

Designing and Implementing New Services: The Challenges of Integrating Service Systems

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The design and implementation of new services is a poorly understood process. The limited prior research has been characterized by the adoption of models that fail to consider important aspects of service planning, notably the impact that a new service may have on the existing service system. This article addresses many of these deficiencies by: (a) providing an alternate conceptualization of what constitutes a new service, (b) analyzing three case studies to gain additional insights into design challenges, (c) developing frameworks for assessing service design, and (d) presenting and discussing a planning cycle for the integration of new services into an operating service system. Limitations of the study and suggested avenues for research are presented.

INTRODUCTION

Service design is among the least studied and understood topics in services marketing (Edvardsson, Haglund, and Mattsson, 1995; Gronroos, 1990; Martin and Horne, 1993). With the exception of blueprinting and mapping, the engineering, design and execution activities for new services have been called “meagre” (Brown, Fisk, and Bitner, 1994). This lack of attention is both surprising and of great concern, since service design has been identified as “perhaps the most crucial factor for quality” (Gummesson, 1993, p. 146).

Typical service firms incur a 25-35% penalty cost as a result of poor quality (e.g., Juran, 1992; Crosby, 1989). One important lesson learned from the quality movement is that the prevention of service failure, resulting in large part from design excellence, is the most effective and efficient route to achieving higher levels of quality and customer satisfaction (Bank, 1992; Edvardsson, 1993). Poor planning not only impacts initial service quality but also contributes to what Schlesinger and Heskett (1991) refer to as the “cycle of service failure.”

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Our objective is to address many of the critical gaps in the service design literature. We focus our efforts on perhaps the most challenging situation: introducing a new service into an existing operation. This article has four central purposes. First, we clarify what constitutes a new service in the context of an existing service system. Second, we identify and analyze the nature and causes of the challenges associated with integrating new services into an existing service operation. Third, we develop frameworks for identifying, assessing and managing the factors associated with service design and introduction. Finally, we present a process model of service system integration, including a discussion of relevant planning techniques.

To address the stated objectives, we conducted three detailed case studies of recent service introductions in the Canadian market. This approach follows Gummesson's (1993) advice that case studies of new service designs, including the problems experienced and the corrective actions attempted, are a particularly appropriate methodology to gain the rich insights necessary for theory development. The extant literature and case studies are then used to provide frameworks for assessing and managing the integration of new service systems. From this discussion, a planning process model for new service integration is developed. Finally, we identify limitations of the research and offer several suggestions for further investigation.

THE SERVICE DESIGN PROCESS

Service design has received only scant attention in the services literature, causing a number of scholars to voice concern about our inadequate understanding of this critical process (e.g., Brown, Fisk, and Bitner, 1994; Gummesson, 1993; Martin and Horne, 1993). Extant research reflects two core themes. One is the development of "linear" planning frameworks adapted from the Booz-Allen & Hamilton (1982) product development model (Bowers, 1987; Donnelly, Berry, and Thompson, 1985; Johnson, Scheuing, and Gaida, 1986; Scheuing and Johnson, 1989). Some of these planning models incorporate a more extensive and iterative approach to service process design and marketing program testing based on the assumption that developing new services is very risky and failure can best be avoided through controlled experiments and limited field pilot trials (e.g., Scheuing and Johnson, 1989). Other frameworks have better captured the complexity of design in terms of the requisite data collection needs, specification of who should be involved in decision making, service definition issues and implementation challenges (Shostack, 1984).

The second theme focuses on trying to derive important planning and design factors by comparing new service successes with failures (de Brentani, 1989, 1993, 1995; Cooper and de Brentani, 1991; de Brentani and Cooper, 1992; Cooper et al., 1994; Edgett, 1994). These studies provide insights into the requirements for new service success, however, the broad nature of the questions (e.g., "the development of the new service was well planned and well executed", Cooper et al., 1994) fails to capture specific planning and design challenges.

More specific design issues were addressed in a special conference on developing new services (George and Marshall, 1984). Important topics related to the use of service blue-printing and the impact of design and implementation decisions on front-line employees.

Other research has considered factors that influence the efficiency and effectiveness of the design process and the relationship between service development processes and service quality (Edvardsson, 1993; Edvardsson, Haglund, and Mattsson, 1995; Juran, 1992). While the extant research contributes to our understanding of the process for developing services, the approaches are limited in providing direction for the challenge of adding core services to an existing operation. The limitations result primarily because these approaches focus on the new service and overlook the *impact that the new service has on the existing service system* (and vice versa) and the consequences for overall firm success. This concern is summed up by Gummesson (1993, p. 147) who observes that prior service design studies have ignored the “messiness of the process, the planning difficulties, (the) problems in interfunctional cooperation and, in general, the entire interactive process.” To overcome the conceptual impediments, we argue that service growth strategies and design processes need to focus more sharply on the service system.

