwright, "Link Manufacturing Process and Product Life Cycles," Harvard Business Review, January-February 1979.

effects of marketing strategy are given in Appendix A.1. The characteristics of the product life cycle highlights four issues that are directly linked to manufacturing: production volume, product variety, industry structure, and the form of competition (see Appendix A.2.).

The other dimension in Hayes & Wheelwright's framework is the process life cycle. The process evolution begins with a highly flexible but not very cost efficient process, i.e., job shop. It then proceeds toward increased standardization, mechanization, and automation. This evolution ends in a process that is very efficient but much more capital intensive, interrelated, and hence less flexible called continuous flow type of process (Hayes & Wheelwright 1979, 1984). The characteristics of the process life cycle are presented in Appendix A.3.

At a given point in time, a company occupies certain region in the matrix, determined by the stage of the product life cycle, and the company's choice of production process of the product. There are two corners in the matrix which a company should avoid to position itself. The upper-right corner characterizes a commodity product produced by the job-shop process which is uneconomical. The lower-left corner, on the other hand, represents a one-of-a-kind product that is produced by continuous or very specific processes. these type of processes are too inflexible for



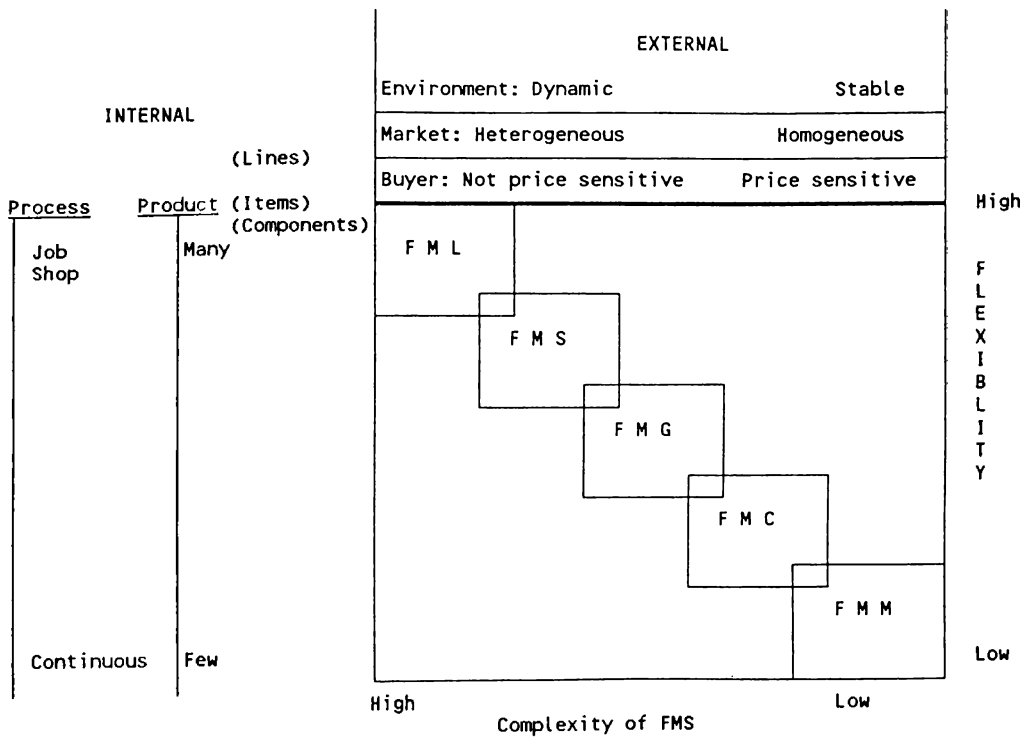
such unique product requirements. (Hayes & Wheelwright 1979)

Some authors later modified this framework. McDougall and Noori (1986) examined the impact of flexible manufacturing systems on the interface between marketing and manufacturing, and modified the product/process life cycle matrix (See Figure 4). First of all, having adopted a flexible manufacturing system, the manufacturer will have the opportunity to concentrate on a variety of product types. Secondly, as one of the characteristics of a flexible manufacturing system is to produce different products economically, i.e., the ability to run a job-shop as economically as a mass production operation, the lower left corner of the product/process life cycle matrix will become feasible.

Kotha and Orne (1989) extended the concept of Michael Porter's (1986) "generic strategies" into a manufacturing context. Their framework builds on traditional ideas put forth by Hayes and Wheelwright and incorporates some of the recent trends in manufacturing environment.

In our study, an integration of all these frameworks will be used to measure the gaps between the product and process characteristics. Marketing's perceptions of the order-winning characteristics of the product profile that best fit to current market conditions and marketing

**FIGURE 4**  
**Marketing-Manufacturing Interface for Assessing Flexible Manufacturing System Potential**



FML: Flexible Manufacturing Line  
 FMS: Flexible Machining System  
 FMG: Flexible Manufacturing Group  
 FMC: Flexible Manufacturing Cell  
 FMM: Flexible Manufacturing Module

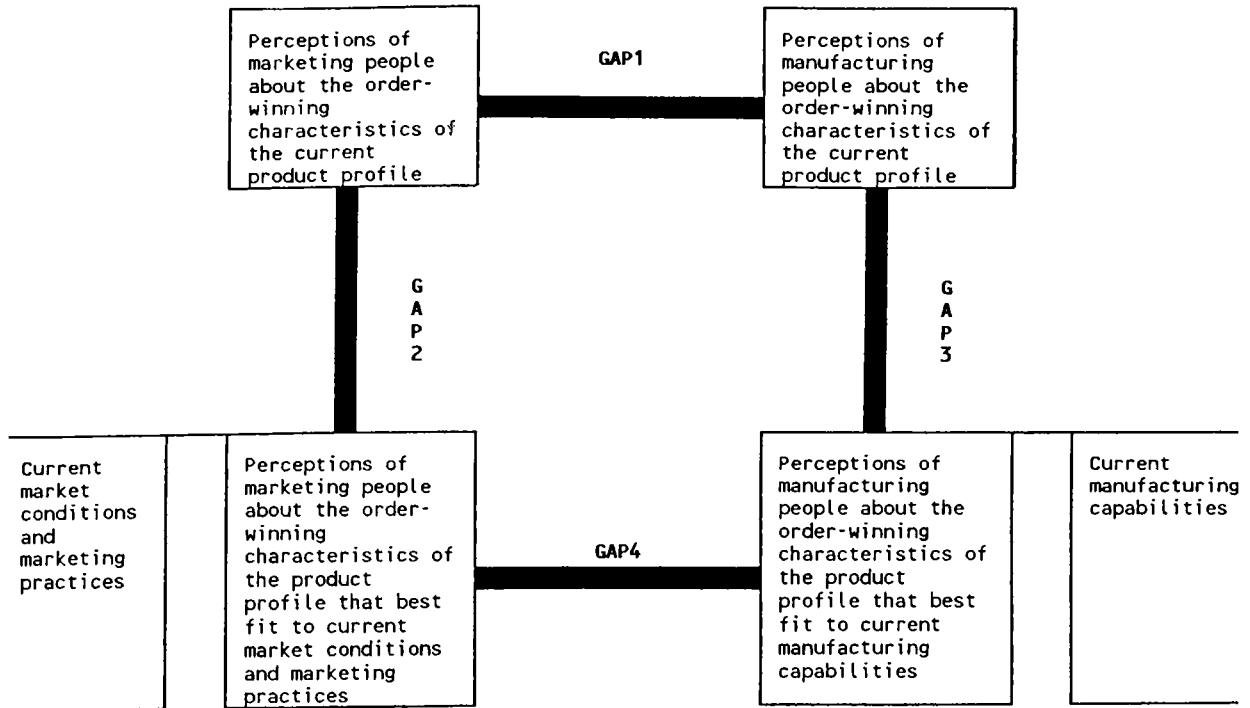
Source: McDougall & Noori, "Manufacturing-Marketing Strategic Interface: The Impact of Flexible Manufacturing Systems," Modelling and Design of Flexible Manufacturing Systems, edited by Andrew Kusiak, Elsevier Science Publishers, 1986.

practices, and manufacturing's perceptions of the order-winning characteristics of the product profile that best fit to current manufacturing capabilities will be used in measuring the following gaps:

- GAP2: The difference between the order-winning characteristics of the current product profile and of the product profile that best fit to current market conditions and marketing practices, perceived by the marketing people.
  
- GAP3: The differences between the order-winning characteristics of the current product profile and of the product profile that best fit to current manufacturing capabilities, perceived by the manufacturing people.
  
- GAP4: The differences between the order-winning characteristics of the product profile that best fit current market conditions and marketing practices, and of the product profile that best fit to current manufacturing conditions.

(See Figure 5 for the framework that shows the four gaps in marketing and manufacturing interface at the operational level.)

FIGURE 5  
Gaps in the Marketing and Manufacturing Interface at the Operational Level



### **III. THE FACTORS THAT AFFECT THE MARKETING- MANUFACTURING INTERFACE**

In the previous chapter a framework was developed to understand the gaps in the marketing and manufacturing interface at the operational level. It is now necessary to determine the factors that affect this marketing manufacturing interface. In this chapter firstly the basic causes of conflict between marketing and manufacturing will be explained. Later the factors that affect the four gaps that are identified in the previous chapter will be investigated.

