NEW PRODUCT DEVELOPMENT IN THE SERVICE INDUSTRY

by

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Submitted to the Alfred P. Sloan School of Management on April 22, 1987 in partial fulfillment of the requirements for the degree of Master of Science in Management.

ABSTRACT

The service industry now comprises 72% of all U.S. employment. In spite of this dominate position, relatively little research has been conducted in service organizations.

This thesis looks at the vital function of new product or service development. The first part of the thesis describes the differences between traditional products and services, defines a product in service terms, and introduces a model for new product development. The second part of the thesis provides the results of interviews with seven executives involved in new product development in service organizations. The focus of the interviews was on the process used to develop new service offerings.

As a result of the interviews, two methods to classify services are developed. These classification systems suggest how different organizations will address new product development. In addition, some recommendations are made on where additional research, specific to service industries, needs to be directed within the product development area.

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Professor of Management
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Introduction

The service sector has become the dominant part of our economy. While agricultural employment has fallen to 3% of all employment, and good's producing jobs total about 25%, service sector jobs are now 72% of all U.S. employment. Service industries were responsible for 69% of all national income in 1984. Furthermore, that trend shows no sign of letting up. Of the 12.6 million jobs created since 1982, 85% have been in the service sector. Despite the growing importance of services within our economy, relatively little work has been done on services within academic research.

This thesis looks at a key area for any organization: the process by which it innovates and changes. Specifically, the process of new product development was researched. The methodology chosen was to interview executives from seven different service organizations that had responsibility for new product development.

The first three chapters are the result of a review of the current literature on the service sector. Chapter one describes the differences between services and traditional "goods". Chapter two defines a "product" in service terms. A model for the new product development process is introduced.
in chapter three. That model was used during the field work.

Chapters four and five discuss the field interviews conducted as part of the thesis. The interview objectives, company descriptions, and summary results are presented in chapter four. Chapter five summarizes the conclusions from the composite results of all the interviews.

As a result of the interviews, two methods to classify services were developed in the thesis. These classification systems suggest how different services will address new product development. In addition, some recommendations are made on where additional research, specific to service industries, needs to be directed within the product development process.
Footnotes


Chapter One: Goods versus Services

Services have some inherent differences from traditional "goods". The current literature is in general agreement on the distinctive features of services. The differences affect the way products are developed and marketed in service industries and will be referred to throughout this thesis.

Definitions of "service" vary widely and often are framed in contrast to goods. Collier defines services from the perspective of the consumer with the definition "a package of explicit and implicit benefits performed with a supporting facility and using facilitating goods".1 Leonard Berry defines services in contrast to goods when he describes a good as "an object, a device, a thing" versus a service as "a deed, a performance, an effort".2

There does seem to be a consensus on the characteristics that make services unique. Discussing those characteristics helps us understand the difference between goods marketing and service marketing. There are four key differences: intangibility, simultaneous production and delivery, customer involvement in processes, and less standardized and uniform output.
Intangibility was recognized in Berry's description of a service in the terms of deed, performance, and effort. However, the intangible aspect of the buying decision has long been recognized by "goods" marketing. The first lesson of a basic marketing course is that the consumer buys more than a physical product. They buy a bundle consisting of not only the physical product but also more intangible items like information, convenience, image, and satisfaction. Charles Revson, head of Revlon, Inc., emphasized this difference between the physical product and the purchase decision with his comment "In the factory we make cosmetics, in the store we sell hope."

However, the degree of intangibility is a fundamental and significant difference between services and products that must be recognized. Some services, like the radio station or the teacher, offer no tangible product. Lynn Shostack does an excellent job of discussing this subject of intangibility and its implications for service marketing. She identifies two principal implications. First, intangibility makes it even more important to remember the role of the consumer in defining the product and second, the creation of image involves techniques that may be the opposite of product goods.

The first implication has to do with the "reality" of products versus the consumer actively defining the nature of
the intangible. Products have inherent features that can be measured, defined, and tested. Intangible features are actively perceived and defined by the consumer. Thus the fundamental marketing concept of remembering that the customer may not be buying a physical object becomes more important when the customer is actually defining the product. Shostack argues that the job of the service organization becomes one of finding "consensus realities" among consumers and market segments that can be satisfied. Of course, as will be discussed later in this paper, because the customer may be actively involved in the service, it is also important to realize that the service organization has the opportunity to shape "realities" during the production of the service.

The second implication has to do with image. Image is different from the actual product or service and, as Shostack says, "is a method of differentiating and representing an entity to its target market". In product marketing, the image of a product is often enhanced by surrounding it with abstract associations. For instance, cars are usually associated with lifestyles in their advertising. However, since a service is already abstract, the best image may be created by associations with tangible items. Thus, you have Merrill-Lynch being represented by a bull and Federal Express using the hard, reliable words of "when you absolutely, positively have to have it overnight."
Shostack developed figure 1.1 to portray the mirror image relationship between the products' tangibility and the desired image.

![Diagram](image-url)

**Figure 1.1: Principle of Marketing Positioning Emphasis 5**

This concept of using tangible evidence for services has important implications for not only advertising but also the actual delivery of the service.

The second key characteristic of a service is simultaneous delivery and production. Products are produced in isolation from the customer, most of the variables are under
manufacturing control, and then the product is shipped to the customer through distribution channels. Services, on the other hand, are produced and delivered at the same time. Leonard Berry described this by saying that goods are produced, then sold, then consumed while services are usually sold first, then produced and consumed simultaneously.6 This simultaneity causes other events which are commonly used to describe services such as the lack of inventory, the difficulty of matching supply and demand, and the overlap of operations and marketing.

Inventory has always been the buffer for manufacturing companies. Inventory serves as a buffer against the seasonality of demand, differing speeds of various processes, and unexpected changes in demand. Simultaneous production and delivery means there is no such buffer for service industries. Service companies must be available when the customer wants to consume. The lack of inventory affects the management of quality in service companies. Products can not be inspected and rejected if quality is not acceptable. Quality has to be incorporated in the service delivery process.

Since there is no inventory buffer for service companies, capacity planning becomes more critical and more difficult. Demand that is not met will probably be lost forever. Service companies have developed many techniques for matching
supply and demand in this environment.

Simultaneous production and delivery also creates an overlap between operations and marketing. Manufacturing companies can produce a product, and then turn it over to marketing to choose the appropriate means of distribution and sales. In service companies there is no such separation. While some people have complained of the lack of marketing in service companies, the truth is that in good service companies, everyone is involved in the marketing process because no one can avoid it.

There are advantages and disadvantages to simultaneous production and delivery. Some of the disadvantages are:

- Servicing more than one customer segment at a time may be more difficult because it is harder to separate them. For instance, a high quality clothing store would have a hard time servicing discount customers due to the interaction of the customers.
- Economies of scale are harder to achieve in production. Service facilities have to be convenient to the customer and can only have enough capacity to serve that geography.
- There is no inventory to provide a buffer for supply and demand.
- Quality control is more difficult since output cannot
be inspected before delivery to the customer.

There are some advantages that give service companies some unique opportunities:

- Since production and delivery are simultaneous, there is the opportunity to adapt the product to the individual customer.
- Product changes are easier to make since there is no need to worry about recall of products or obsolete inventory.
- The environment for employees can be more stimulating with the interaction with customers.

The third characteristic of a service product is the involvement of the customer in the product. For instance, the customer can be involved in the actual production as in self-service operations. The customer may affect the production stages as in a hair dressing salon. The customer may be involved in the technical part of the service as in a medical diagnosis.

The implications of customer involvement are very complex. As discussed earlier, since service products tend to be intangible, the consumer is already involved in defining the service. Now, the customer is involved in the production and defining of the service. Second, the customer may be
interested in the process of delivery itself. Customers not only care about what they receive as an outcome of the service (for instance food at a restaurant), but also the process (the presentation, delivery, and interaction during the meal). Finally, since customers are involved in the process, they can have a significant impact on the effectiveness, efficiency, capacity, and financial success of the service organization based on the service design.

The final characteristic of service products is that they are less standardized and have less uniform output. This characteristic is really a function of the complexity created by the first three characteristics. The "intangible" of a service almost by definition means that the output is not as "real" and therefore cannot be measured and controlled as accurately. Simultaneous production and delivery means there is no inventory buffer to allow inspection and elimination of product that does not meet specification. The customer involvement points out that the service cannot have control of all the variables involved in the production process and its output must be less uniform. Service products may have some inherent variability but successful service organizations carefully control their quality and produce services that consistently meet the standards that their customers have for their product. The next chapter discusses a model of a service product and contrasts it to the traditional product model.
Footnotes


4. Ibid., p. 43.

5. Ibid., p. 45.

Chapter Two: Service Product

A "product" is usually described in terms of its tangible features. Since one of the characteristics of a service is intangibility, the definition of product becomes more difficult. The purpose of this chapter is to suggest a model for a service "product". This model is necessary in order to examine the product development process of service organizations. The chapter then explores how products are controlled and some strategic questions regarding products in a service organization.