CONCEPTUALIZING DESIGN FROM A SERVICE SYSTEM PERSPECTIVE

Several classifications of services, including new services, have been proposed (e.g., Carman and Langeard, 1980; Donnelly, Berry, and Thompson, 1985; Lovelock, 1983; Scheuing, 1989). For example, Carman and Langeard (1980) identify new services as either core (directly provide customer benefits) or peripheral (support or improve a core service). Further, from a strategic perspective, they argue that new services can be described as multisite (new sites providing the same service to the same customer segment), multisegment (using the same site and service but attracting new customer segments) or multiservice (adding new services to the same site for the existing customer base) depending on the focus of the growth strategy. Scheuing's (1989) classification scheme identifies new services as representing either a “modification,” “differentiation,” “market creation,” “market expansion,” “market extension” or “diversification” based on a new customer/new service categorization.

We contend that focusing on the *new* service, the *new* site or the *new* customer in isolation, rather than on the service system, is a limitation of such classifications. Defining new services in terms of *the extent of change to the existing service system* is consistent with the view that services are essentially a series of interactions between participants, processes and physical elements (Booms and Bitner, 1981; Langeard et al., 1981; Johnston, 1994; Shostack, 1987). This definition is compatible with Shostack's (1987) description of the strategic implications arising from structural changes to a service system. Taken from an organizational perspective, any change to the service system that requires different competencies from the existing operation can be considered a new service. In comparing service systems, competencies can be analyzed along three separate dimensions (Quinn, 1992; Prahalad and Hamel, 1990):

1. The degree to which the new *PROCESS* is fundamentally different from the existing process. A primary, but not exclusive, consideration in process “newness” is the extent of change in customization and technology required (Hayes and Wheelwright, 1984; Skinner, 1985).

2. The degree to which the *SKILLS* and *KNOWLEDGE* of new service participants are different from the existing service. Based on this skill set change, there are implications for selection, training and reward structure (Shostack, 1987). Changes in customer characteristics (e.g., psychographics, benefits sought, role in service production) also need to be considered (Bowen, 1986).
3. The degree to which the *PHYSICAL FACILITIES* (layout, flow of people, physical surroundings, required space and ambience) of the new service are fundamentally different than those required for the existing service (Bitner, 1992).

To further explore the challenges and implications of integrating service systems, case studies of recent service introductions were conducted. Case study research has been described as an effective methodology to gain understanding of service design and to achieve the rich insights necessary for theory development (Edvardsson, Haglund, and Mattsson, 1995; Gummesson, 1993).

CASE STUDY RESEARCH DESIGN

Three case studies of new service introductions to existing service systems were conducted. The cases were selected based on several criteria. The service addition had to have been a core service introduced to an existing site. It had to be recent, but with enough time elapsed to incur any necessary modifications. Finally, firms needed to be of substantial size in terms of sales dollars and employees.

Information was gathered using a set interview protocol, with minor modifications based on differences in the service contexts. The interview protocol for Case A is presented in the Appendix. The general nature of a number of the questions allowed for respondents to describe, in their own terms, the process and challenge of new service design.

Personal interviews were conducted with senior managers who were most closely associated with the new service design and introduction. In one case, the three central figures were interviewed, while in the other cases two key players provided the information. This research design is consistent with the case study process described by Yin (1984). Given the confidentiality in which the case participants offered their information, the specific organization names have been omitted.

CASE A

Background

Case A is a nationally franchised operator of coffee and donut retail outlets. The company manages over 1,100 stores with expansion plans of 20 percent during the next year. Customers typically purchase a coffee and donut and consume the goods in the store (40

percent) or as a take out good. The company defines their coffee and donut offering in terms of three customer benefits: freshness, taste and speed. Because the process time for making a donut exceeds the time a customer would be willing to wait, achieving speed involves stocking a variety of pre-made donuts in inventory. The donuts are prominently displayed for customer selection.

The process for customers involves joining a line and placing the order with the cashier, who also fills the order and takes payment. The entire order and serving process takes less than one minute. If the customer remains on the premises, food and beverage consumption takes approximately ten minutes. The demographics of this market are predominantly blue collar (70 percent) and male (75 percent). Approximately 70 percent of sales occur between 6:00 A.M. and 10:00 A.M., leaving considerable unfilled capacity. Market research identified soup and sandwiches for the lunch market as a viable opportunity to take advantage of the available capacity.