#### **III.1. The Causes of Conflict Between Marketing and Manufacturing**

Shapiro (1977) identified four explainable reasons for the conflict between marketing and manufacturing in the problem areas stated earlier (see Table 3). These basic causes of conflict which can be observed in most of the industrial goods producers are:

### (1) Evaluation and reward

Unfortunately, in most companies marketing and manufacturing departments are evaluated and rewarded on the basis of different criteria. Marketing people are evaluated in terms of sales, market share and new markets entered. This makes the marketers more sales-oriented rather than profit-oriented. On the other hand, manufacturing people are evaluated on running a smooth operation at a minimum cost. This makes the manufacturing people more cost-oriented rather than profit-oriented. (Shapiro 1977, Kotler 1991, Wickham 1985, Crittenden 1992, Freeland 1980, Porteus & Whang 1991)

As a result of this type of evaluation and reward system, marketers are encouraged to generate change, which is vital to achieve competitive advantage, by means of generating new products, entering new markets, and developing new programs. On the other hand, manufacturing people do not accept the change unless it lowers their cost. All of these cause conflict between marketing and manufacturing departments.

### (2) Inherent complexity

The analysis of the potential conflict areas requires data from two

different sources namely from marketing and manufacturing departments. Marketing department generally supplies qualitative data and manufacturing department generally supplies quantitative data. The data necessary to solve the problem become a mixture of soft marketing data and hard manufacturing data.

Some models are developed to optimize the use of these two types of data in certain conflict areas by Freeland (1980), Tuite (1968), Leitch (1974), Eliashberg & Steinberg (1987). However, in most of the conflict areas the optimum solution had not been achieved because of having a combination of qualitative and quantitative data.

This nature of the inherent complexity engenders conflicts between marketing and manufacturing departments in many of the problem areas stated earlier.

### (3) Orientation and experience

The managers of functional division follow a career path only within their own divisions. Marketing people are most likely to begin their career in the sales department and their work experience emphasizes customer. The top marketing people usually

have offices near the sales people, work with them, and even visit field, sales locations and customers. Manufacturing people often begin as foremen and work up through the production operation. They are familiar with the production related problems. Their prime concern is the plant so they visit manufacturing operations frequently.

As a result, marketing and manufacturing managers are more aware of their own organizational situation and problems. Therefore they cannot understand and/or do not try to understand the problems in other functional departments (Shapiro 1977, Crittenden 1991).

#### (4) Cultural differences

This cause of conflict has a psycho-sociological aspect. It has been argued that the marketing and manufacturing people have quite different life styles, i.e., in most situations the marketing and manufacturing managers literally live differently. The marketing manager has a much greater ego drive and is more empathic than the manufacturing manager. Moreover, the marketing manager is more extrovert than the manufacturing manager - for example the marketing manager likes playing tennis, golf, poker etc., but on the



other hand the manufacturing manager likes dealing with her/his hobbies etc. These differences in life styles will make it hard for them to work together intimately.

### III.2. The Factors That Effect the Gaps in the Marketing and Manufacturing Interface at the Operational Level

In this study, having all these basic reasons of conflict in mind, we develop some hypotheses about the factors that affect the gaps in the marketing and manufacturing interface at the operational level. We look at both the industry and firm specific factors to determine the causes of these gaps in the marketing and manufacturing interface.

#### *Industry Specific Factors*

The importance of the environment is recognized by applying the "systems approach" which takes its main inspiration from the work of a theoretical biologist, Ludwig von Bertalanffy, to organizations. The systems approach means that individuals, groups, and organizations have needs that must be satisfied, attention is invariably drawn to the fact that they depend on a wider environment for various kinds of sustenance (Morgan 1986; 44). After realizing the importance of the environment, "contingency theory" that is adapting organization to

environment, was developed. Contingency theory view organizations as open systems that need careful management to satisfy and balance internal needs and to adapt to environmental circumstances (Morgan 1986; 48).

When the environment is unstable it becomes difficult for firms to continually adapt to it and hence maintain long-term competitive advantage. This is because the rate of adaptation of each division in a company is quite different.

The instability in the environment mostly occurs as the instability in the market place. In achieving a competitive advantage, the firm should either develop a new product profile or modify its current product profile so that it best fits to current market conditions. On the other hand manufacturing cannot easily update its system to meet the requirements of the new product profile. Manufacturing generally needs some time to make the necessary arrangements. Therefore, there will be a gap between the current product characteristics and the product characteristics that best fit to current market conditions. There will also be another gap between the product characteristics that can be produced by current manufacturing capabilities and the product characteristics that best fit to current market conditions.

*Hypothesis 1a: The instability in the industry will increase GAP2 and GAP4.*

The instability in the environment will place a premium on flexibility, particularly with respect to manufacturing (McDougall & Noori 1986, Chen et al. 1992). Under unstable conditions, flexibility is recognized as a potentially powerful weapon which can be used in the design and implementation of a strategy. For example, by adapting a flexible manufacturing system, a company can produce variety of products that have different characteristics with minimum cost.

*Hypothesis 1b: In an unstable environment, the companies that have adopted flexible manufacturing technology will have smaller GAP4 than those who do not employ flexible manufacturing technology.*

Much attention should be devoted to understanding the immediate "task environment" defined by the organization's direct interactions i.e. the customers, competitors, suppliers, labor unions, government agencies etc. These elements create some opportunities and threats to the industry, as well as to the company. If these elements exert less threat to the company, then the industry will be supportive. If

they exert more threat, then the industry becomes risky. Whether the industry is risky or not, the contingency theory claims that "management must be concerned, above all else, with achieving 'good fits'. Different approaches to management may be necessary to perform different tasks within the same organization, and quite different types or 'species' of organizations are needed in different types of environment." (Morgan 1986; 49).

In a supportive industry, the elements in the task environment are less powerful than the industry itself. For example, government may offer incentives in favor of the industry, there may be numerous suppliers that supply the necessary inputs to the industry, there will not be new competitors in the industry as the entry barriers are high, etc. This means that elements in the task environment do not have the power to change both the conditions in the market and the manufacturing characteristics of the companies in this industry. As a result, the companies in this industry will have smaller gaps between the product profile, the product profile that best fits to current market conditions, and the product profile that best fits to current manufacturing capabilities.

*Hypothesis 2: More the industry supports the companies, smaller the GAP2, GAP3, GAP4 will be in these companies.*

### **Firm Specific Factors**

In this study, firm specific factors consist of the strategic type of the organization, understanding the objectives of the company and having the right operational implementation, and the organizational climate.

#### *The strategic type of the organization*

Maintaining an effective alignment with the environment while managing interdependencies are extremely difficult. Having realized this, Miles et al. (1978) defined certain strategic types of organizations and their definition of certain problems in the adaptive cycle (see Table 4 for the model). These four strategic types of organizations and their characteristics are as follows:

(1) Prospectors: They serve broadly defined dynamic markets by generating new products and identifying new markets.

(2) Defenders: They serve narrow, stable market segments, and do not

**TABLE 4**  
**The Strategic Organizational Types and Their Definitions of Certain Problems in the Adaptive Cycle**

Strategic Organizational Types (*)			
	Defenders	Analyzers	Prospectors
Entrepreneurial problem (**)	How to seal off a portion of the total market in order to create a stable domain	How to locate and exploit new product and market opportunities while simultaneously maintaining a firm core of traditional products and customers	How to locate and develop product and market opportunities
Engineering problem (***)	How to produce and distribute goods or services as efficiently as possible	How to achieve and protect an equilibrium between conflicting demands for technological flexibility and for technological stability	How to avoid long-term commitments to a single type of technological process
Administrative problem (****)	How to achieve strict control in the organization in order to ensure efficiency	How to differentiate the organization's structure and processes to accommodate both stable and dynamic areas of operation	How to facilitate rather than control organizational operations

(\*) The reactor type is not put here as it does not have a consistent pattern in adapting to environmental conditions.

(\*\*) Entrepreneurial problem is the definition of an organizational domain: a specific good or service and a target market or market segment.

(\*\*\*) Engineering problem is the creation of a system which operationalizes management's solution to the entrepreneurial problem.

(\*\*\*\*) Administrative problem is rationalizing and stabilizing those activities which successfully solved problems faced by the organization during the entrepreneurial and engineering phases.

Source: Miles E. R., Snow C. C., Meyer A. D., Coleman H. J., Organizational Strategy, Structure, and Process, McGraw Hill, 1978.

engage in new product and market developments. They try to grow by increasing their share within their target markets. They also tend to ignore developments outside their target markets.

(3) Analyzers: They exhibit both characteristics of defender and prospector. They serve a mixture of stable and changing markets. They try to grow by moving quickly toward a new product or market that has recently gained a degree of acceptance.

(4) Reactors: They lack a clearly defined strategic focus and frequently change their business definition and scope.

Interdepartmental conflict would be least in defenders as this type of companies main goal is to stay stable. They do not deal with the changing conditions in the environment. Their main concern is to serve their current products to their stable niche market efficiently. On the other hand, prospectors serve to broad dynamic markets by updating their product profile, developing new products, etc. continually. This increases the interdepartmental gaps as the rate of adaption of the functional divisions to the dynamic markets will be quite different.

*Hypotheses 3: The company that possesses more defender strategic type*

*characteristics will have smaller GAP1, GAP2, GAP3, GAP4.*

*Understanding the objectives of the company and having the right operational implementation:*

If the marketing and manufacturing departments do not understand clearly the objectives of the company, they may have different understanding of the competitive priorities of the firm, and hence try to adapt different and contradictory strategies (St.John & Rue 1991). Marketing will probably think that firm's strategy should focus on responsiveness to customers, and hence accept a differentiation strategy. On the other hand, manufacturing would think that productivity is the key for success, and accept a low cost strategy accordingly. As a result of this, neither of these strategies will be fully implemented, the company will be stuck in the middle, and conflict will arise between the two functional units (St.John 1991).