The Service Delivery Product

Figure 2.1 is a model of the traditional market as viewed by a "goods" company. The company has its perception of market needs which it translates into product specifications. Production consists of raw materials, facilities, people, and systems which produce a product. Marketing has the responsibility of presenting that product to the consumer in a way that best satisfies the consumer's needs. What the consumer buys is recognized to be a bundle of needs but it is dominated by product features. Information, attendant services, convenience, and other needs are secondary features of the product.
Figure 2.1: Traditional "Goods" Market Model
As Leonard Berry said, "the product is produced, then sold, and then consumed". The product is assumed to be tangible with real features and production occurs separately from marketing and the consumption by the customer.

Figure 2.2 is a new model for the service market. The traditional "goods" market has been compressed into a much more complex interaction. On the left hand side, the product is now a combination of physical product, facilities, people, and systems. Production and marketing are now combined into one overlapping function. On the right hand side, the consumers "bundle" is far less product oriented. It has all the elements of before but is more complex because it is not dominated by product features. Finally, the separation of the two sides is complicated by the fact that the customer is probably part of the people in the service product. This involvement of the customer in the product is represented by the dotted line encompassing the people part of the service product.

There are two key points to this model. First, just like "goods" marketing, it is important not to forget that the service product is different from the consumer perception. The second point is that the service product is the combination of all four items on the left hand side and depending on the service may have different mixes of those four elements. Some products may have no physical product
Perception

Information

People

of

Convenience

Market

Product

Needs

Service

Facilities

Etc.

Cost

Price

Production/Marketing

Consumer Needs

Figure 2.2: Service Product Market Model
content such as a radio station. Others, like a fast food outlet, may have a great deal of physical product. Some services like consulting are people intensive while others like express mail are system intensive. The concept that the service product is a complex mixture of all four elements is the critical concept that must be managed by all successful service organizations. The combination of these four elements into a product will be called the service delivery product and is the subject of the rest of this chapter.

It is critically important for service organizations to recognize that they must manage a service delivery product that consists of four very different elements. The management and control of those four elements is very different and the successful service organization is the one which consciously decides which elements are critical for its operation and how to control those elements. As Jim Heskett says in his discussion of the focused operating strategy:

"Just as a firm rarely can do all things well, so rarely must it do all things well. The most successful firms have identified those elements of strategic importance and have concentrated their efforts, investments, and controls on them. These firms effectively deliver results promised in the service concept while achieving internal goals associated with people, costs, and profits. Sometimes, the development of an effective
operating strategy provides the key that unlocks the barrier to successful performance in an entire industry."

Each of the elements provides different function to the service product. The product element can be either physical or intangible. In fast foods, the product is very real and is a major part of what the customer is purchasing. In finance and insurance, the product is nearly non-existent physically and consists primarily of terms and conditions. Obviously, managing the product element is important when the product content is high. However, even in services with very small product content, the product can play a very important role.

For instance, product can provide the "tangible" to an intangible service. Discount retailers must have brand name products in order to provide tangible evidence of their claim of quality merchandise at lower prices. Bank cards provide physical capability to bank credit service. Sometimes, a small amount of product can provide leverage in maintaining higher prices. Free drinks help maintain the large markup for first class air travel. Free champagne is often available in exclusive clothing boutiques. The product element is not dominant as in "goods" marketing but still plays an important role.
Facilities are important to service organizations because of the combination of production and delivery. Since production must be convenient to the customer, it has to be distributed to many locations. Location becomes a critical decision for service businesses like restaurants, retail stores, and gas stations. However, location does much more than just provide convenience. The location decision must be part of the customer differentiation/market segmentation decision. The physical appearance of the facility can also provide tangible evidence of the type of service offered. Since customers often have to buy the service before they receive it, the facility must make them ready to make the purchase decision.

The facility can make service design work. Obviously it makes a difference physically (flow of customers, process design, etc.) but it can also affect the quality of the service by preparing the customer for their participation. A children's doctor may provide fun, bright painting to relieve children's fears. If you expand the word "facility" to "environment", employee uniforms, music, and lighting all play a role in preparing the customer to buy the service and participate in it.

Systems is probably the most important element for management in the service delivery product. Systems can consist of physical equipment and hardware or they can be procedures and processes. Theodore Levitt discussed the industrialization
of service via hard, soft, and hybrid technologies and argues that successfully applying system concepts can transform service industries. Systems can provide numerous, and sometimes contradictory, advantages. The management challenge is to make the right tradeoffs in implementing systems. For instance, systems offer the principal way to achieve cost control and quality through the production of standardized products. McDonalds has shown the effectiveness of this with their production-line hamburger. Similarly, Citibank showed how to use manufacturing techniques in its back office operations. These systems offer ways to reduce costs per unit and also provide uniform service (and therefore manage customer's expectations) across multiple units.

The danger in these systems is the potential reduction in customization which is often a key component of the customer's decision process. But systems can be used to increase the customer awareness of service personnel. Some organizations have used systems to free up their customer personnel to spend more time focusing on the customer needs and desires. Others, such as Federal Express, have used systems to provide more information on customers and the status of their service. As Richard Chase has written, the key is deciding when customer contact is important and when it can be eliminated.
The final element of the service delivery product is people. Most service businesses are labor intensive, so controlling the people costs is a key financial objective. However, since the customer frequently is buying personal interaction, excessive control of the people costs can lead to a rapid deterioration in the quality of service as perceived by the customer. Proper training of service personnel has proven to be one of the more difficult areas to copy for competitors so people can be a significant competitive advantage. Finally, as discussed earlier, the customer should not be forgotten as a potential active participant in the service delivery product.

The interaction of systems and people is probably the key issue for management in the service industry. Figure 2.3 presents the tradeoff involved. For cost reasons, it is critical to try to control the level of service personnel. On the other hand, it also important to keep in mind the level of customization being provided to your customers. ATM's provided an excellent system solution which has reduced the number of bank tellers dramatically. However, some banks are successfully introducing "Personal Bankers" to counteract customer concerns over lack of attention. McDonalds provides outstanding productivity but created the opportunity for Burger King's "have it your way" service. Nordstroms has been an extremely successful retailer the last few years by increasing the number of sales floor personnel and providing
outstanding customer service. Of course, the real "home run" is to increase customization while improving the productivity of your employees through effective systems implementation.

![Diagram showing flow from Hi to Nordstroms, Service to McDonalds, Personnel to ATM's, and Low to Home Run.]

Figure 2.3: Systems/People Interaction

Each of the elements of the service delivery product can play an important role in a service. A service organization must consciously design its product using these elements. Once the service delivery product is designed, it is equally important to effectively control the product. The control of each element can be very different. The next section discusses the control mechanisms for each element.
Control Mechanisms

Clearly, the subject of controls for a service organization is a very extensive subject and no attempt will be made to cover it. The purpose of this section is to make two points. First, the four elements of the service delivery product have different control mechanisms. Therefore, understanding the mix of elements in the service delivery product is essential to providing a consistent and effective service product. Second, since operations and marketing are combined, the controls must reflect not only financial/cost controls but also marketing controls. The tendency is to overemphasize financial controls at the expense of the quality of service as perceived by the customer. As Lovelock and Young said, "In our experience, attempts to improve productivity in service industries all too often demonstrate lack of sensitivity to consumer needs and concerns." 5

The product content of the service product comes from two sources; it is either purchased or produced as part of the service. If it is purchased, the purchasing department will have to insure that the product fits the image of the target market. Retail establishments generally have centralized buying departments to insure that the product is always consistent with the image of the store. If the product is produced in the service process, then statistical quality control procedures can be used. The service organization
should define and document the production process, control
the input, and monitor the output of each process phase.
Most of the manufacturing techniques are applicable to the
product element of the service product with an increased
emphasis on making sure that the product is consistent with
the other elements and the target market segment.

Since production and delivery are simultaneous, the service
organization has two choices on location. The consumer can
travel to the facility (students being bused or people
traveling to a grocery store) or the service can travel to
the consumer (fire trucks or insurance agents traveling to
the customers' homes). There is a tradeoff between the cost
and effectiveness (will a customer travel to a facility) of a
facility and the transportation costs for the service.