Introducing a New Core Product

The company's new sandwich products were pre-assembled about two hours prior to the anticipated noon rush. The soup was made using existing kitchen facilities. From an operations perspective, the concept was extremely similar to the existing service and represented minimal challenges. The most significant adjustment was with the physical facilities (e.g., menu items needed to be displayed and equipment requirements changed). The sandwich preparation process was consistent with the donut offering as both were made to stock.

Customer reaction to the service was disappointing. Lunch customers were predominantly office and clerical workers, middle class and female. These customers were attracted by elements of the concept, such as the nutritional value, but complained about the pre-assembled sandwiches. Freshness to the new customers meant "made to order" and "customized to my liking." The company decided to modify the service by making the sandwiches fresh and to customer specifications. Testing these changes was aided by a company-owned prototype facility in which a store's mock layout provided service designers with the capability to simulate the production process. This allowed the designers to test key service concepts including performing time trials and detailed capacity and flow analyses. In addition, several franchisees offered their outlets as test sites allowing for a simulation of the entire system experience during the noon rush.

While the modifications satisfied most new customers' expectations, they created other challenges. Because the task time, including such factors as sandwich preparation and the need to frequently wash hands, was longer than the "grab and go" donut and coffee service, lineups developed at the order taking area. Coffee and donut customers complained of having to wait up to six minutes to get served, when it had taken less than one minute previously. Customers began to balk (i.e., not join the lineup) and renege (i.e., leave the line out of frustration). Attempts to attract additional customers with a new service had led to core customers defecting.

Service Redesign—Overcoming Initial Design Problems

To correct the situation, the firm made a series of service design changes. The first set dealt primarily with the service participants. The role of the order taker was restricted to being a cashier. Similar task specialization occurred for donut and coffee order filling and sandwich preparation. An electronic cash register was installed to convey the necessary order information to the sandwich maker in a timely manner. Tray rails were installed and customers were required to move between work stations, when previously the service personnel did all the movement. The second design element change centered on processes. The stores evolved to a “focused factory” concept with the use of two parallel, distinct processes. The tasks and responsibilities of the service employees were modified, with minimal interchange.

Finally, the surrounding physical facilities required modification. Additional food preparation and eat-in space was needed to handle the lunch crowd. For some stores, the requirements were mostly satisfied with revised seating and table arrangements. In other cases, franchisees had to make do with overcrowded conditions and offer a more limited line of sandwich items to minimize food preparation area requirements. Additional parking space was also required, because the duration of a customer’s stay for lunch (30 minutes) was considerably longer than for coffee and donuts (ten minutes).

The company continues to make refinements to their service system. In particular, the standardized layout of all company stores is under review because it is not conducive to a new strategic endeavor, drive thru sales. For safety reasons, the customer entrance is normally located at the furthest point from the drive thru window. However, this location interferes with the exit of customers from the sandwich line. In order to accommodate both the sandwich and drive thru operations, major investments in store layout redesign (i.e., changes to the physical facilities) are being undertaken. In addition, the food preparation space requirements for new stores have increased by 100 percent to 3,000 square feet, and larger site lot sizes are now mandatory to handle parking needs.

CASE B

Background

This national chain operates in the “simple financial transactions” segment of the financial services industry. The company has 138 outlets with plans to grow to 148 stores over the next year. The core service was established to provide fast, convenient, no hassle check cashing. Although somewhat less competitive than the counterpart U.S. industry, the core service attracts a similar market and functions in much the same manner as the larger scale American operations. The firm describes its key customer benefits as:

1. Say Yes (gather information, assess and respond favorably)
2. Do it Fast (two minute turnaround on check cashing)

3. Respect in a friendly environment (treat customers on an equal level to remove the banker “fear” factor)
4. Convenience (24 hours per day, seven days per week).

The service process involves joining a line and presenting a check and two pieces of identification to the cashier. The cashier then seeks approval using the authorization process located in the back-room. This takes approximately two minutes, less for regular customers, and is considered proprietary. The customer then receives his/her money and departs. In return for “instant” cash, the firm receives a percentage of the check amount. The firm has over 70 percent of the check discounting business in the geographic market in which it competes.

The original plan of growth through geographic expansion is now giving way to a multiservice strategy with the addition of new products (e.g., American Express travellers checks, Western Union money transfers, phone cards) to existing outlets. However, growth and profit opportunities in these lines are limited by low margins and the trend toward a cashless and checkless society.