Even if the goals of the company are understood clearly, there may be a disagreement on the operational interpretation of the corporate strategy (St.John & Rue 1991). For example, both groups may agree that the corporate strategy is differentiation, however, they may disagree on the capacity, product mix, and other interdependent trade-off decisions.



As a result, functional divisions' understanding of the objectives of the company, and adjusting their policies accordingly is crucial in reaching competitive advantage. For example, if the manufacturing division's policy is consistent with, and supported the company's corporate strategy, it will work well, and become a competitive weapon; however, if the policy is not consistent with the company's corporate competitive strategy, it will become a negative influence on the company's performance (Skinner 1985; 6).

In this study, we use two criteria to determine whether in a certain company the objectives are understood, and functional divisions have laid out their implementation policies accordingly. First one is the organizational structure and the second one is the reward system.

#### - Organizational structure

Two elements of organizational structure are considered in this study. These are formalization and centralization.

Formalization is the degree to which standard practices, policies and position responsibilities are formalized explicitly (House & Rizzo 1972; 391). In formalization the emphasis is placed within the organization on

following specific rules and procedures in performing one's job (Zaltman et al. 1973). With formalization the functional divisions like marketing, manufacturing, finance etc. will understand their roles in implementing the company's corporate strategy (Shapiro 1977, Ruekert & Walker 1987). For example, marketing and manufacturing will try to have a product that have certain order winning characteristics, formally stated beforehand.

Another effect of the formalization is that it impedes the flow of information among functional units (Griffin & Hauser 1992). This will create unawareness among functional departments about changing conditions in other functional departments and in their task environment within the same company.

As a result, by formalization, the marketing and manufacturing departments will have similar thoughts about the current product profile, however, as formalization impedes the information flow, the product characteristics can not be easily adopted to changing conditions in the market, and in the manufacturing department.

*Hypothesis 4: Having higher formalization within a company will decrease GAP1 and increase GAP2, GAP3.*

The other dimension in the organizational structure is the centralization. Centralization refers to both the organizational level at which decision making takes place and the extent of the employee participation in decision making. If the decision making process is concentrated at the upper level of the organization, the employees will have little information about the strategy of the company, and the top level managers will have little information about the changing conditions in the functional departments and in their task environments, and/or they will be informed with a time lag. Therefore marketing and manufacturing departments will have different perceptions about the current product profile, as they do not have adequate information about the strategy of the company.

Another result of centralization is that, the decision-making authority may not have a through knowledge about the opportunities, capabilities, and restrictions of the company's functional divisions. Therefore, they cannot identify a product profile that best fit to current market and manufacturing characteristics.

*Hypothesis 5: The concentration of decision making authority will increase GAP1, GAP2, and GAP3.*

Participation of employees from all functional divisions in corporate

strategic decision making will lead to decentralization. Facing with increasing competitive pressures, companies have a greater need to coordinate the functional divisions' activities within a coherent strategy (Hill 1991, Skinner 1985, Pearson 1983). The best way to do this is to achieve mutual agreements among functional departments (St.John & Rue 1991, Freeland 1980, Hill 1991, Hayes & Wheelwright 1984). The extent to which the objectives of the organization unit and primary work group are clear and agreed on by members of the work group, will lead to goal consensus and clarity (House & Rizzo 1972; 391). By this way the employees in each functional department will be aware of each others problems, and will develop the company's corporate strategy accordingly (Shapiro 1977).

Decentralization will lead to marketing and manufacturing departments' agreement on a product profile that best fits to the corporate strategy by considering the resources, opportunities and constraints in each of the two functional departments.

*Hypothesis 6: Employee participation in decision making will decrease all of the gaps, i.e., GAP1, GAP2, GAP3, and GAP4.*

- Evaluation and reward system

The evaluation and reward system is the other criterion that helps in finding out whether the corporate objectives are understood clearly and implemented accordingly by functional divisions of the company.

The ideas of "principle-agent (agency)" had been originated from economics, were extensively developed in accounting, and have been recently applied in marketing. This approach assumes that the employees of a firm will behave accordingly to maximize their own rewards/utility, rather than necessarily those of the firm (Porteus & Whang 1991). Related with our topic, the principle-agent (agency) theory implies that marketing and manufacturing managers of the firm will act in their self-interest, and if these two functions are evaluated on the basis of different criteria, the conflict will be inevitable (Shapiro 1977, Porteus & Whang 1991, Crittenden 1992).

The reward systems based on the evaluation of the functional departments on the basis of different criteria often fail to recognize that marketing strategies will have an adverse effect on the production function, and vice versa (Freeland 1980). On the contrary to this, if a joint reward system is used, the company will lessen the tension

between its functional departments. The ex-vice president of 3M company noted that "I think for all practical purposes we have removed the interfaces and gotten rid of the interfacial tension by giving the team of people from each functional departments a single identity, not a fractured identity by function" (Pearson, 1983: 473).

Relating all these to our topic, the marketing and manufacturing departments will tend to think that the product has characteristics in favor of the criteria that their evaluation and reward system is based on. If a joint reward system is used, there will not be differences between their perceptions about the current product characteristics.

*Hypothesis 7: The joint reward system will decrease the GAP1.*

#### Organizational climate

Organizational climate is very important in understanding the interdepartmental contacts within the company. The companies that have practices to encourage interdepartmental communication, and stimulate interdepartmental cooperation, will perform better (Shapiro 1977, Griffin & Hauser 1992, St.John & Rue 1991). For example, the likelihood of product success is very much dependent on the marketing,

research and development, engineering, and manufacturing functional departments' sharing information on customer needs and segments, technology and manufacturing capabilities, competitor strategies, business strategy, and pricing (Griffin & Hauser 1992).

Enhancing the interdepartmental communication and cooperation will result in the functional divisions understanding each others needs, capabilities, and problems. This lessens the conflict, and hence the gaps between and within the functional departments.

*Hypothesis 8: The increase in interdepartmental communication and cooperation will decrease GAP1, GAP2, GAP3, and GAP4.*

A summary table showing the factors and their effects on gaps is presented in Table 5.

**TABLE 4**  
**The Factors and Their Effects on Gaps**

			GAP1 Different perceptions of marketing and manufacturing about current product profile	GAP2 Difference between current product profile that best fits to current market conditions	GAP3 Difference between current product profile and product profile that best fits to current manufacturing conditions	GAP4 Difference between product profile that best fits to current market conditions and that best fits to current manufacturing conditions
Hypothesis 1a, 1b: The volatility in the industry				(+)		(+) depending on whether the company has adopted some kind of FMS
Hypothesis 2: The industry support to companies				(-)	(-)	(-)
Hypothesis 3: The companies' possessing more defender strategic type characteristics			(-)	(-)	(-)	(-)
Understanding the objectives of the company and having functional strategies accordingly	Organizational structure	Hypothesis 4: Formalization	(-)	(+)	(+)	
		Hypothesis 5: Concentration of decision making authority	(+)	(+)	(+)	
		Hypothesis 6: Employee participation in decision making	(-)	(-)	(-)	(-)
	Hypothesis 7: Joint evaluation and reward system		(-)			
Hypothesis 8: Organizational climate encouraging interdepartmental communication and cooperation			(-)	(-)	(-)	(-)



## IV. METHODOLOGY AND MEASUREMENTS

### IV.1. Measurement of the Gaps

As mentioned in Chapter 2, in finding out the gaps in the marketing and manufacturing interface, a questionnaire is prepared covering the items stated in both Shapiro's (1977) conflict areas and third step in Hill's (1991) framework. Related with these items, certain order-winning characteristics of the product profile are stated, and marketing and manufacturing managers are asked to declare whether they agree or disagree with these characteristics on a seven-point scale.

Referring to our framework given in Figure 5; there will be two sets of questions: one for marketing managers and the other for manufacturing managers. Each set of questions consists of three major parts. First one is about the perceptions of each departments' managers about the current product profile. In the second part the manufacturing manager will state the current manufacturing characteristics (on a seven-point scale) and marketing manager will state current market conditions, and

their marketing practices (on a seven-point scale). This set of questions aims to help the managers to think about their own divisions' opportunities, capabilities, and restrictions systematically, and answer the questions in part 3 accordingly. In part 3, the manufacturing manager is asked to state the order-winning characteristics of a product profile that best fit to current manufacturing practices, and similar to this, marketing manager is asked to state the order-winning characteristics of the product profile that best fit to current market conditions and marketing practices. The questionnaire for manufacturing manager is given in Appendix 2 and the questionnaire for marketing manager is given in Appendix 3.

In calculating the gaps,

- GAP1 is simply equal to the sum of the absolute differences in perceptions of the marketing and manufacturing managers about the order-winning characteristics of the current product profile (see Figure 5).
  
- GAP2 is equal to the sum of the absolute differences of the order-winning characteristics of the current product profile and of the product profile that best fit to current market conditions and marketing practices, perceived by marketing manager (see Figure 5).

- GAP3 is equal to the sum of the absolute differences of order-winning characteristics of the current product profile and of the product profile that best fit to current manufacturing conditions, perceived by manufacturing manager (see Figure 5).
  
- GAP4 is equal to the sum of the absolute differences of the characteristics of the product profile that best fit to current manufacturing conditions and that best fit to current market conditions and marketing practices (see Figure 5).