The facility decision may be viewed as a start up decision
but it can be a critical element daily. Fast food
restaurants know the importance of cleanliness, maintenance,
and appearance controls. Service businesses that use
franchises must maintain tight control over the location
decision, not only to protect franchise values but also to
protect the consistency of the image of the service.

Control mechanisms for systems are well known. Accounting
measurements can provide excellent focus on key variables.
Throughput measurements are also used in most service
organizations. Statistical quality control techniques have significant potential for improving service operations. Quality concepts have traditionally been viewed as the domain of manufacturing concerns but the concepts can be and should be applied to service processes.

The other frequently overlooked area of systems control is the marketing or customer content of the control measurements. The effective service organization will be sure to include systems controls that are important to the customer. Measurements on "rings before answering" might be fundamental to a telephone operation, or "customer complaint responsiveness" might be important to a retail store. Customer satisfaction surveys might be a measurement of a service repair operation. Any systems design should look for opportunities to improve on customer relations within that design.

The final element to discuss is the control of the people component of the service delivery product. The people content is critical for two reasons; service businesses are labor intensive and people can provide by far the best customer goodwill. J. Willard Marriott, the founder of Marriott Hotels, said that you can’t make happy guests with unhappy employees. The labor intensity of service makes controlling the people cost important. Organizations have developed effective techniques for labor scheduling and the
use of part-time employees. Systems can reduce the people requirements and can minimize the variability caused by the human element. One of McDonald's strengths is that the systems have given it the ability to deliver high quality product consistently even though their workforce has high turnover and often works for minimum wage.

However, the exciting part of managing the people element is the dramatic effect good people management can have on the success of a service business. Jim Heskett says that recent research suggests direct relationships between:

- the design of successful service encounters and service employee satisfaction
- successful service encounters and service employee motivation.
- satisfied service employees and satisfied customers
- satisfied customers and an increased volume of business. 7

Heskett also says "the most effective service providers today are those who know when personal contact is important and when it is not, those who are able to concentrate personal contact at critical moments in the service delivery process." 8

The control mechanisms for developing motivated, marketing
aware employees are hiring/training programs, good internal communications, motivation programs, management involvement and attention, and finally the often discussed "culture" of the organization. These are the tools that will determine how the people element of the service delivery product will interact and affect the customer. Schneider and Bowen have shown that employee reports on organizational human relations practices are correlated with customer reports of the service quality they receive. 9

Each of the elements of the service delivery product can and must be managed by the service organization. Since effective management of each element uses different tools, it is vitally important to understand the relative importance and purpose of each element within the service product. Then management can implement a control system that will deliver a consistently high quality service product.

Strategic Questions

At the beginning of this paper it was stated that many of the traditional marketing concepts were very appropriate for a service organization. Any organization, product or service, must correctly identify a target market with a need that can be profitably met and that fits with the organization's current activities. Designing and implementing that product can be very different for a service organization. The
service delivery product model is meant to help the service organization focus on the critical issues for its success. The final part of this paper suggests some strategic questions for a service business.

1. Do you know your service delivery product mix? A service contains fundamental differences from a "good", so the service product must be understood in different ways from the traditional product.

2. Are the appropriate controls in place to implement that service delivery product? The controls are different for each element. If people are the most critical element of your service product, your control system should also reflect that priority.

3. Do the controls emphasize both operations and marketing considerations? Marketing and operations probably overlap in service organizations, yet many times controls are predominately cost oriented. Marketing and customers must be represented in the controls.

4. What competitive advantage do you have versus the competition? This is a strategic question for any business. However, since a service often produces intangible products, secondary factors can play a bigger role in the customers perception. Determinant attributes (those that determine
customer choice) may be down the list of product characteristics that are important to customers, but are the features where significant differences between competing alternatives are apparent to consumers. 10

5. Where is there value/cost leverage? Within the features of the service delivery product, there may be the opportunity to provide significant value to the customer with minimal cost.

The successful design of service products is more difficult than many traditional goods because of the complexity of the interaction of the elements of the service product and the higher degree of involvement of the customer in defining that product. Only continual attention to the detail of the design and implementation will aid in success.
Footnotes


8. Ibid., pp. 2-3.

Developing New Services, American Marketing Association, 1984, p. 94.

Chapter Three: New Product Development Process

The purpose of this chapter is to discuss the new product development cycle. The first part will establish various definitions of a "new" product. The second part describes the new product development process. The final part will discuss the effect of the unique characteristics of service products on the development of new service products.

WHAT IS A NEW PRODUCT?

Part of the problem in discussing new product development is defining what a new product is. One organization may consider a product "new" only if it is a complete change designed for a completely new market. Another organization may consider revisions to existing products "new" products.

Figure 3.1 by Ansoff contains the classic description of the growth options for a company. The opportunities form a 2x2 matrix depending on market and product. The first option is to expand in existing markets with existing products. This option usually applies early in a product life-cycle when product supply is constrained due to manufacturing or distribution limits, or when the market is expanding rapidly. The second option is to expand with existing products but
into new markets. Most often this entails geographic expansion into new regions or internationally. The third option is to take advantage of your knowledge of existing markets and introduce new products into those markets. This

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<th>Existing Products</th>
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<th>Existing Markets</th>
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Figure 3.1: Opportunities Matrix (Ansoff)

option frequently takes advantage of access to channels of distribution. The final option is the most difficult. It combines the risk of new products and the risk of unknown markets. This matrix is the most fundamental way of looking at whether expansion efforts by a company involve new products or just market expansion.
Booze, Allen and Hamilton identified six categories of new products involving newness of markets and products:

- New-to-the-world products: new products that create an entirely new market
- New-product lines: new products that allow a company to enter an established market for the first time
- Additions to existing product lines: new products that supplement a company's established product lines
- Improvements in/revisions to existing products: new products that provide improved performance or greater perceived value and replace existing products
- Repositionings: existing products that are targeted to new markets or market segments
- Cost reductions: new products that provide similar performance at lower cost

Booze Allen also found that only 10% of the products surveyed were in the first category of "new to the world" and over 50% of the "new" products were "additions to existing product lines" or "improvements in/revisions to existing products". Therefore, we cannot think of new product development as limited to innovative products designed to penetrate new markets.

The final dimension of new product development has to do with
an organization's strategy for developing new growth opportunities. Urban and Hauser describe two principle strategies: proactive and reactive. A proactive strategy involves anticipating market, technological, and competitive events and putting plans in place that develop new products for new markets and lead competition. The proactive strategy puts a premium on research and development—both in new product technologies and in market changes and opportunities.

A reactive strategy involves responding to competitive or market changes as they occur. Products are developed in response to competitive products or marketplace changes. The new products may involve substantial improvements to the competitive product. However, a deliberate decision is made to follow competition in order to reduce research and development costs or the risks of market failure.

Whether an organization follows a proactive or reactive strategy is often dictated by marketplace forces. For instance, a reactive strategy may be dictated when there is little protection for innovation, markets are too small to recover development costs, or distribution chains are dominated by competition. Conversely, proactive strategies will be more appropriate when patent or market protection is possible, resources are available to develop new products, or distribution channel power exists. 4
Both strategies are appropriate for organizations to follow depending on their situation and both require substantial skill in order to be successful. The next section will focus on the proactive strategy since it requires a special process and tools.

NEW PRODUCT DEVELOPMENT PROCESS

The new product development process is an iterative process. Figure 3.2 shows two different documentations of the process. Figure 3.2A shows the process documented by Urban and Hauser while Figure 3.2B shows the process in Kotler’s book on marketing. The flows are not that different especially when we recognize that multiple iterations are required based on the results of any particular step. For the purposes of this discussion, we will use the Urban and Hauser flow to discuss the various steps involved in developing new products. The overall purpose is simply to identify a customer need, design and position a product to meet that need, and to be sure that a business case exists to support the new product.

Having a creative product idea is not enough. The product must also have a market. The opportunity identification phase is meant to identify both of those elements: a new product idea and the market for that product. The market must be new, growing, or vulnerable in some way. Those
Opportunity Identification
- Market definition
- Idea generation

Design
- Consumer measurement
- Perceptual mapping
- Product positioning
- Forecasting sales potential
- Product eng. & mkt. mix

Testing
- Advertising & product testing
- Pretest mkt. forecasting
- Test marketing

Introduction
- Launch Planning
- Tracking the launch

Profit Management
- Decision support system
- Mkt. response analysis
- Innovation at maturity
- Product portfolio mgmt.