Selecting and Testing a New Service

In considering new offerings, the firm was adamant that the service not damage its core business, striving for a seamless introduction. In 1992, it tested a tax preparation and Electronic tax filing (e-file) service. The market potential for this service was driven by the government’s desire to reduce the administrative and labor costs associated with tax filing and to improve the accuracy of returns. The service was meant to both penetrate the financial services business of their existing clientele and to obtain a share of the tax preparation and e-file market from tax preparation chains. Because the tax service’s peak demand was predicted to occur at periods when the existing service suffered from seasonal downturns, an increase in physical space and front-line service personnel was not anticipated.

Several problems were discovered from a test market. For one, the current customer segment was not interested in just the e-file and tax preparation service. Many indicated that combining these services with discounting of the tax refund would be attractive. Customers wanted next day cash (not 48 hours!) for their anticipated refund and were willing to pay for it.

Second, customers attracted because of the ease and speed of the electronic filing service were unprepared for the information requirements for filing tax returns and their expanded role in the service production process. Customers were expected to fill out all of the necessary forms *prior* to approaching the service counter; most did not. Their questions concerning such things as tax legislation and the appropriateness of certain deductions could not be handled with the current staff knowledge and skills. Finally, the store layout was inadequate for offering a personal consultation with tax clients.

The firm faced a difficult choice. One option was to eliminate the tax prep and filing service and concentrate on discounting returns based on anticipated tax refunds. This would have fit with their current service system but would have severely limited growth opportu-

nities through attracting new customers. Alternatively, the firm could have changed the service process to correct the most significant problems (e.g., remodel the stores and have tax experts resident in each store). Finally, they could have modified the service offering and process to find an appropriate match between customer needs and company competencies. They chose the latter option.

Rethinking the Service Concept and Design

Several changes were introduced to improve the service. First, the company specified the type of tax return they would prepare. They decided to focus on "simple" returns, referring individuals who had more complex tax issues to experts. This did not reduce the market to a great extent, since most potential customers fell into the simple return category. However, limiting the service allowed the company to tailor the design to be more consistent with the capabilities of the front-line staff and organization.

Second, to minimize expenses and site specific changes, the firm developed a centralized processing operation. Tax forms were filled out at the store and faxed to the processing center. Staff at the center completed the tax return and filed it electronically. If necessary, specialists at the center could be accessed by store personnel via a 1-800 number. Customers could return in 24 hours to receive their discounted refund.

Third, the process for the front-line staff was streamlined and scripted, standardizing the service. Contact people were given a step-by-step procedure to follow with no option for divergence. The result was that the current staff could offer the service with modest training requirements, while specialist knowledge resided at the processing center. This process enhancement also eliminated the need for store layout changes.

The firm used a rollout approach to introduce the new service. From a two store trial in 1993, expanding to 36 stores in 1994 and 108 stores in 1995, the company continued to modify the service, mostly in terms of the training requirements for staff. While limiting the type of tax return prepared has affected the firm's ability to attract many customers from the tax preparation chains, the firm has both attracted a modest base of new customers and achieved an increased penetration of its current customer base. Importantly, this has occurred with minimal disruption to the core service. In addition, the development of the processing center provides a new organizational capability that may be exploited for future ventures.

CASE C

Background

The third case study involves the provider of tourist information services in one of the world's top 50 travel destinations. The organization was established to provide visitor information in the form of brochures and advice about activities in the local area. Initially,

funding was received from government, however, over the past decade they have had to rely increasingly on member payments from the local service providers for funding. The demands of two customer groups (members and tourists) provide the organization with a challenging operating environment.

Service in Evolution

Rather than introducing distinct new services, the organization has evolved to a new service concept, moving from *information provider* to a *one-stop-shopping* facility for tourists. In addition to the information role, they now make bookings for hotels, restaurants and attractions. It is the steps in this evolution, particularly those that relate to accommodation booking, on which we will focus our attention.

The original accommodation service consisted of a white board with the vacancy status of the local hotels, motels and bed & breakfasts. Tourists could check the vacancy status and make their own booking, using the accommodation phone nearby. The Center's primary role was to contact the local businesses to update the white board's information.

The impetus for transforming the Center can be traced to visits to Europe in the mid 1980s by the organization's senior management. Impressed by the range of tourist services offered in Europe, the organization began an initiative of service redesign. The first significant change was to actually book reservations for tourists. To provide greater access, the organization also established a toll-line to help out-of-town callers arrange their accommodations. In return, the organization receives a percentage of the first night's room rate from the accommodation provider. Several issues surfaced with the introduction of this service. For one, the time required to provide routine information to a tourist was dramatically different from the time required to seek vacancies, then make bookings. This was because the staff had to first identify appropriate lodgings based on a series of qualifying questions, then call to see if there were vacancies. On average, the entire service required ten minutes. This had implications for staffing levels and training as well as queue design. It also increased the cost of operations, compelling the organization to raise the fee charged to the accommodation provider. The inadequate service capacity was exacerbated when the toll-line was replaced with a frequently dialled toll-free number. Some Center visitors expressed dissatisfaction when dedicated phone operators, located within their line of sight, did not serve them during lulls in phone calls.