#### **IV.2. Measurement of the Factors**

As you would recall, the factors that affect these gaps mentioned above can be gathered into two major groups. First one is the industry specific factors and second one is the firm specific factors.

##### *Industry specific factors*

The industry specific factors are the instability in the industry, and the industry support to companies. Factors leading to instability in the environment are shorter product life cycles, rapid introduction of new products, fragmentation of markets, increasing technological change,

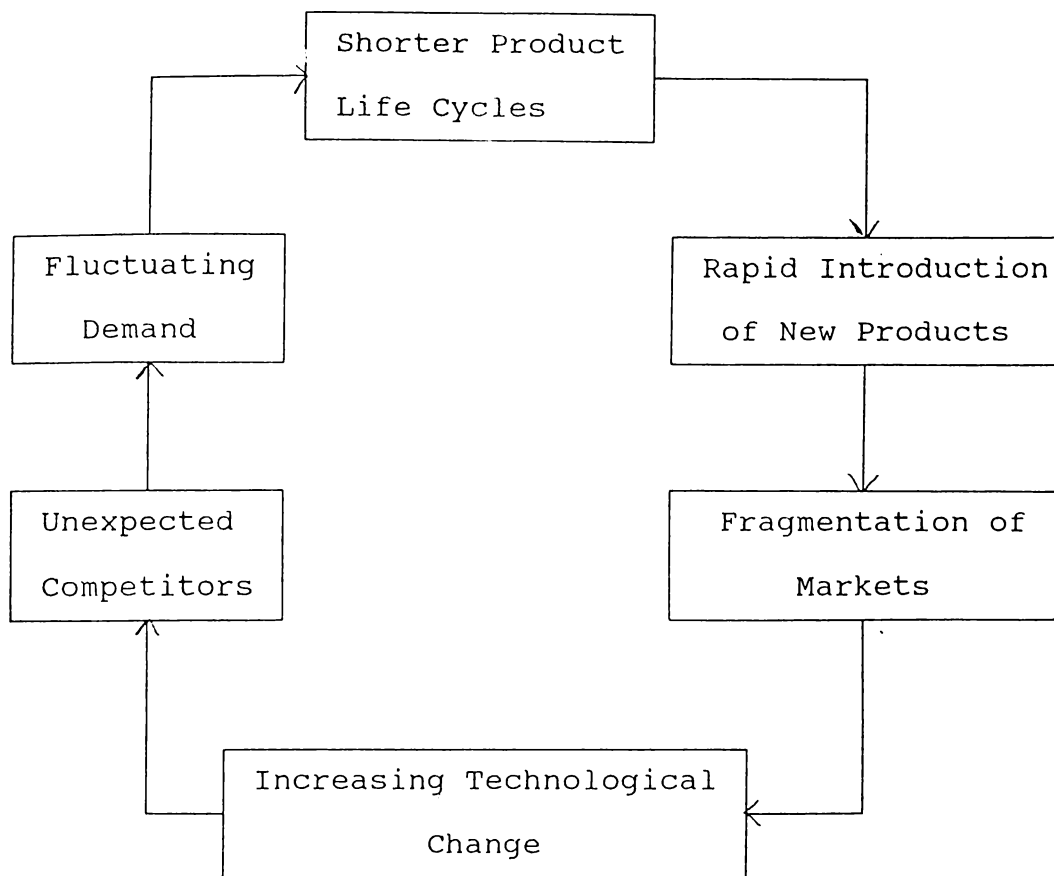
unexpected competitors, fluctuating demand (see Figure 6) (Chen et al., 1991; McDougall & Noori, 1986).

In this study, in order to determine whether there is an industry support to companies, the framework developed by Porter (1979) on the elements of industry structure is used (see Figure 7). Porter (1979) claims that the state of competition in an industry depends on five basic forces: bargaining power of suppliers, bargaining power of buyers, threat of substitutes, threat of new entrants, intensity of rivalry. The weaker the forces, the supportive is the industry and the greater the opportunity for superior performance.

The questions about the industry specific factors consist of the items stated above. Certain situations are stated in each question, and the chief executive officers of the companies that participate in the survey, will be asked whether they agree or not with the statements (they will give their answers on a seven point scale) (see Appendix 4 for the questionnaire). Then the answers will be added part by part to obtain an aggregate value for each part. These aggregate values will be divided by the number of chief executive officers contributing to this study in that particular industry, in order to get an average value per factor for that industry. A higher average value for the

FIGURE 6

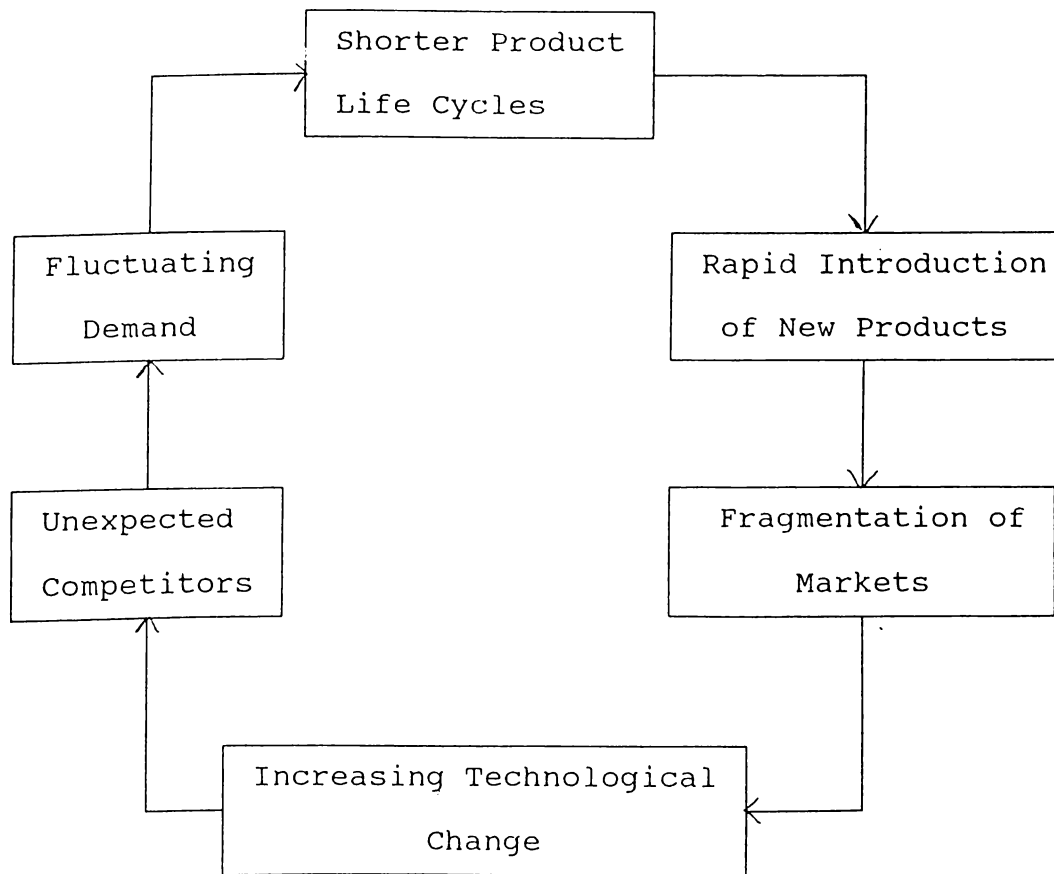
Factors Leading to Unstable Environment



Source: McDougall H.G. and Noori A.H., "Manufacturing-Marketing Strategic Interface: The Impact of Flexible Manufacturing Systems", Modelling and Design of Flexible Manufacturing Systems, Elsevier, 1986.