Idea Generation

Idea Screening
- Market definition
- Drop vs go errors

Concept Development and Testing
- Product concept
- Positioning
- Testing

Mkting/Strategy Develop
- Size/behavior of target market
- Product price, dist., mkt. budget

Business Analysis
- Sales estimate

Product Development

Market Testing

Commercialization
features create the potential for profit. The structure of the market must also be considered. A good product idea may not succeed if the company has no way to effectively access the market's distribution system. Or the market may be so dominated by some firms that the company feels that they could not compete with the new product idea. The opportunity identification phase must conclude that new product has a market and that the company can reasonable compete in that market.

The product idea may come from several sources. Research and development may produce the idea based on technology. It may come from customers or it may come from employees that are attuned to the market. In fact, service industries have to be particularly aware of the potential of their employees to generate new product ideas. Since the customer may be involved in the delivery of the service, employees may have the best knowledge of customer needs. If a new product looks solid and has an identified and available market, the second phase of "design" can be entered.

The key aspect of this phase is to develop a product with both physical (or service) and psychological aspects that will be successful in the market. The objective is to design both sides of figure 2.2 in chapter 2; the physical product (or service delivery product) and the way that the customer will perceive that product or service. Choosing a product
positioning is a major objective of this phase.

Numerous tools have been developed to assist in this phase. Focus groups help identify consumers' attitudes. Perceptual mapping techniques describe consumer views of products and competitive products. Sales forecasting models help forecast consumer initial buying propensity and the likelihood of rebuy decisions. Marketing mix models suggest the optimum use of advertising, promotion, and distribution dollars. The end result of this phase is to physically design a product or service and decide on advertising and marketing in order to maximize the chances of success in the target market.

The third phase is the testing phase. A test market is generally a scaled down version of a national introduction with the objective of identifying the potential for success. However, the test phase can do much more than just allow a go/no go decision on the product. The test phase can evaluate alternative product designs and different positioning schemes.

Relatively recently, this phase has acquired some new tools designed for pre-test markets. Full test markets are very expensive. Pre-test markets are designed to reduce the number of test markets needed by identifying marginal products. Pre-test markets simulate test markets at a fraction of the cost. Test markets should not be skipped
because of pre-test market results but their expense can be avoided for some products. The objective of this phase is to leave with a product that has been proven in a limited market and been enhanced in terms of its features and its positioning with the market.

The launch phase manages the introduction of the product to its market. The launch may have many different strategies (fast, slow, limited, national) based on the attributes of the product, its market, and competition. The launch phase should have multiple phases with distinct objectives. Adjustments can be made depending on the success of each phase and the various components of the launch (advertising, distribution, marketing, etc.).

If the product becomes successful, the final phase is profit management. The duration of this phase varies greatly depending on the product. Furthermore, a "mature" product may go through another iteration of the previous phases if it is being considered for repositioning. This process of managing the product after launch is beyond the scope of this paper.

These phases are well documented and many sophisticated tools have been developed to be used in each phase. However, this process has been used mainly for products and particularly consumer products. The next section looks at the unique
features of service products identified earlier and discusses the impact of those features on this new product development process.

SERVICE PRODUCTS AND NEW PRODUCT DEVELOPMENT

Before discussing new service products, it is useful to identify situations that are favorable for firms to invest in the development of new products. New product development can be both an expensive and risky proposition. Some situations offer a better chance to obtain a return on the investment than others.

Environments that provide a protection from innovation clearly encourage investment in new and innovative products. Patents, copyrights, and licenses give the innovating firm the ability to protect their ideas and inventions. Similarly, an environment where there is little competitive imitation encourages new product investment. This might occur due to entry barriers, restricted channels of distribution, or geographic constraints. Both of these situations protect an innovation from competition and allows the innovator to achieve an adequate return on his investment.

An environment that offers a business the opportunity to achieve high volumes or high margins also encourages new
product development. If innovators can capture high volume or high margin, then they will be able to recover their development costs. The final environment that encourages innovation occurs when the firm has a proven ability to reach a customer segment. The counter to this situation is where a firm is considering a new market, but access to that market is controlled by existing suppliers. This increases the risk of innovation as discussed previously.

The characteristics of services can be related to these environments. Customer involvement in the service clearly impacts the new product environment. If there is heavy customer involvement in the service, there will be natural limits to the economies of scale that can be achieved. Customer involvement impacts economies of scale in two ways. First, usually customer involvement means that the business will have to accommodate the customer for a period of time (for example, restaurants, game parks, and hospitals). That implies significant facility investment and limits the customer set to those that are willing to travel to the service. Second, heavy customer involvement usually limits the mix of customer segments that can be serviced. It is difficult to design a service facility that can simultaneously service affluent customers and needy customers, particularly if they will spend a significant period of time in the facility.
Intangibility creates an additional set of constraints. First, intangibility means that legal protection of innovation in the form of patents or copyrights will be impossible. Therefore, the successful innovation will be copied as rapidly as possible by competitors. Second, intangible products can be difficult to concept test in any limited way since the product cannot be adequately described. This increases the cost and risk of product development. Finally, an intangible product will be difficult to design in any specific manner. This is particularly true since there will probably be people involved in the delivery of the service product and specifying their interaction with the customer is a significant challenge.

The last two characteristics produce constraints like the ones identified earlier. Simultaneous production and delivery limits the ability to test market since the entire production capability will have to be created to test the product. It also limits economies of scale to the customer set that can reach the service. The variance in product also affects the ability to test market since the product will vary and therefore the test customer reaction will fluctuate.

We can see that the nature of services is likely to create an environment that is not conducive to significant investment in formal new product development. This is particularly true in the later stages since product testing is so difficult.
However, the first phases of identifying the target market and the new service product should be very applicable.

It is also possible to identify the service environments that will support formal product development and those that will not. Figure 3.3 lists the characteristics that make formal product development probable and improbable.

<table>
<thead>
<tr>
<th>PROBABLE</th>
<th>IMPROBABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little customer involvement</td>
<td>Heavy customer involvement</td>
</tr>
<tr>
<td>Economies of scale exist</td>
<td>Small back office operations</td>
</tr>
<tr>
<td>-advertising</td>
<td>and significant front office</td>
</tr>
<tr>
<td>-delivery system investment</td>
<td></td>
</tr>
<tr>
<td>Barriers to entry</td>
<td>Easy to imitate</td>
</tr>
<tr>
<td>-investment</td>
<td>People a heavy part of the</td>
</tr>
<tr>
<td>-restricted markets</td>
<td>service product</td>
</tr>
<tr>
<td>Predictable/tangible product</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.3: Service Environments for Formal New Product Development
A final comment regarding the service environment is appropriate. While certain service characteristics inhibit a formal process of new product development, innovation still is very important to service industries. The question is what skills need to be further developed in order to enhance a service organization's ability to innovate.
Footnotes


5. Ibid., p. 33.


Chapter Four: Field Interviews

Chapter one discussed the key differences between services and traditional products. Chapters two and three illustrated a service product model and described the traditional product development process. The next two chapters explain the field work completed for this thesis. The field work consisted of interviews with seven executives who have responsibility for new product development in service organizations. This chapter describes the interview objectives and questions, the organizations and executives interviewed, and the findings of the interviews. The next chapter goes in depth into the key results and the implications of those results.

Interview objectives

A literature search revealed very little written about product development in service industries. Furthermore, what was written varied widely in its treatment of the subject. Books specifically written about product development tend to treat services identically to other product development. For instance, Urban and Hauser have a short section discussing product development variations in durable, industrial, service and high technological product types. They state: "The basic process of new product development is generic in
that it can be applied to innovations in a wide variety of product types. Only the emphasis shifts." 1 On the other hand, literature on services state that there is a substantial difference in requirements for new development in services. Shostack argues that intangibility completely changes the way services must be viewed. "Intangibility is not a modifier; it is a state... This distinction has profound implications." 2

Since there is so little work on service product development, a series of interviews was conducted to see how executives responsible for new product development in service organizations treated the subject. The focus of the interviews was on the process used by organizations. The interviews had four objectives.

1. Identify process: How did the firms go about identifying new product ideas, evaluating those ideas, and designing and implementing the ideas? Was the process formal or informal?

2. Identify the important and less important stages of that process: In the service environment, what were the critical factors in the development process? Where does the focus and resource commitment occur?

3. Assess organizational implications: Is there a best
place for new product development? Which organization has responsibility for each phase of the development process?

4. Implications for services in general: What does the product process tell us about services in general? By examining this process, can we learn more about what influences successes and failures in services?

Figure 4.1 is a list of the questions used during the interviews. The companies were selected to provide a variety of service organizations. The interviewee was contacted several weeks before the interview and a list of discussion topics sent to him or her. The interviews lasted for approximately one and one half hours.