Another issue related to the treatment of member firms. Whether justified or not, many members felt that they were not receiving the same level of bookings as competitors. Management believed that developing a "fair" system for making referrals was an important element of the service design.

A third concern focused on the front-line staff. With the introduction of the reservation system, the organization changed the role of contact people from information source to a combination of information provider and salesperson, expecting them to actively sell and book attractions. This created some role conflict and ambiguity among the front-line staff. It also contributed to slower queue movement, since many customers made multiple transactions.

Meeting the Challenges

To address the new demands on the service system, important changes were made to the processes and the participants, and relatively modest adjustments were made to the physical facilities. The organization dealt with the difference in time required to give information versus making bookings by having separate lines for each service. However, both information seeking customers and those making bookings or purchasing attractions tickets were frequently dissatisfied. The latter complained of having to line up twice if they wanted to get both general information and purchase bookings or tickets. The former complained that there were situations of empty lines at accommodation/bookings and long lines at the information area.

As a solution, the organization introduced a ticket dispensing machine (i.e., it adopted a First-Come, First-Serve law of the queue) and trained all their staff in accommodation booking and sales skills. The cross-training of staff, while more expensive, permitted the two lines to be merged. The ticket dispenser allowed customers to wander around the information display booths and partially fulfil their needs without losing their place in line. This permitted the tourist to perform at least some of the work previously performed by the contact people, a process modification toward a self-service concept. The organization also added a "greeter" to answer simple questions and make sure people understood the process. The telephone operators were moved to a backroom, out of the customers' line of sight.

A second change was the development of an information system that helped contribute to the "fair" distribution of bookings across member accommodation sites. Computers were programmed to rotate recommendations within accommodation categories (e.g., bed & breakfast) to ensure that members were treated equitably.

The greatest challenge has been the change in orientation, skills and knowledge required of the staff who have had to assume a marketing/sales focus. This has led to a significant modification in the selection criteria for new hires. Where a local historian or urban geographer might previously have been a suitable job candidate, now a business/marketing person was better prepared to successfully meet the requirements of being both host and salesperson. Considerable changes to the training program were initiated to reflect the new job description. For example, all front-line staff were trained in operating the computerized reservation system. Reward and compensation systems were also modified, moving from hourly wage to hourly wage plus a variety of incentives based on attraction and accommodation bookings.

The organization has enjoyed considerable success with the modified service concept. In a recent visitor exit survey, it was found that the approval rating for the Center had improved from 73.2 percent in 1989 to 82.0 percent in 1994.

DISCUSSION AND IMPLICATIONS OF THE CASE STUDIES

The case studies build on existing theoretical concepts and provide additional insights into the challenges of introducing new services into existing service systems. These challenges include identifying and managing:

1. the risks and extent of change associated with service design
2. the evolutionary nature of service design
3. the impact that introducing new services has on the existing system
4. an integrative service design process.

Identifying and Measuring the Degree of Change in Key Service System Elements

One clear implication of the case studies is that even seemingly minor changes can have dramatic impacts on service systems. To help diagnose the nature and degree of the changes, we developed three service system assessment templates, one each for processes, participants and physical facilities (Tables 1, 2 and 3 provide the analysis for Case A). The elements examined in each template were developed from a review of the salient human resources, operations management and services marketing literatures. While the contents of the templates are quite generalizable, individual companies can adapt them to reflect their business characteristics.

For Case A, the Tables indicate that the final design of the new service with its product customization, specialized equipment, front-room assembly, process time requirements and make-to-order assembly and inventory represents a dramatic change from the existing service process. There was an equivalent high level of change required to the physical facilities in order to effectively manage the requirements of the new target market. Changes to the front-line participants, mainly in the area of task specialization and task complexity, were limited. While the differences in customer demographics created many challenges, the role of customers in the service production process remained similar, with some greater requirements to specify the desired type of sandwich, bread and extra "fixins."

The same analysis was performed for the other two cases. In Case B, major changes included the back-room process changes (e.g., the development of the processing center) and participant changes (e.g., the tax specialist at the processing center and developing a training manual and script for the front-line). These investments were necessary to deliver the new service without impacting performance of the core service or having to drastically modify the physical facilities.