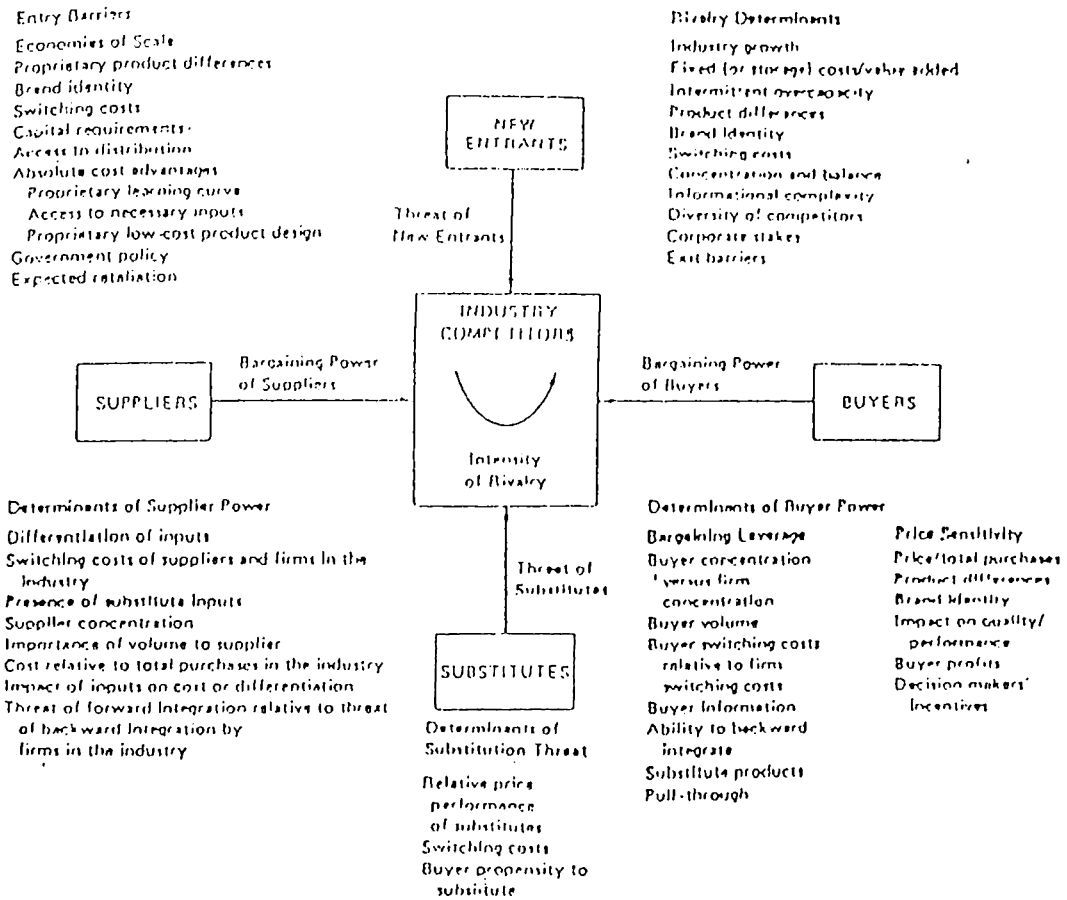
FIGURE 6

Factors Leading to Unstable Environment



Source: McDougall H.G. and Noori A.H., "Manufacturing-Marketing Strategic Interface: The Impact of Flexible Manufacturing Systems", Modelling and Design of Flexible Manufacturing Systems, Elsevier, 1986.

FIGURE 7  
The Elements of the Industry Structure



Source: Porter M., "How Competitive Forces Shape Strategy?", Harvard Business Review, March-April 1979.

first part indicates that the industry is relatively unstable. Similar to this, a higher average value for the second part shows that the level of industry support is relatively high.

### *Firm specific factors*

As mentioned in Chapter III, the firm specific factors consist of the strategic type of the organization, understanding the objectives of the company and having the right operational implementation, and organizational climate. All of the questions related with these factors are also given on a seven-point scale, and the chief executive officer of the company is asked whether s/he agree or not with the situations presented in the questions. The results are summed for each factor to achieve an aggregate value for each factor.

In order to understand whether the organization under consideration has a more defensive nature, four characteristics of defensive type organizations are given in the questionnaire. A high aggregate value obtained from this part shows that the organization has a relatively more defensive nature.

In the second factor - understanding the objectives of the company and



having the right operational implementation - a different approach is used. Four different sub-factors are used in analyzing this factor: formalization, concentration of decision-making authority, employee participation in decision-making, and joint evaluation and reward system. These sub-factors affect the gaps differently. Because of this, the answers given by the chief executive officer are summed to have an aggregate value for each sub-factor. A high aggregate value for a sub-factor implies that, the sub-factor under consideration is dominant in that company relative to the other companies.

The third factor associated with the firm specific factors, is the organizational climate encouraging interdepartmental communication and coordination. In finding out whether this factor exists in a company two things are investigated. First one is quality of marketing-manufacturing relations, and the second one is the amount and easiness of the communication between these two departments (Ruekert & Walker, 1987). As these two sub-factors have the same effect on the gaps, the answers to questions related with these sub-factors are added and an aggregate value for the third factor - organizational climate encouraging interdepartmental communication and coordination - is obtained. A high aggregate value shows that, in that company the organizational climate encourages relatively more interdepartmental communication and

coordination.

(The questionnaire about the firm specific factors are given in Appendix 4.)

## V. SUMMARY AND CONCLUSION

In this study, a framework is developed to identify the gaps in the interface of marketing and manufacturing at the operational level.

Although these gaps can be defined in different ways, we identified four types of gaps that would have the most significant impact on the long-term success of a company. These gaps are:

- GAP1: The difference between the perceptions of the marketing and manufacturing departments about the order-winning characteristics of the current product profile.
  
- GAP2: The difference between the order-winning characteristics of the current product profile, and of the product profile that best fit to current market conditions and marketing practices.
  
- GAP3: The difference between the order-winning characteristics of the current product profile and of the product profile that best fit to current manufacturing capabilities.

- GAP4: The difference between the order-winning characteristics of the product profile that best fit to current manufacturing capabilities, and of the product profile that best fit to current market conditions and the marketing practices.

After identifying these four gaps, we investigated the factors that affect them. These factors can be classified into two major categories: the industry specific factors and the firm specific factors. The industry specific factors are instability in the industry and the industry support to companies. The firm specific factors contains the organizational strategic type, understanding the objectives of the company and having the right operational implementation, and organizational climate. Related with all of these factors eight hypotheses are developed to recognize the effect of each factor on the four gaps stated above.

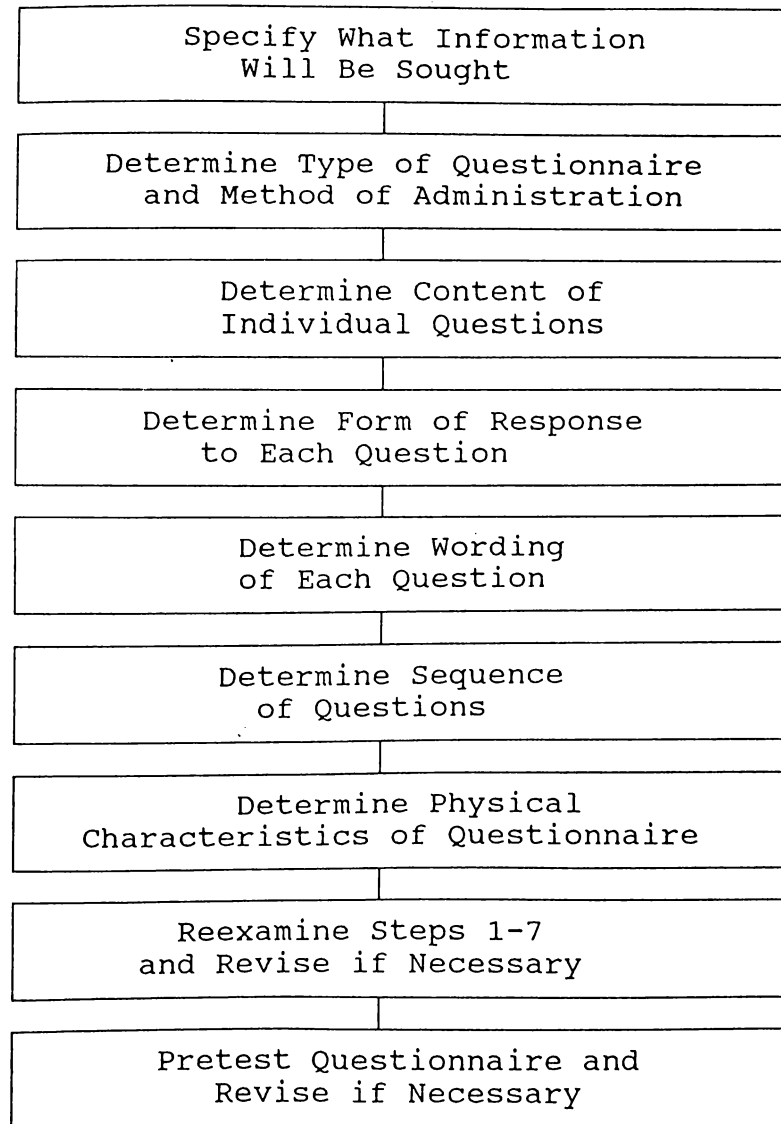
Looking at the firm specific factors, I can subjectively claim that centralization will be most significant in Turkey as in most of the companies in Turkey, the decision-making authority is concentrated at the top management (one man, one boss type of management style). Furthermore, Turkish culture's has a "father image" which results in Turkish people accepting the decisions of the boss. From industry specific factors, the most significant one will be the volatility in the

industry. The globalization movements throughout the world have a significant effect on Turkish companies. Now, there are unexpected competitors, the product life cycles are shorter, the markets are fragmented, the technology changes increasingly, etc., and these will lead to volatility in the industry.

Although there are some subjective thoughts about the factors, the important thing is to have objective ideas by conducting a survey in companies within a variety of industries. Therefore, three sets of questions were developed as a survey instrument; one for marketing manager, one for manufacturing manager, and one for chief executive officer of the company. These questionnaires help to understand the gaps and the factors that affect these gaps in a company. The type of the questions in these questionnaires are structured and undisguised as this type of question is easy to administer, tabulate, and analyze (Churchill, 1991). In this thesis almost all of the steps for developing a questionnaire is covered (see Figure 10).

For further studies, this questionnaire should be pretested. After that, a sample of companies from a variety of industries should be chosen and the validity of the hypotheses developed, should be tested by using the survey instrument presented in this thesis.

FIGURE 10  
Procedure for Developing a Questionnaire



Source: Churchill G.A., Marketing Research Methodological Foundations, Dryden Press, 1991

## REFERENCES

Chen, I. J., Calantone, R. J, Chung, C. H., "Marketing-Manufacturing Interface and Manufacturing Flexibility," Omega International Journal of Management Science, Vol. 20, No. 4, 1992 .

Churchill, G. A., Marketing Research Methodological Foundations, The Dryden Press, 1991.