Obviously, these interviews will not allow any final conclusions to be made. The number of organizations interviewed is too small. The people interviewed represented a variety of responsibilities and degree of involvement in the subject. The variety of services represented was not nearly large enough. Hopefully, the interviews provide direction on where further work can be conducted that will be beneficial to organizations in the service sector, and in revealing how they work.
Interview Questions:

Do you have a defined new product development process?
   - What is it?
   - Who has responsibility for it?
   - Is it documented?---with responsibilities?

How do you define a "new product"?

Do you have a new product strategy? innovator/follower/etc.

Where do ideas for new products come from?

What are the driving forces behind new products? customer
demands/technology/identified opportunity

What criteria do you use in evaluating new products?

What tools do you use during the process?

How do you implement a new product? What are its features
   and how do you control them? Who has responsibility for
   which phases?

Let's review the launch of a recent product?
   - who was involved?
   - how much time did it take?
   - what were the key responsibilities?

How do you protect a new product from imitation?

Name two recent successes and two recent failures? Why did
   they succeed or fail?

What interests you most about this whole area of new product
development? Where do you need more tools or theory?

Figure 4.1: Interview Questions
Company descriptions

The companies interviewed represented only two service areas: financial services and package delivery. However, they each represented a different type of market segment and size of company. Some worked with industrial companies and some with retail customers. Some were regional and some were national in scope. This section gives a brief description of each company and the market served. If a company had multiple divisions serving various market segments, the interviewee usually came from a particular division and the description will be of that division.

Organization 1—Postal Service

The first organization is the U.S. Postal Service. It is the largest service organization in the United States except for the U.S. Government. Revenues in 1986 were $33 billion. The Postal Service was the largest civilian employer in the United States with 780,000 employees.

The interviewee was the Assistant Postmaster General for Marketing. New product development is one of his responsibilities. This position is 3 levels from the Postmaster General.

The Postal Service operates primarily in a regulated mode.
In 1971, the Postal Service became an independent corporation. Since then, it has been trying to change its culture from a government service to a customer oriented business. However, it seems to exist in a middle ground between business and government due to its history and current regulation. This environment clearly affects its entire operation including its product development process.

Organization 2--Retail Bank

This organization is a regional bank. The bank has been very successful particularly in the commercial marketplace. Recently it has been focusing on developing its retail business.

The interviewee was brought to the bank two years ago to develop the retail business. She had extensive product marketing background. The executive had no experience with services or with banking. She reports directly to the president of the largest division of the bank. Product development is one of her major responsibilities.

In attacking the retail marketplace, the bank had to decide who its primary target customer would be. The decision was reached by examining the existing customer base and looking at the opportunity presented by various segments. The bank decided to focus its efforts on the upscale customer--either
attitudinally or financially. These customers not only need and can afford financial services, they also tend to be more flexible and willing to accept innovative services. Identifying this target customer has been a major step in their development of the retail marketplace.

Organization 3—Commercial Insurance

The third organization is a very large commercial insurance operation. Two interviews were conducted in the division responsible for employee benefits insurance. The division has $8 billion in revenue, $40 billion managed in pensions, and some 12,000 employees. The function of the division is to design, sell, and manage group insurance and pension products for businesses. Like other financial services, its business has been changing rapidly in the last few years. Part of the reason is the deregulated financial markets but two other reasons contribute to the changes. First, changing lifestyles are creating new needs such as child care benefits and menu style benefit packages. Second, health care offerings are changing rapidly with the introduction of alternate care capabilities such as HMO's.

The interviews were conducted with two vice-presidents responsible for actuarial policy. Each had product development as part of that function. One had responsibility for pensions and the other had all other products within
employee benefits. Each person was two levels from the president of the division.

Organization 4—Retail Insurance

This organization is also a division of a large insurance company but has responsibility for retail products. It is a mutual insurance company, meaning that it is "owned" by the policy holders who receive a dividend based on the yearly business results. The company basically ran unchanged for 125 years. Insurance companies ran with relatively little competition and innovation. Deregulation in the industry lead to competition from outside the industry. It is now undergoing drastic change, and the lines between it and other financial businesses are blurring.

The interviewee is a vice president of the retail division. The company is organized by customer segment, which is a relatively recent change. This vice president is two levels from the division president. He is responsible for product development in the life insurance area. The retail division also offers services such as mutual funds and annuities. This person is the only interviewee whose sole responsibility is new product development.
Organization 5--Investment Services

This organization is a privately owned financial services company specializing in mutual funds. It has expanded rapidly in the 1980’s, going from $9.7 billion under management in 1981 to $56.4 billion in 1986. The organization is known for its creativity in developing new products in the mutual fund area and currently has 104 mutual funds. In addition, it has been focusing on adding new services that are primarily further extensions into the financial services market. Their view of a new service was one that required new people skills (knowledge of the market), new systems, or new manufacturing capabilities. However, they wanted to keep these new businesses using their existing distribution system if possible.

The interviewee is a senior vice president responsible for new business development. He reports directly to the chairman of the company. He gathers ideas for new services, discusses them with senior members of the firm, evaluates the the proposed new services, and presents their potential to the firm.

Organization 6--Express Mail

This organization is in the express mail business. It has grown from $800 million in revenues in 1982 to $2.6 billion
in 1986. It manages over 100 aircraft, 15,000 vans, and 35,000 employees. It has a high quality image and is well known for its outstanding employee relations and customer service. Over the past decade, express mail has been a growth business with compounded growth of nearly 40%. Recently, the industry has begun to mature with yearly growth of 10 to 20% and fierce competition among firms. Consequently, this organization is focusing on how to develop new applications for their service and how their marketing will have to change in the new environment.

The interviewee is the senior vice-president for customer service and sales. New product development actually reports to the marketing vice-president but this person knew their process well because of his tenure at the firm. He and the marketing vice-president report directly to the chief operating officer.

Organization 7--Institutional Financial Services

The final organization is a commercial financial services company. It is the institutional division of the business. Over the last 5 years it has grow very rapidly in this area and moved from an unknown to a leader in the institutional services area. It offers services like mastertrust, participant record keeping, and pension fund management.
The interviewee is an executive vice president responsible for the institutional services. He runs the business unit and there is no one person responsible for new product development. However, since it is a commercial operation with primarily large customers, it customizes many of its services for the customer's requirements. He reports directly to the chief executive officer of the organization.

Interview Summaries

The results of these interviews are presented in two ways. In this chapter, the responses from all seven interviews are summarized in several major categories. Some conclusions from the interviews are also discussed. In the next chapter, the major results from the field work are discussed in detail.

Figure 4.2 is a summary of the results of each interview by major category. The categories were chosen because they were discussed in nearly every interview. The objective of this summary is to provide a feeling for both the similarity and diversity by subject area. A description of each major category follows.

**Strategy** Urban and Hauser described one of the basic strategic decisions was whether to be reactive or proactive. Each strategy may be appropriate
under different conditions. Each organization interviewed seemed to fall cleanly into one of these strategies.

**Orientation** This category became apparent after several interviews. The organizations seemed to fall into a customer set or internal capability orientation. There are many ramifications of this orientation which will be explored further in the next chapter.

**Product** Each organization looked at the definition of "product" slightly differently. This category describes what a product is to the organization.

**Organization** A great deal of variety existed in each business in both the placement and structure of the product development function. This category describes the organizational placement of the function.

**Process** This heading describes the overall process of product development, particularly its formality and structure.

**Idea generation** Innovation comes from many sources. The prominent sources are identified in this
category.

**Design** The process used to design new products within the organization.

**Testing** The process and tools used to test new product ideas before full scale implementation.

**Successes** Each organization was asked to describe a couple of recent successes and explain why they succeeded. This category summarizes those reasons for that organization.

**Failures** Each organization was also asked about recent failures and the causes. The reasons for failure are summarized here.

Obviously, there was a great deal of detail in these interviews not shown in this type of summary. However, the differences in these categories seemed to reflect the primary distinctions found from the entire interview process. The detail from the interviews is used to support the discussion of the major conclusions.