In Case C, major participant changes (e.g., the changing job description and reward structure for employees), front-room process modifications (e.g., computer reservation systems and ticket dispensers) and modest back-room developments (e.g., dedicated phone operators) were required to meet the challenges of satisfying customers' needs for fast, effective bookings and members' need for fairness. A summary of the extent of change for each of the three cases is presented in Figure 1.

The approach of a micro evaluation (Tables 1, 2 and 3) followed by an overall appraisal (Figure 1) provides a preliminary means for assessing the risk associated with introducing change to a service system. While the assessment for these cases has been done after-the-fact, the same approach can be used to *predict* the degree of change required and the level of risk involved.

TABLE 1

Assessing Service Systems and System Differences: Process (Case A)

Process Issue	Current Service	New Service	Extent of Change					Cross Impact Issues
			Low	High	Low	High	Low	
Process Variety	Limited, frying process similar for all donuts	Limited, same process used for all sandwiches	1	2	3	4	5	
Process Type	Batch fryer	Assembly	1	2	3	4	5	Employee training, inventory management, back room processes
Degree of Customization	None, customers choose from prepared selection of donuts	High, Customer specified bread type and sandwich contents	1	2	3	4	5	Service waits
Task Times	Short, 30 second maximum	3 minutes	1	2	3	4	5	Task specialization, waiting times
Total Process Time	Up to 30 minutes to make a batch of donuts	Can be manufactured as required—3 minutes per sandwich	1	2	3	4	5	Inventory management
Back Room Processes	Complete production process	Raw material preparation only	1	2	3	4	5	
Front Room Processes	Ordering and payments	Order filling, sandwich construction and payment	1	2	3	4	5	Customers see the service being produced, cleanliness takes on greater importance
Inventory	Raw materials, in process and finished goods	Raw materials only	1	2	3	4	5	
Technology	Simple—cash register and display racks	Modest—cash register, information display and communication system, and tray racks	1	2	3	4	5	Customer and employee training, modification to the physical facilities
Customer Contact Points	Cashier	Cashier and sandwich preparation	1	2	3	4	5	Service waits
Customer Contact Time	Less than 1 minute	About 3 minutes	1	2	3	4	5	Employee training
Customer Throughput Time	Take-away—3 min. Eat-in—15 min.	Take-away—5 min. Eat-in—30 min.	1	2	3	4	5	Space required, layout of facilities
Service Wait	Predictable	Unpredictable	1	2	3	4	5	

TABLE 2

Assessing Service Systems and System Differences: Participants (Case A)

Process Issue	Current Service	New Service	Extent of Change		Cross Impact Issues
			Low	High	
<i>Customers:</i>					
Customer Characteristics	Predominantly male, blue collar, smoker	Mix of gender, office workers, middle class, nonsmoking	1	2 3 4	5 Potential for incompatibility
Customer Involvement	Identify order	Specify customization of sandwich	1	2 3 4 5	5 Customer training required
Customer Training	None	Ordering procedure and queue system training	1	2 3 4 5	5 Signage required
Customer Communication	Simple order	More complex order information regarding sandwich specifications	1	2 3 4 5	5 Employee communication skills, needed for greater signage
<i>Service Personnel:</i>					
Education	High School	High School	1	2 3 4 5	
Skill Level	Basic: order taking	Greater dexterity and listening skills	1	2 3 4 5	
Responsibility	Limited, order taking and filling	Limited, order taking and filling	1	2 3 4 5	
Teamwork	Not necessary	Process link between order taker and sandwich maker	1	2 3 4 5	5 Computer technology required to facilitate communication
Training	Minimal	Training needed for sandwich preparation, dealing with customer requests and health and safety	1	2 3 4 5	
Compensation	Hourly, one rate	Hourly, rate varies some by job	1	2 3 4 5	
Recruitment	Local area	Local area	1	2 3 4 5	
Selection Criteria	Friendliness	Friendliness, speed, learning capability	1	2 3 4 5	5 Process time
Task Specialization	Low	Moderate	1	2 3 4 5	5 Training

Assessing Service Systems and System Differences: Physical Facilities (Case A)