Crittenden, V. L., "Close the Marketing/Manufacturing Gap," Sloan Management Review, Spring 1992.

Eliashberg, J., & Steinberg, R., "Marketing-Production Decisions in an Industrial Channel of Distribution," Management Science, Vol.33, No.8, August 1987.

Freeland, J. R., "Coordination Strategies for Production and Marketing in a Functionally Decentralized Firm," AIEE Transactions, Vol. 12, No. 2.

Gilbert, D.R., Hartman, E., Mauriel, J. J., & Freeman, E. R., A Logic for Strategy, Ballinger Publishing Company, 1988.

Griffin, A., & Hauser, J. R., "Patterns of Communication Among Marketing, Engineering and Manufacturing- A Comparison Between Two New Product Teams," Management Science, Vol. 38, No. 3, March 1992.

Hayes, R. H., Wheelwright, S. C., "Link Manufacturing Process and Product Life Cycles," Harvard Business Review, January-February 1979.

-----, -----, Restoring Our Competitive Edge Competing Through Manufacturing, John Wiley & Sons Inc., 1984.

-----, -----, "Competing Through Manufacturing," Harvard Business Review, January-February 1985.

Hill, T., Production/Operations Management Text and Cases, Prentice Hall, 1991.

House, R. J., & Rizzo, J. R., "Toward the Measurement of Organizational Practices: Scale Development and Validation," Journal of Applied



Psychology, Vol. 56, No. 5, 1972.

Kotha, S., & Orne, D., "Generic Manufacturing Strategies: A Conceptual Synthesis", Strategic Management Journal, Vol. 10, 1989.

Leitch, R. A., "Marketing Strategy and The Optimal Production Schedule," Management Science, Vol 21, No. 3, November 1974.

McDougall, H. G., & Noori, H. A., "Manufacturing-Marketing Strategic Interface: The Impact of Flexible Manufacturing Systems," Modelling and Design of Flexible Manufacturing Systems, Edited by Andrew Kusiak, Elsevier Science Publication, 1986.

Meredith, J., "Role of Manufacturing Technology in Competitiveness: Peerless Laser Processors," IEEE Transactions on Engineering Management, Vol. 35, No.1, February 1988.

Miles, R., Snow, C., Meyer, A., Organizational Strategy, Structure, and Process, McGrawhill, 1978.

Morgan, G., Images of Organization, Sage publications, 1986.

Pearce, J., & Robinson, R., Strategic Management, Irwin, 1986.

Pearson, J. W., "Organizing the R&D- Manufacturing- Marketing Interface," Chemtech, August 1983.

Pendlebury, A. J., "Creating a Manufacturing Strategy to Suit Your Business," Long Range Planning, Vol. 20, No. 6, 1987.

Porter, M., "How Competitive Forces Shape Strategy? ," Harvard Business Review, March/April, 1979.

Porter, M., Competitive Advantage: Creating and Sustaining Superior Performance, New York: Free Press, 1985.

Porteus, E. L., & Seungjin W., "On Manufacturing/Marketing Incentives," Management Science, Vol. 37, No. 9, September 1991.

Ruekert, R. W., & Walker, O. C., " Marketing's Interaction with Other Functional Units: A Conceptual Framework and Empirical Evidence," Journal of Marketing, Vol. 51, January 1987.

Shapiro, B. J., "Can Marketing and Manufacturing Coexist?," Harvard

Business Review, September-October 1977.

Skinner, W., Manufacturing The Formidable Competitive Weapon, John Wiley & Sons, 1985.

St. John, C. H., "Marketing and Manufacturing Agreement on Goals and Planned Actions," Human Relations, Vol. 44, No. 3, 1991.

St. John, C. H., & Rue, L. W., "Research Notes and Communications Coordinating Mechanisms, Consensus Between Marketing and Manufacturing Groups, and Marketplace Performance," Strategic Management Journal, Vol. 12, 1991.

Stobaugh, R., & Telesio, P., "Match Manufacturing Policies and Product Strategy," Harvard Business Review, March-April 1983.

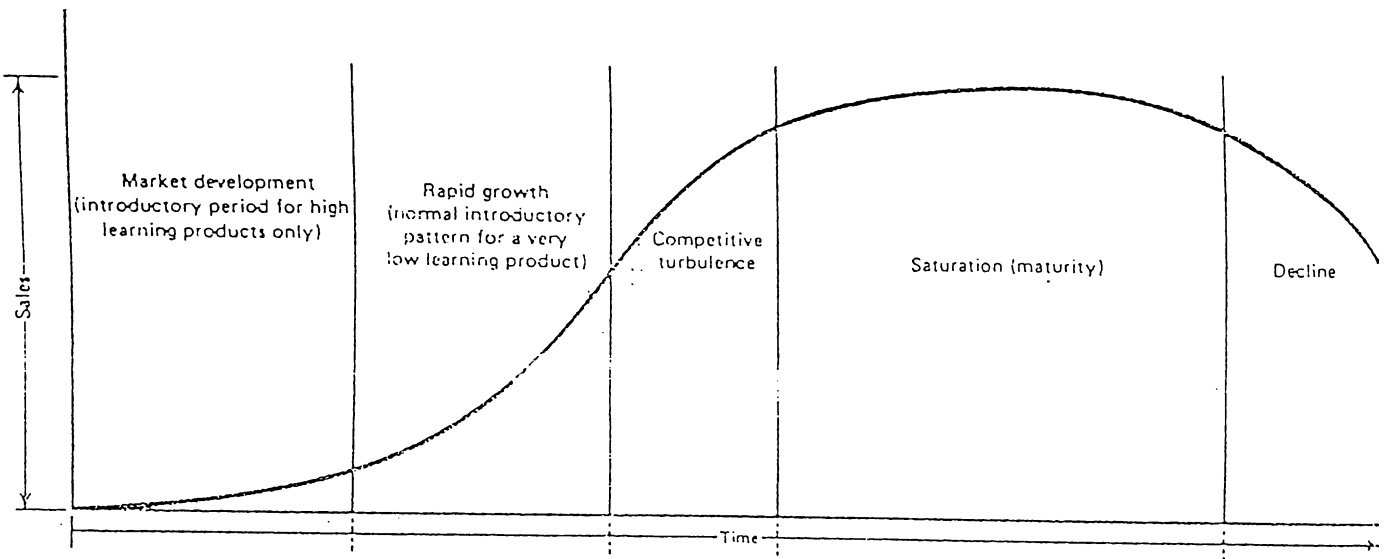
Tuite, M. F., "Merging Marketing Strategy Selection and Production Scheduling: A Higher Order Optimum," The Journal of Industrial Engineering, February 1968.

Zaltman, G., Duncan, R., & Holbek, J., Innovations and Organizations, New York: John Wiley, 1973.

**APPENDIX A**  
**THE DIMENSIONS USED IN THE PRODUCT-PROCESS LIFE CYCLE**  
**MATRIX**

APPENDIX A.1.

Dimensions of the Product Life Cycle



APPENDIX A.1. (Continuing)  
**Dimensions of the Product Life Cycle Concept Important to Marketing**

	MARKET DEVELOPMENT (Introductory period for high learning products only)	RAPID GROWTH (normal introductory pattern for a very low learning product)	COMPETITIVE TURBULENCE	SATURATION (MATURITY)	DECLINE
Strategy objective	Minimize learning requirements, locate and remedy offering defects quickly, develop widespread awareness of benefits, and gain trial by early adopters	To establish a strong brand market and distribution niche as quickly as possible	To maintain and strengthen the market niche achieved through dealer and consumer loyalty	To defend brand position against competing brands and product category against other potential products, through constant attention to product improvement opportunities and fresh promotional and distributional approaches	To milk the offering dry of all possible profit
Outlook for competition	None is likely to be attracted in the early unprofitable stages	Early entrance of numerous aggressive emulators	Price and distribution squeezes on the industry, shaking out the weaker entrants	Competition stabilized. Few or no new entrants. Market shares relatively stable except when a brand gains substantial added perceived value through product improvement or price repositioning	Similar competition is declining or dropping out because of decrease in consumer interest

APPENDIX A.1. (CONTINUING)

	MARKET DEVELOPMENT	RAPID GROWTH	COMPETITIVE TURBULENCE	SATURATION	DECLINE
Pricing objective	To impose the minimum of value perception learning and to match the value reference perception of the most receptive segments. High trade discounts and sampling advisable	A price line for every taste, from low- end to premium models Customary- discounts Aggressive promotional pricing, with prices cut as fast as costs decline due to accumulated production experience intensification of sampling	Increased attention to market- broadening and promotional pricing opportunities	Price repositioning whenever demand pattern and competitors' strategies permit. Defensive pricing to preserve product category franchise. Search for incremental pricing opportunities, including private level contracts, so boost volume and gain an experience advantage	Maintenance of profit level pricing with complete disregard of any effect on market share
Promotional guidelines  Communications objectives	a) Create wide spread awareness and understanding of offering benefits b) Gain trial by early adopters	Create and strengthen brand preference among trade and final users Stimulate general trial	Maintain consumer franchise and strengthen dealer ties	Maintain consumer and trade loyalty, with strong emphasis on dealers and distributors. Promotion of greater use frequency	Phrase out, keeping just enough to maintain profitable distribution
Most valuable media mix	In order of value: Publicity Personal sales Mass communications	Mass media Personal sales Sales promotions, including sampling Publicity	Mass media Dealer promotions Personal selling to dealers Sales promotions Publicity	Mass media Dealer-oriented promotions	Cut down all media to the bone- use no sales promotions of any kind