The most striking finding is that none of the organizations interviewed has anything approaching a formal process for new product development. Organization 5 (investment services)
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Reactive</th>
<th>Proactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>Operational</td>
<td>Customer set</td>
</tr>
<tr>
<td></td>
<td>Service delivery</td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Size/weight/speed matrix</td>
<td>Service to customer set</td>
</tr>
<tr>
<td>Organization</td>
<td>3 levels from Postmaster General</td>
<td>Reports to president</td>
</tr>
<tr>
<td>Process</td>
<td>Not formal</td>
<td>Not formal</td>
</tr>
<tr>
<td></td>
<td>No assignment of responsibilities</td>
<td>Rapidly formalizing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Part of plan process</td>
</tr>
<tr>
<td>Idea generation</td>
<td>Customer demands that fit with organization</td>
<td>Market research driven</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Regulation driven</td>
</tr>
<tr>
<td>Design</td>
<td>Informal</td>
<td>Formal business case</td>
</tr>
<tr>
<td>Testing</td>
<td>Regulation severely limits</td>
<td>Geographic test market</td>
</tr>
<tr>
<td></td>
<td>Generally concept to maturity</td>
<td>Limited by consumer laws</td>
</tr>
<tr>
<td></td>
<td></td>
<td>prohibiting withdrawal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of unsuccessful products</td>
</tr>
<tr>
<td>successes</td>
<td>Operational cost savings</td>
<td>Senior citizen package--unique offering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Car financing w/residual value--unique offering</td>
</tr>
<tr>
<td>Failures</td>
<td>Product required operational investment and marketing</td>
<td>IRA--pricing problem</td>
</tr>
<tr>
<td></td>
<td>Lack of competitive analysis</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.2A: Interview summary
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Reactive</th>
<th>Reactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>Internal</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td>-Customize for large accounts</td>
<td>-Follow market</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Protect distribution system</td>
</tr>
<tr>
<td>Product</td>
<td>Contract, administration, and service</td>
<td>Contract</td>
</tr>
<tr>
<td>Organization</td>
<td>3 levels from president</td>
<td>2 levels from president</td>
</tr>
<tr>
<td>Process</td>
<td>Part of plan process</td>
<td>Not formal</td>
</tr>
<tr>
<td></td>
<td>-Coordinator assigned</td>
<td>Included in plan process</td>
</tr>
<tr>
<td></td>
<td>from any organization</td>
<td>Product managers</td>
</tr>
<tr>
<td>Idea generation</td>
<td>Market demand represented by marketing department</td>
<td>Follow market</td>
</tr>
<tr>
<td></td>
<td>Legislation changes</td>
<td>Buy businesses to expand in financial services</td>
</tr>
<tr>
<td></td>
<td>Financial market changes</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>Coordinator controls</td>
<td>Task force</td>
</tr>
<tr>
<td>Testing</td>
<td>Tests by region successful</td>
<td>Distribution system test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>State regulatory agencies inhibit process</td>
</tr>
<tr>
<td>Successes</td>
<td>Universal life--followed market</td>
<td>Variable life-regulatory changes and high interest rates</td>
</tr>
<tr>
<td></td>
<td>Single premium annuity allowed companies to get money from over-funded pension plans</td>
<td>Universal life-response to competition/copied</td>
</tr>
<tr>
<td>Failures</td>
<td>&quot;Lead customers&quot;</td>
<td>Wrong price</td>
</tr>
<tr>
<td></td>
<td>Designed for sales agents</td>
<td>Lack of sales agent attention</td>
</tr>
</tbody>
</table>

Figure 4.2B: Interview summary
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Proactive</th>
<th>Proactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>Customer set</td>
<td>Technology</td>
</tr>
<tr>
<td></td>
<td>Distribution system</td>
<td>Delivery system</td>
</tr>
<tr>
<td>Product</td>
<td>New service business or Offering within business</td>
<td>Size/weight/speed matrix Delivery system</td>
</tr>
<tr>
<td>Organization</td>
<td>Reports to CEO</td>
<td>Reports to COO</td>
</tr>
<tr>
<td>Process</td>
<td>Not formal</td>
<td>Not formal—only 4 new products in history of organization</td>
</tr>
<tr>
<td></td>
<td>Entrepreneurial process followed In plan process</td>
<td>In plan process</td>
</tr>
<tr>
<td>Idea generation</td>
<td>From Chairman Customer knowledge Market research</td>
<td>Executives Regulation change</td>
</tr>
<tr>
<td>Design</td>
<td>Formal through creation of business unit Search for unique value added</td>
<td>Formal business case Focus groups Market research</td>
</tr>
<tr>
<td>Testing</td>
<td>Distribution system test Limitations signal competition low costs no meaningful feedback</td>
<td>Regional tests Controlled environment tests</td>
</tr>
<tr>
<td>Successes</td>
<td>Credit cards—added value to their customer set</td>
<td>Extensions of current business</td>
</tr>
<tr>
<td>Failures</td>
<td>Mutual fund—joint venture problem Regulation changes</td>
<td>New customer behavior needed Technical issues</td>
</tr>
</tbody>
</table>

Figure 4.2C: Interview summary
7 Institutional Financial Services

Strategy
Proactive

Orientation
Customer set

Product
Services to customer

Organization
Reports to chairman

Process
Not formal
Customer driven
Part of business plan

Idea generation
Customer requirements
Market research

Design
Business case

Testing
Limited

Successes
Response to customer
Execution of service key

Failures
Outside firm’s expertise
Pursuing new ideas without customer demand

Figure 4.2D: Interview summary
came the closest to following a procedure in how it investigated new business opportunities. However, that process was entrepreneurial and was oriented to producing a business plan for the new business. The most structure found in the other interviews was that new products become part of the plan process in five of the organizations. In these cases, a business case was put together identifying resources required, completion dates for major tasks, and forecasted results. However, within those organizations, there was no consistency on how the business case was developed. Many times the people responsible for the business case came from differing parts of the organization depending on the source of the product idea and the perceived objective.

The reason most often given for this lack of structure was the low cost of new products. The commercial insurance company representative stated that he could not remember a product that required outlays exceeding $5 million while investment services said new products could be introduced for less than $250,000. They were unanimous that these costs were rising driven primarily by information system requirements. The second reason given for the lack of structure was that it was easy to withdraw from a market. If a product did not work they simply quit offering it. This reduced their need for market tests. Regulatory issues provided some limits to their ability to withdraw from markets. The Postal Service found it difficult to withdraw
or modify an offering because of its regulatory commission. The retail bank also stated that consumer laws limited its ability to make an offering and withdraw later if it proved unsuccessful.

While no organization had a formal process in place, the combination of all of the interviews does allow some tentative propositions to be made about the product development process in the service industry. First, there was general support for the concepts behind the opportunity identification and design phases. In fact, two executives stated that new product ideas were always available and their challenge was to get the organization to focus on the definition of the market and their organizational fit within that market. The executive from the commercial financial services firm identified that as THE reason for their phenomenal success over the last five years. They had quit focusing on creating new products ideas and refocused on carefully defining the market for new products and the implementation of those products. Opportunity identification and design are meant to focus the firm on those issues.

The testing phase did appear to have some major differences unique to the service sector. Regulations limit some firms ability to test services. The nature of the service may preclude successful tests. However, some firms are successfully testing their distribution systems before
product introduction. For instance, the investment services firm tested their ability to enter the insurance field by selling another firm’s insurance. The test showed that their customers valued insurance as a product offering and so they entered the insurance business. Other firms found that they could make regional tests and find important changes to make before going national. This subject will be discussed in detail in the next chapter under the topic of market research.

In summary, none of the firms interviewed had a consistent structure for new product development. The principal reason for this was the relatively low cost of development and the ability to withdraw products from the market easily. However, this position ignores some key benefits of a process for new products. In particular, more attention needs to be put on the fit of the product to the market and the market need. These benefits were acknowledged within several interviews and there were no reasons identified to prevent additional attention to these issues. In fact, the trend identified from the interviews indicated a movement towards more formal processes. Four of the organizations had made changes within the last four years to add emphasis to the area of new product development.

The second major observation from the interviews was that the strategy and orientation for new product development had a
dramatic effect on where new product development took place in the organization and even how a product was defined. For instance, the level of the person responsible for product development varied widely. Four organizations made product development a major responsibility of people reporting directly to the president or chairman. In the other three organizations, that responsibility resided two to three levels from the president and in two of those organizations product development was one of many responsibilities that person owned. In fact, in the commercial insurance unit, the responsibility for a product might be assigned anywhere in the organization. In each case, the overall strategy explained the placement of the function within the organization. Proactive firms all had the function close to the top of the business. Reactive firms has the function report far lower in the organization.

The orientation (customer set versus internal process) of the firm also affected the way products were viewed. The way a firm defined a "product" gave a very clear indication of their orientation. All the customer set firms defined a product in terms of services and a customer set. For instance, the retail bank defined a product as "financial services to the upscale (attitudinally or financially) customer". In contrast, internal process firms defined products in contractual terms. For instance, the retail insurance firm defined a product as a "contract", and the
package delivery firms defined products in terms of "size, weight, and speed of delivery".