Process Issue	Current Service	Extent of Change					Cross Impact Issues
		Low	1	2	3	4	
<i>Ambient Conditions</i>							
Air Quality	Relatively high percentage of smokers	1	2	3	4	5	Need for better verification, reorganization of layouts, customer incompatibility
Odor	Coffee and donut	1	2	3	4	5	
Noise	Low levels	1	2	3	4	5	
Cleanliness	Medium priority	1	2	3	4	5	Increase frequency of table clearing and cleansing
<i>Space/Function</i>							
Layout	Adequate space for order placement and tables	1	2	3	4	5	Reorganize stores, limitation on variety of offerings
Equipment	Cash register, coffee and donut equipment	1	2	3	4	5	Technology
Furnishings	Basic tables and chairs	1	2	3	4	5	
Space requirements (inside)	Existing capacity sufficient	1	2	3	4	5	Increase size for new stores
Space requirements (outside)	Short-term parking	1	2	3	4	5	Increased parking lot size for new outlets
Ideal location	Accessible to vehicle traffic	1	2	3	4	5	Re-assesses location strategy, customer convenience
<i>Signs, Symbols and Artifacts</i>							
Signage	Limited to coffee and donut prices	1	2	3	4	5	
Style of decor	Utilitarian	1	2	3	4	5	Customer compatibility
Personal artifacts	Basic uniform	1	2	3	4	5	

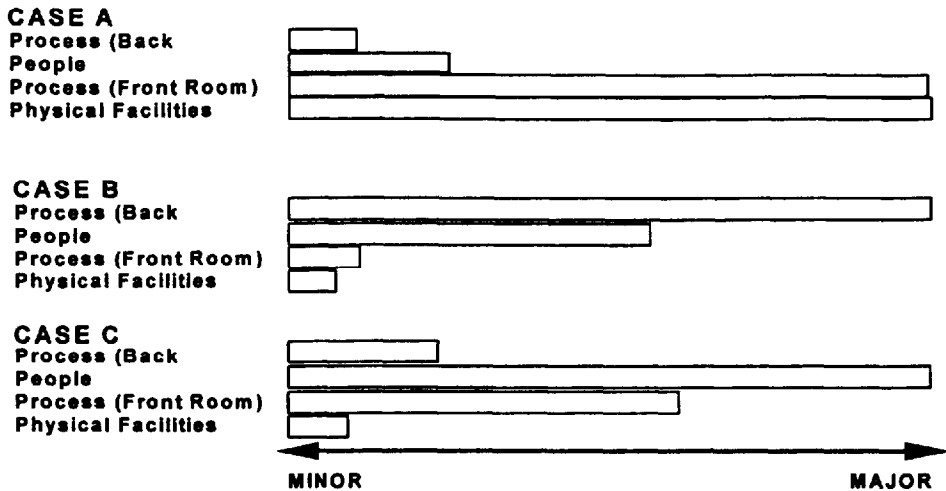


Figure 1. The Extent of New Service Changes

Evolutionary Design Process

A second theme evident in the cases is the evolutionary pattern of service introduction. In Case B, the development pattern resulted from competing objectives. On one hand, the tax service growth was not allowed to come at the expense of the core check cashing service. On the other hand, the original intent of the tax service was to attract new customers with a process that ultimately had the potential of impacting the current system. The overriding constraint of not adversely impacting the check cashing business forced the new service to evolve to a position more compatible with the firm's existing system. The company chose not to introduce a service that would require *major* changes to: (a) the service personnel's skills and expertise, (b) the physical facilities, or (c) the core customers' experience. When the initial design of the tax service was shown to impact these elements, the service was modified to become more attractive to the core customers and consistent with the current service system. The growth objective of attracting new customers was made secondary.

In contrast, Company C initially established increasing sales by attracting new customers as one of their key objectives. The accommodation and attraction ticket sales were designed to achieve that goal by overcoming the constraints of the original service system. It was the changes in participants (e.g., selection, training, reward systems) that followed an evolutionary path, consistent with the transformation of the strategic focus from information provision to sales.

For Company A, the approach of service integration evolved to a form of "focused factory" (Skinner, 1974). Sandwich customers formed one line while coffee and donut purchasers were served in the traditional manner. However, changes to the job descriptions and major

changes to the physical facilities were required to effect the change. The driving force behind the evolutionary process in this case was the competing demands of customer segments, requiring adjustments to the processes and physical facilities to meet each group's needs.

Cross Impact of the New Services

The cases also provide vivid examples of how introducing new services can affect the original service system in a variety of ways. For example, redesign of the facilities and greater use of self-service brochures in Case C substantially altered the manner in which some information could be delivered. Further, because of the incentives provided for achieving sales objectives, contact personnel were less inclined to provide extensive information if it did not have the potential of yielding a sale. This changed the experience of those customers simply seeking information. The last column in Tables 1, 2 and 3 provides a comprehensive description of the impact of service system integration for the final version of the design in Case A. The entries in the column illustrate how changes to any element can create challenges across the entire service system.