APPENDIX A.1. (CONTINUING)

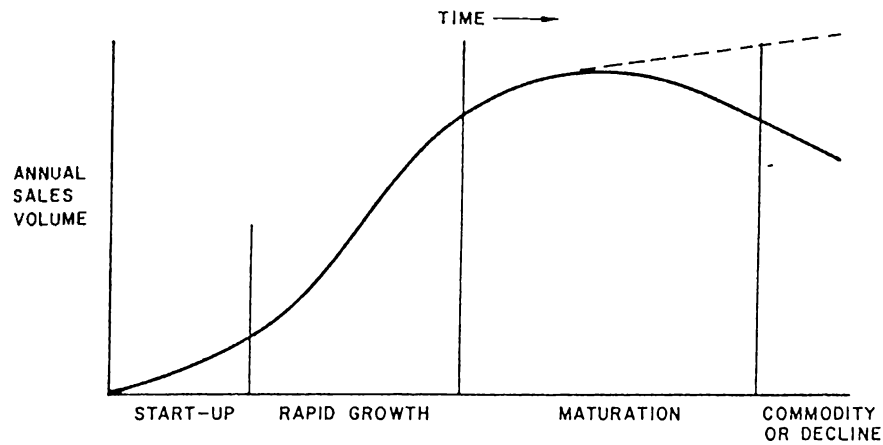
	MARKET DEVELOPMENT	RAPID GROWTH	COMPETITIVE TURBULENCE	SATURATION	DECLINE
Intelligence focus	To identify actual developing use-systems and to uncover any product weaknesses	Detailed attention to brand position, to gaps in model and market coverage, and to opportunities for market segmentation	Close attention to product improvement needs, to market-broadening chances, and to possible fresh promotion themes	Close analysis of competitors' strategies. Regular monitoring of trends in use patterns and possible product improvements. Sharp alert for potential new technological and new interproduct competition or other signs of beginning product decline	Information helping to identify the point at which the product should be phased out

Source: Hayes & Wheelwright, Restoring Our Competitive Edge Competing Through Manufacturing, John Wiley & Sons, 1984.



APPENDIX A.2.

Characteristics of the Product Life Cycle Important to Manufacturing Process Technology

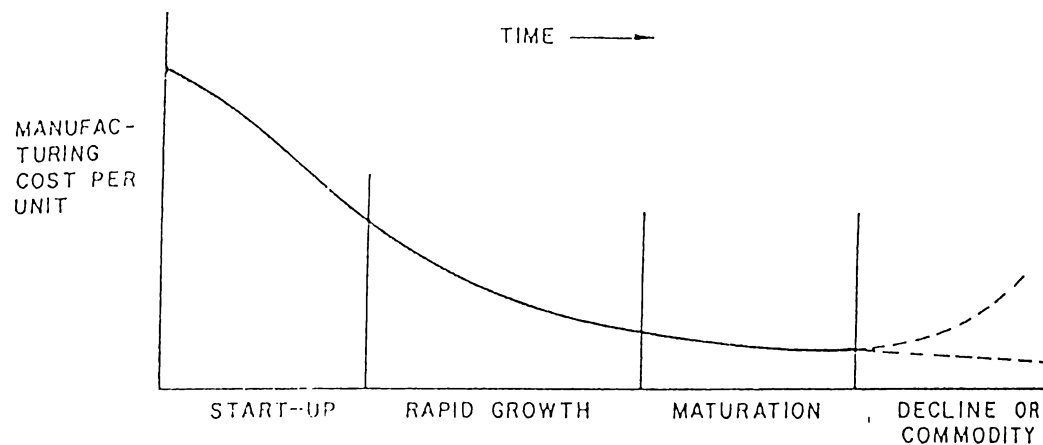


	START-UP	RAPID GROWTH	MATURATION	COMMODITY OR DECLINE
Product variety:	Great variety	Increasing standardization	Emergence of "dominant design"	High standardization "commodity" characteristics
Product volume/ model:	Low volume	Increasing volume	High volume	High volume
Industry structure:	Small competitors	Fallout and consolidation	Few large companies	"Survivors"
Form of competition	Product characteristics	Product quality and availability	Price and dependability	Price

Source: Hayes & Wheelwright, Restoring Our Competitive Edge Competing Through Manufacturing, John Wiley & Sons, 1984.

## APPENDIX A.3.

### Characteristics of the Process Life Cycle



	START-UP	RAPID GROWTH	MATURATION	DECLINE OR COMMODITY
Process organization:	Job shop	Batch	Assembly line	Continuous flow
Throughput volumes:	Low	Increasing	High	High
Process innovation:	Low	Medium	High	Medium
Automation/vertical integration:	Low	Medium	Medium	High

*Source:* Hayes & Wheelwright, Restoring Our Competitive Edge Competing Through Manufacturing, John Wiley & Sons, 1984.

**APPENDIX 2**

**THE QUESTIONNAIRE FOR THE MARKETING MANAGER OF THE  
COMPANY**

Directions: Listed below are a number of statements intended to measure your perceptions about the order-winning characteristics of the current product profile. Please indicate extent to which you disagree or agree with each statement by checking one of the seven places next to each statement. If you strongly disagree, check the first place. If you strongly agree check the last place. If your feelings are not strong, check one of the places in the middle. There are no right or wrong answers. Please tell us honestly how you feel.

	Strongly Disagree (1)		Strongly Agree (7)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
The product is customized.	—	—	—	—	—	—	—
The product range is wide.	—	—	—	—	—	—	—
The rate of new product introduction is high relative to the other companies in the industry.	—	—	—	—	—	—	—
The speed of the delivery is high relative to the companies in the industry.	—	—	—	—	—	—	—
The product has a higher quality than the other products in the market.	—	—	—	—	—	—	—
The company meets the delivery dates.	—	—	—	—	—	—	—
The price of the product is high relative to the companies in the industry.	—	—	—	—	—	—	—
The manufacturing cost is low relative to the companies in the industry.	—	—	—	—	—	—	—
Most advanced manufacturing technology is used.	—	—	—	—	—	—	—
Volume fluctuations are handled with ease.	—	—	—	—	—	—	—

**Directions:** Listed below are a number of statements intended to get some idea about the characteristics of the current market place and your marketing practices. Please indicate extent to which you disagree or agree with each statement by checking one of the seven places next to each statement. If you strongly disagree, check the first place. If you strongly disagree check the last place. If your thoughts are not strong, check one of the places in the middle. There are no right or wrong answers. Please tell us honestly how you think.

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	(6)	Strongly Agree (7)
A clear marketing theme exists in the company.	—	—	—	—	—	—	—
Total demand for the product is greater than the total capacity of the companies in this market.	—	—	—	—	—	—	—
The buyers are sophisticated, i.e., they are able to differentiate the brands in the industry.	—	—	—	—	—	—	—
The buyers order in large volumes.	—	—	—	—	—	—	—
Most of the customers of the company are repeat buyers.	—	—	—	—	—	—	—
Global marketing is done for this product in the company.	—	—	—	—	—	—	—
The market is highly segmented.	—	—	—	—	—	—	—
The buyer group of the company are:							
Consumers	—	—	—	—	—	—	—
Industries	—	—	—	—	—	—	—
Resellers	—	—	—	—	—	—	—
Government	—	—	—	—	—	—	—
The product life cycle is in							

Introduction stage- slow sales growth, no profits due to heavy expense of product introduction

— — — — —

Growth stage- rapid increase in sales, substantial profit improvement

— — — — —

Maturity stage- slowdown in sales, profits stabilize or decline to defend the product against competition

— — — — —

Decline stage- sales show a downward drift, profits erode

— — — — —

The product is distributed through

Wholesalers

— — — — —

Retailers

— — — — —

Direct selling with the sales representatives

— — — — —

There is a smooth relationship between the company and the members in the distribution channels.

— — — — —

Sales are done with order.

— — — — —

Sales are well established ahead of time.

— — — — —

Directions: Listed below are a number of statements intended to measure your perceptions about the order-winning characteristics of the product profile that best fit to characteristics of the market place and your marketing practices. Please indicate extent to which you give importance to each statement by checking one of the seven places next to each statement. If you think that particular statement is very important, check the first place. If you think that particular statement is not very important, check the last place. If your thoughts are not strong, check one of the places in the middle. There are no right or wrong answers. Please tell us honestly how you think.

	Not						Very
	Important						Important
	(1)						(7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
The product is customized.	—	—	—	—	—	—	—
The product range is wide.	—	—	—	—	—	—	—
The rate of new product introduction is high relative to the other companies in the industry.	—	—	—	—	—	—	—
The speed of the delivery is high relative to the companies in the industry.	—	—	—	—	—	—	—
The product has a higher quality than the other products in the market.	—	—	—	—	—	—	—
The company meets the delivery dates.	—	—	—	—	—	—	—
The price of the product is high relative to the companies in the industry.	—	—	—	—	—	—	—
The manufacturing cost is low relative to the companies in the industry.	—	—	—	—	—	—	—
Most advanced manufacturing technology is used.	—	—	—	—	—	—	—
Volume fluctuations are handled with ease.	—	—	—	—	—	—	—

**APPENDIX 3**  
**THE QUESTIONNAIRE FOR THE MANUFACTURING MANAGER OF**  
**THE COMPANY**



**Directions:** Listed below are a number of statements intended to measure your perceptions about the order-winning characteristics of the current product profile. Please indicate extent to which you disagree or agree with each statement by checking one of the seven places next to each statement. If you strongly disagree, check the first place. If you strongly agree check the last place. If your feelings are not strong, check one of the places in the middle. There are no right or wrong answers. Please tell us honestly how you feel.