The orientation of the firm also affected how product ideas were handled. Customer set firms tried to understand their customer through market research and interaction. Then, they would identify additional needs and opportunities. Internal process firms would listen to their customers, but their ability to implement products was limited by their structure. The effects of strategy and orientation seemed very powerful and will be discussed in detail in the next chapter.

The final major observation from the interviews was the major impact regulatory change was having on all the firms. This clearly makes sense in the case of financial services but it was also true for the package delivery organizations. Regulatory changes presented both opportunities and exposures. All the financial services firms were trying to change rapidly to adjust to their new environments, and each saw opportunity in the change. However, it also presented problems in forecasting the environment in the future. Based on this small set of interviews, the service sector may be impacted to a greater extent by regulations than other business areas and that clearly affects the product opportunities and life cycles.

In summary, these firms had no formal processes for new
product development. However, there was no reason that the current techniques and processes for opportunity identification and design could not work for services. In fact, there seemed to be evidence that additional structure and attention to these areas would pay off. The market test phase is affected by unique aspects of services such as intangibility. Regulation also has a dramatic effect on service firms and scanning of the regulatory environment must be a key part of a service organizations planning and change process. Finally, the strategy and orientation of a firm's product development process promises to tell a great deal about a service organization.
Footnotes


Chapter Five: Interview Results

The purpose of this chapter is to discuss three conclusions from the interviews. The first two conclusions involve classification matrices for services. The final area will be a discussion of market research in services.

Strategy and Orientation

The last chapter discussed the powerful distinction that the firms interviewed showed between a customer set orientation and an internal system orientation. Depending on their orientation, the manner in which firms defined their products, looked for new ideas, and viewed their customers was handled differently. Most importantly, there were substantial differences in their ability to implement new products.

This distinction between orientations is supported by Jim Heskett's book Managing in the Service Economy. He states:

"An examination of the business definitions and product portfolios of a number of the most successful service firms suggests that they seek to focus their efforts on customer segments, internal capability, geographic
dominance, or some combination of these. While focus is not always reflected in their respective business definitions, it is implicit in what they do, the products they develop, and the businesses they acquire."

While some of the firms interviewed serviced a limited geography, that did not seem to affect their decision making to the extent that customer segment and internal capabilities did.

An internal orientation is most likely to occur in a very stable industry and one with low customer involvement in the delivery process. Regulation seemed to be the primary cause of stability in the firms interviewed. In this environment, the critical success factors for the firm became items like cost control and high quality service delivery. The firm will spend its resources putting in place and refining procedures that reduce cost and ensure consistent and high quality service. The phone company is a good example. Under a regulated environment, its "culture" was to develop a very high quality network with the most reliable and effective delivery of service in the world. That "culture" does not serve the organization well in its new deregulated environment. Regulation insulates a firm from the need and the ability to differentiate customers. For example, the regulatory commissions would not allow the phone company to differentiate between its high volume business customers and
low volume residential customers. The critical success factors become operational in this stable environment. The interviews provided some excellent examples of the impact orientation has on new product development and implementation. For instance, the Postal Service described how difficult it is to implement a new service that goes against the cost control orientation of operations. Long before Federal Express entered the market, the Postal Service had identified the need for express mail. However, developing the market required three changes that proved too difficult to implement. Early losses would have to be incurred to develop the business, investments and procedural changes would have to be made in operations to support the new service, and customers would have to be treated differently to support the higher price for express mail. The operations of the Postal Service resisted all of these changes because they were measured on cost control and efficiency.

Similarly, both insurance companies described how they had become so internally oriented in the past that a key product development requirement had been to ensure that the sales force increased their earnings with any major product change. The pension products executive described how this focus on the sales force had lead them to develop a simplified product for salesmen who could not understand the existing product. It failed in the market because there was no customer need.
Product successes in firms with an internal orientation are ones that satisfy both a customer need and fit the operational measurements of the organization. Very large customers of the Postal Service were looking for ways to get rate stability in the late seventies (when rates were rising rapidly). A product called pre-sort was developed that gave a price break to customers that added a 2 digit sorting code to the zip code. The product became very successful because it not only filled a customer need, it also helped improve the operational measurements of the Postal Service.

A more dynamic environment requires a customer set orientation. The strengths of internal orientation become weaknesses in a dynamic marketplace. The procedures and tight structure that produce consistent service and low cost also reduce flexibility and willingness to adapt to changing customer requirements. A clear definition of the specific market segment being served is required in this environment. The executives interviewed from these firms had a clear understanding of the characteristics of their customer. They gained this from daily interaction and they were very willing to use market research. Because they had chosen a particular market segment, market research told them about their customers current use of services, their lifestyle, and new service requirements. These firms defined products in terms of complete service offerings and were much more willing to
change and adapt if their customer wanted it.

There were some excellent examples of how this process affected new product development. The investment services company focuses on how it can add value to a new service for its customers. Since its customers are financially upscale, it found some value it could offer them in credit cards. Because most credit cards are for the mass market, they tend to have low credit limits and high interest rates. Neither of those features are required for the upscale customer. The firm decided to enter the credit card business and offer almost unlimited credit and substantially lower interest charges. The new service has been very successful.

The retail bank also developed new services by understanding its upscale customers. It combined two apparently unrelated facts about senior citizens into a successful product. It found that for every dollar they held for a senior citizen, that customer had two dollars invested in other financial institutions. At the same time, they found this group had a real desire for additional social interaction with their peers. They designed a new "membership" for senior citizens. The membership provided the opportunity to buy merchandise for discounts, provided monthly newsletters, and sponsored outings to local cultural events. The membership also provided a "bundle" of financial services such as checking, regular savings, CD’s, and mutual funds. The membership was
very successful in bringing additional deposits from that customer segment. They also found that they were not able to attract many new senior customers because that customer set had a high resistance to change. They are now working on an offering to attract those customers.

The bank found a similar offering for young customers in car financing. These customers paid a substantial part of their income to car payments. They also tend to change cars on a regular basis. The bank came out with a car financing plan that offered lower monthly payments. It accomplished this by assuming positive residual values on the cars and factoring that value out of the payment stream. However, the bank retained the residual value. The acceptance was initially slow because the bank found they had very few branches near the residences of these young customers. They fixed that problem by offering loans by phone. The product became very successful and the bank is now addressing the need to improve their accessibility to young customers.

In each of these cases, the firm was able to learn a great deal about the habits of its customers because it chose a particular segment to focus on. New product opportunities became obvious as they combined this customer knowledge with the firm's capabilities.

It is useful to combine the proactive/reactive strategy with
the orientation of firms. Proactive/reactive and customer set/internal capabilities are all legitimate for specific firms. As shown in figure 5.1, the interviews represented companies in three of the four possible quadrants. Proactive firms will be innovative and want to be at the front of new service offerings for their customers. They will be willing to take risks and enter early in order to attain early market leadership. Reactive firms may feel that the costs and risks of innovation will not pay off in the market and want to follow a "second but better" strategy. Either of these strategies can be used with either orientation. Customer set firms will be in markets where they feel change is ongoing and staying close to the customer is the only way to maintain their position. Internal capability firms may be in stable industries or they feel that the cost savings, consistency, or quality they can achieve through strong internal procedures offer a strong competitive advantage. Furthermore, it is possible for two firms to be successful in a single industry following different strategies or orientations.

Figure 5.2 shows where new ideas will come from and what type of new products might be successful in firms falling into each of the quadrants. Once again, any of these quadrants can be successful. However, a firm needs to be careful that external changes do not obsolete its current position. The interviews with financial service companies indicated the
Customer Set

Internal Capability

Figure 5.1: Interview firms
Market Research : Systems Advantage

Proactive : New Services : Technology

Integrative : Quality

Follow Leader : Cost Control

Reactive : Competitive Analysis : Operational

"Second but Best" : Conservative

|--|---------|

Customer Set Internal Capability

Figure 5.2: Firm Characteristics
impacts external changes can have. For years, regulation provided stable customer relations and boundaries against competition. Internal capability orientations may have been very appropriate in that environment. Deregulation is changing those factors now and firms will have to adjust accordingly. The retail bank is a good example of the impact such an adjustment can have on a firm. Their first step was agreeing on their targeted customer set. Once they did that, they were able to examine their internal records to determine their customer demographics and look to outside market research to indicate new product opportunities. One of the things they found was that their branch bank locations did not fit their targeted customer set. Some communities had too many branches since few of their customers were there. Other locations had no branches and yet many of the targeted customer segment lived there. Understanding their customer also let them examine strategies such as automation. Since their targeted customer base was upscale and flexible, the bank decided that they could offer new capabilities that might not be accepted by a less flexible customer set.