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	(6)	Strongly Agree (7)
The product is customized.	—	—	—	—	—	—	—
The product range is wide.	—	—	—	—	—	—	—
The rate of new product introduction is high relative to the other companies in the industry.	—	—	—	—	—	—	—
The speed of the delivery is high relative to the companies in the industry.	—	—	—	—	—	—	—
The product has a higher quality than the other products in the market.	—	—	—	—	—	—	—
The company meets the delivery dates.	—	—	—	—	—	—	—
The price of the product is high relative to the companies in the industry.	—	—	—	—	—	—	—
The manufacturing cost is low relative to the companies in the industry.	—	—	—	—	—	—	—
Most advanced manufacturing technology is used.	—	—	—	—	—	—	—
Volume fluctuations are handled with ease.	—	—	—	—	—	—	—

**Directions:** Listed below are a number of statements intended to get some idea about the capabilities of current manufacturing facilities. Please indicate extent to which you disagree or agree with each statement by checking one of the seven places next to each statement. If you strongly disagree, check the first place. If you strongly disagree check the last place. If your thoughts are not strong, check one of the places in the middle. There are no right or wrong answers. Please tell us honestly how you think.

	Strongly Disagree (1)		Strongly Agree (7)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
The process pattern is rigid.	—	—	—	—	—	—	—
Products can be routed anywhere; sometimes there exists a dominant flow.	—	—	—	—	—	—	—
The type of the layout is:							
Similar machines grouped together	—	—	—	—	—	—	—
Flow-line layout; distinct for product produced	—	—	—	—	—	—	—
There are general purpose machines.	—	—	—	—	—	—	—
There are specialized machines.	—	—	—	—	—	—	—
The capital use is labor intensive.	—	—	—	—	—	—	—
The capital use is capital intensive.	—	—	—	—	—	—	—
Machines are frequently idle.	—	—	—	—	—	—	—
The addition to capacity are incremental.	—	—	—	—	—	—	—
The speed of the process is slow.	—	—	—	—	—	—	—
The bottlenecks are known.	—	—	—	—	—	—	—
The bottlenecks are removable.	—	—	—	—	—	—	—

Production is paced by workers.	— — — — —
There are many setups.	— — — — —
The length of the production run is long.	— — — — —
Production lead times are long.	— — — — —
Material requirements are known within fairly close limits.	— — — — —
Materials requirements are uncertain.	— — — — —
There is low raw material handling.	— — — — —
The work in process inventory is low.	— — — — —
The finished goods inventory is high.	— — — — —
Production is done with respect to orders.	— — — — —
Production is done with respect to forecasts.	— — — — —
Production schedule are always subject to change.	— — — — —
There are formal quality control procedures.	— — — — —
The response to cyclic demand is:	
Working overtime	— — — — —
Building and depleting inventories	— — — — —
Hire/Fire work force	— — — — —
Subcontract	— — — — —

Directions: Listed below are a number of statements intended to measure your perceptions about the order-winning characteristics of the product profile that best fit to capabilities of the manufacturing facilities. Please indicate extent to which you give importance to each statement by checking one of the seven places next to each statement. If you think that particular statement is very important, check the first place. If you think that particular statement is not very important, check the last place. If your thoughts are not strong, check one of the places in the middle. There are no right or wrong answers. Please tell us honestly how you think.

	Not		Very					
	Important		Important					
	(1)		(7)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
The product is customized.	—	—	—	—	—	—	—	
The product range is wide.	—	—	—	—	—	—	—	
The rate of new product introduction is high relative to the other companies in the industry.	—	—	—	—	—	—	—	
The speed of the delivery is high relative to the companies in the industry.	—	—	—	—	—	—	—	
The product has a higher quality than the other products in the market.	—	—	—	—	—	—	—	
The company meets the delivery dates.	—	—	—	—	—	—	—	
The price of the product is high relative to the companies in the industry.	—	—	—	—	—	—	—	
The manufacturing cost is low relative to the companies in the industry.	—	—	—	—	—	—	—	
Most advanced manufacturing technology is used.	—	—	—	—	—	—	—	
Volume fluctuations are handled with ease.	—	—	—	—	—	—	—	

**APPENDIX 4**  
**THE QUESTIONNAIRE FOR THE CHIEF EXECUTIVE OFFICER OF THE**  
**COMPANY**

**Directions:** Listed below are a number of statements intended to get some idea about the industry. Please indicate extent to which you disagree or agree with each statement by checking one of the seven places next to each statement. If you strongly disagree, check the first place. If you strongly agree check the last place. If your thoughts are not strong, check one of the places in the middle. There are no right or wrong answers. Please tell us honestly how you think.

Strongly	Strongly
Disagree	Agree
(1)	(7)
(1) (2) (3) (4) (5) (6) (7)	

**THE VOLATILITY IN THE INDUSTRY**

In this industry the product life cycles are shorter.	_ _ _ _ _
There is an increase in new product introduction.	_ _ _ _ _
Demand is highly fluctuating.	_ _ _ _ _
Technology is changing rapidly.	_ _ _ _ _

**THE SUPPORTIVE INDUSTRY CONDITIONS**

The government offers some incentives in favor of the companies in the industry.	_ _ _ _ _
There is economies of scale.	_ _ _ _ _
The industry needs high capital requirement.	_ _ _ _ _
The companies in this industry can exit easily.	_ _ _ _ _
The industry grows rapidly.	_ _ _ _ _
The number of competitors in the industry is low.	_ _ _ _ _
Buyers have a brand identity of the products	

produced in this industry. \_\_\_\_\_

The inputs to the industry are highly varied. \_\_\_\_\_

There are a lot of suppliers that can supply the  
necessary inputs to the industry. \_\_\_\_\_

The industry is an important customer of the  
supplier group. \_\_\_\_\_

Suppliers' threat of forward integration is lower  
relative to the threat of backward integration by  
firms in this industry. \_\_\_\_\_

There are no substitute to the products produced  
in this industry. \_\_\_\_\_

Although there are some substitute products,  
buyers can not switch to these products easily. \_\_\_\_\_

**Directions:** Listed below are a number of statements intended to measure your perceptions about your company and its operations. Please indicate extent to which you disagree or agree with each statement by checking one of the seven places next to each statement. If you strongly disagree, check the first place. If you strongly disagree check the last place. If your feelings are not strong, check one of the places in the middle. There are no right or wrong answers. Please tell us honestly how you feel.

Strongly	Strongly
Disagree	Agree
(1)	(7)
(1) (2) (3) (4) (5) (6) (7)	

STRATEGIC TYPE OF THE ORGANIZATION: BEING MORE DEFENSIVE TYPE

The company serves stable market segments.      \_ \_ \_ \_ \_

The goal of the company is to grow by increasing  
their share in their target markets through  
launching their current products.      \_ \_ \_ \_ \_

The company does not deal with the developments  
outside their current markets.      \_ \_ \_ \_ \_

The company does not engage in new product  
introduction.      \_ \_ \_ \_ \_

UNDERSTANDING THE OBJECTIVES OF THE COMPANY AND HAVING RIGHT

OPERATIONAL IMPLEMENTATION

Organizational Structure

*Formalization*

Performance appraisals in the organization are  
based on written performance standards.      \_ \_ \_ \_ \_

To coordinate the activities between functional



departments like marketing, manufacturing, finance etc. standard operating procedures are established (e.g. rules, policies, forms etc.).

-----

There is a formal written strategic plan and it is obeyed by functional managers to achieve the goal.

-----

Duties, authority, and accountability of personnel are documented in policies, procedures, or job descriptions.

-----

*Concentration of decision-making authority*

In this organization, very few actions are taken without the approval of a supervisor.

-----

Even small matters on the job have to be referred to someone higher up for a final answer.

-----

*Employee participation in decision-making*

Various levels of employees from all functional departments (e.g. marketing, manufacturing, finance etc.) participate extensively...

in the development of new products.

-----

in the adoption of a new idea or program.

-----

in the modification of existing products.

-----

in the deletion of existing products.

-----

Joint evaluation and reward system

The employees are not only rewarded in terms of their function dependent criteria.

-----

In this organization, marketing and manufacturing

share equally in the rewards from a product that  
is successful in the marketplace.

— — — — —

ORGANIZATIONAL CLIMATE ENCOURAGING INTERDEPARTMENTAL  
COMMUNICATION AND COORDINATION

Quality of marketing-manufacturing relations

There is give-and-take relationship between  
marketing and manufacturing. Each challenges  
the other in their meetings and discussions and  
tries to understand the other's point of views.

— — — — —

Marketing and manufacturing are always involved  
from the early phases of discussions about a  
product.

— — — — —

Conflicts between marketing and manufacturing are  
resolved at lower levels of the organization.

— — — — —

There are few disagreements between marketing and  
manufacturing; one simply accepts the other's  
views without discussion.

— — — — —

This organization values cooperation and  
collaboration between marketing and  
manufacturing.

— — — — —

Communication

The employees are rotated through functional  
departments.

— — — — —

Both formal and informal meetings are arranged  
within the company.

— — — — —

Information is easily transferred between the functional departments within the organization.

— — — — —

The information system within the company is elaborate.

— — — — —

This organization provides opportunities to understand and appreciate each functional aspects of the business through training programs, seminars, and get-togethers.

— — — — —