Financial services will offer competitive advantages to firms following different orientations. National and international networks and distribution capabilities will require very precise internal procedures and capabilities. However, the rapidly changing environment created by deregulation will also demand a strong orientation to targeted customers.
In conclusion, these interviews indicated that it is possible to identify a product strategy and orientation for a firm. While the firm may not recognize where it fits, its implicit strategy and orientation will affect how it finds new products, which ones it will accept, and the potential of success for the new products.

Customer Involvement and Economies of Scale

Customer involvement in a service was discussed in the previous section as one of the indicators of whether a service firm would have a customer set orientation or an internal capacity orientation. High customer involvement forces a firm to be more aware of its customers and restricts the ability of a firm to serve various customer segments. Various types of customers will often resist participating in the same service at the same time.

On the other hand, economies of scale tend to lead to an internal orientation. Strong economies of scale allow firms to reduce cost with added volume. When firms pass on these cost savings in the form of lower prices, an incentive exists for different customer types to mix. When high customer involvement in the service is involved, the principle economies of scale may be advertising, "image", or backroom operations such as reservation systems or service procedures.
Chris Lovelock comes very close to this same classification when he separates services by their people content and their equipment content. 2

Figure 5.3 shows the customer involvement by economies of scale matrix and the type of firms in each quadrant. Figure 5.4 shows the characteristics of firms in each quadrant. Firms look at products and marketing quite differently depending on which quadrant they are located in.

Service organizations with high economies of scale but low customer involvement are labeled as "System" companies. The critical success factor for these firms will be the efficiency and effectiveness with which they run their internal systems. These systems will be equipment intensive. The products of these firms will be contracts specifying the performance of their system for the customer. For example, a 22 cent stamp entitles the customer to the delivery of an envelope anywhere in the U. S. within a reasonable time period. A "system" organization is likely to have a substantial sales staff to sell their systems and educate the customer on how to most effectively interface with the systems. A specific function will be in place in charge of product management and new products will tend to be additional terms and conditions built around the existing system. Finally, the selling emphasis will be on the features and function of the product.
Figure 5.3: Customer Involvement by Economies of Scale Matrix
<table>
<thead>
<tr>
<th>Critical Success Factor</th>
<th>Systems</th>
<th>Image</th>
<th>Professional</th>
<th>Mom &amp; Pop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Systems or operational</td>
<td>Customer relations</td>
<td>Knowledge</td>
<td>Geographic</td>
</tr>
<tr>
<td>Products</td>
<td>&quot;Contracts&quot;</td>
<td>Services plus environment</td>
<td>Services</td>
<td>Commodity service</td>
</tr>
<tr>
<td>Marketing</td>
<td>Large sales and marketing</td>
<td>Small sales and marketing</td>
<td>Some marketing</td>
<td>None</td>
</tr>
<tr>
<td>New Product Vice-President</td>
<td>Top management</td>
<td>Everyone</td>
<td>No one</td>
<td></td>
</tr>
<tr>
<td>New Product Ideas</td>
<td>T's &amp; C's</td>
<td>New business to new customer segments or More services to existing customers</td>
<td>More services</td>
<td>Add-ons</td>
</tr>
<tr>
<td>Selling</td>
<td>Product</td>
<td>Image</td>
<td>Reputation</td>
<td>Price and location</td>
</tr>
</tbody>
</table>

Figure 5.4: Customer Involvement by Economies of Scale Characteristics
An "image" company has high customer involvement. Economies of scale come primarily from the goodwill and image created by consistent service and any economies generated from backroom operations. Their products consist of the environment they create and the attendant services they offer the customer. Creating and maintaining an image will be the primary objective of their marketing work. New products will be the responsibility of top management because really new innovations will require the creation of entirely new business lines. This is driven by the high customer involvement and the inability to mix customers. For example, a retailer like Wal-Mart opened an entirely new line of stores called Sam's to get at a new customer segment. Finally, image is the critical item being sold by the firm.

"Professional" organizations have low economies of scale but high customer involvement. Their critical success factor is the knowledge or expertise they bring to the customer. Their product is the service they offer. Marketing has been limited because it can occur directly through the relationship with the customer which is why everyone tends to have responsibility for marketing. New products are additional services to the same customers and their reputation is key.

Finally, "Mom and Pop" organizations have low customer involvement and low economies of scale. They offer a
commodity type service where convenience and access are often the key factors. Price and location become the primary selling points.

This matrix seemed to begin to develop from the interviews. However, it clearly needs additional work. The definitions of economies of scale and customer involvement are imprecise. In addition, firms from the lower quadrants would have to be interviewed to see if the descriptions fit.

Market Research and Test Marketing

A few comments are appropriate regarding two subjects that came up quite often in the field interviews. The first is market research. The current literature on the service sector is divided on the usefulness of market research for service firms. For instance, a panel discussion sponsored by the American Marketing Association stated

"Innovation of services based on consumer needs via marketing research has not yet been widely utilized by service firms to-date. This may be due to the inherent complexity and the difficulty for consumers to conceptualize such innovations." 3

Other literature suggests that the intangible nature of services makes market research useless.
The interviews indicated that market research played a significant role for some firms. Specifically, firms that had identified a target customer set were able to gather very meaningful information about that customer's lifestyle and current service uses. Those firms used that information to design additional service products. However, service firms that did not have a target customer set complained that market research was not of much value to them. The interview results suggested that the deciding factor on the effectiveness of market research was the orientation of the service organization.

Test marketing was another subject frequently discussed by the service executives. The tools of other phases of the new product development process seemed to readily apply to these firms. However, there were severe limitations to the effectiveness of test marketing. First, because there are few barriers to copying among services, several organizations said that the dangers of signaling competition outweighed the benefits of market test. Second, the costs of new products often were heavily information system oriented. In order to make any test, the majority of the product costs had to be incurred. Finally, the involvement of the customer in the product affected market tests in several ways. This point is best explained by the example of given by the express mail company of the problems encountered when developing a new
electronic mail product.

The development cost of this product were huge. Consequently, the company did extensive test marketing before launching the product. One of the tests was to put customers in a lab environment and expose the customer to the product. However, the laboratory test may have created a "new" customer. It was impossible to tell whether the test customers were better educated because their involvement in the test or whether their actions in the lab would really reflect their actions in the real world. For instance, even if they liked the new product, would they change from old office procedures in order to use it. This firm also had a very difficult time forecasting market acceptance. The service offering was different and required change in the behavior of customers. They were consistently too optimistic in their forecast of customer willingness to change. In retrospect, they found that the work on early adopters and absorption rates would have provided a very good forecast of the speed with which customers were willing to change.

Several interviews indicated that they have been able to use some regional tests effectively. A second interesting test was the recent use of distribution system tests. Three firms said that they had tested their ability to sell a product by temporarily buying another company's product and offering it to their customers. When it sold well, they decided to
produce the product internally.

The need for improved test market capability is growing for service firms. Costs of new products are increasing as service organizations use more complex systems. Additional work in this area could provide rich returns. Laboratory market tests offer one field of research. Forecasting through new adopter research in another area. Many new services require customer change: ATM’s, home banking, and home shopping are some examples.
Footnotes


Conclusion

The field interviews for this thesis found no service organizations with a formal process for new product development. However, the interviews did show that implicitly or explicitly, each organization showed an orientation and strategy for the way it addressed new product development. That orientation and strategy had implications for the way products were defined, the sources of new product ideas, and the placement of the new product development function within the organization.

It was also shown that it is important for a service organization to understand its orientation and strategy and be sure it fits the external environment and the firm’s objectives. External changes, particularly regulatory changes, can make a previously successful orientation inappropriate for the new environment.

While no formal processes were found, no reasons were identified that made the classic new product development steps invalid for service organizations. The lower costs of product development and the ease of product withdrawal may reduce the requirement for a formal process. However, significant benefits remain such as the improved market
targeting and improved product features.

In executing the steps of product development, the biggest problem identified was the test market phase. The intangible nature of services makes customer response hard to measure. The simultaneous production and delivery feature of services make it hard to limit test markets. Addition work developing test market capabilities would be of significant benefit to service organizations. Specifically, work on laboratory tests with simulated products and work on applying early adopter forecasting methods to major new services promised to be beneficial to service organizations.

As services continue to increase in the economy and as those services become more targeted to specific customers, the trend will be toward increased attention to the new product development process. Many of the existing tools and processes can be profitably applied within the service industry. Additional tools specific to the service sector need to be developed particularly in the area of test markets.
BIBLIOGRAPHY