To further portray the issues involved in combining service systems, we developed a service integration map. The map builds on the service system assessment approach by tracing

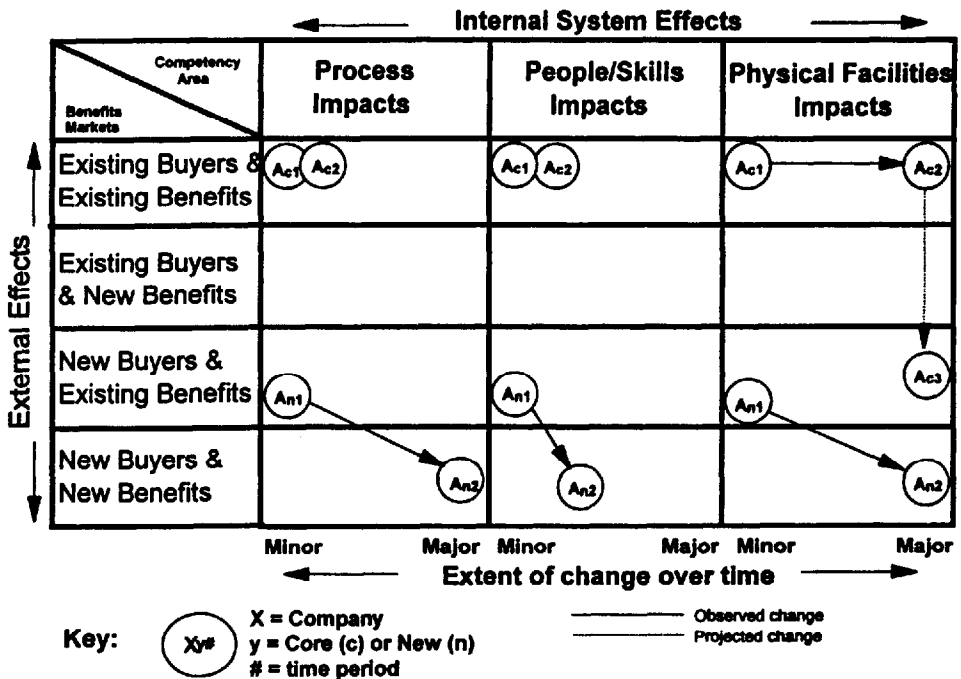


Figure 2. Cross Impact Analysis of New Service Addition: Case A

how both the core and new service may be modified over time to account for their reciprocal impact. The plotting for Case A is presented in Figure 2. The map examines the combined service system along the dimensions of buyers and benefits, processes, people/skills and physical facilities.

Circles in the figure represent positioning of the service's processes, participants and physical facilities with subscript n representing the new service and subscript c representing the original service. The numbers associated with each circle represent time frames. For example, A_{n1} for the process was the original design of the new sandwich making process which used pre-assembly of the product. This process provided the same convenience benefits but to a new customer segment. A_{n2} indicates the major modification to the service process, involving separate lines and make-to-order sandwiches that helped the firm provide new benefits (i.e., freshness) to its new customers.

The required changes to the physical facilities were extensive. Because they were used to deliver both the original and new service, the physical facilities were common. A common element provides a point where the potential for cross impact is high and the risk of customer incompatibility is great (Martin and Pranter, 1989). In this case, existing customers were partly attracted by the firm's original "Spartan" physical facilities. The upgrading of the physical facilities, a necessary step to appeal to the new customers, resulted in some dissatisfaction. Therefore, it is anticipated that the integrated service system may, over time, attract a different coffee and donut customer base (A_{c3}). These customers may eventually demand a change to a more nutritious snack item such as fruit.

The concept of compatibility between new and original, whether it be the physical facilities, processes or customer mix, indicates the need for greater integrative planning. This supports our proposition that new services be examined as systems that affect and are affected by the original service system.

New Services Design: An Integrative Process

The case studies point to the need for a framework to describe the new service design and implementation process. Importantly, such a model needs to: (a) reflect the iterative nature of service design, (b) incorporate interrelationships among design elements, and (c) account for the impact of the new service on the existing service system. One version of this is portrayed in Figure 3. Drawing from Schlesinger and Heskett's (1991) terminology, we label the process as the "Planning Cycle for Successful New Service Integration." The discussion includes reference to planning tools that can be used to support each stage.

Starting at the core of the service integration model:

STEP 1: *Conduct an audit of the firm's original service system (PROCESS, PHYSICAL FACILITIES and PARTICIPANTS) including an evaluation of the existing buyers and benefits.*

Combining the elements of a services marketing (Berry, Conant, and Parasuraman, 1991), human resource management (Biles and Schuler, 1986) and operations management

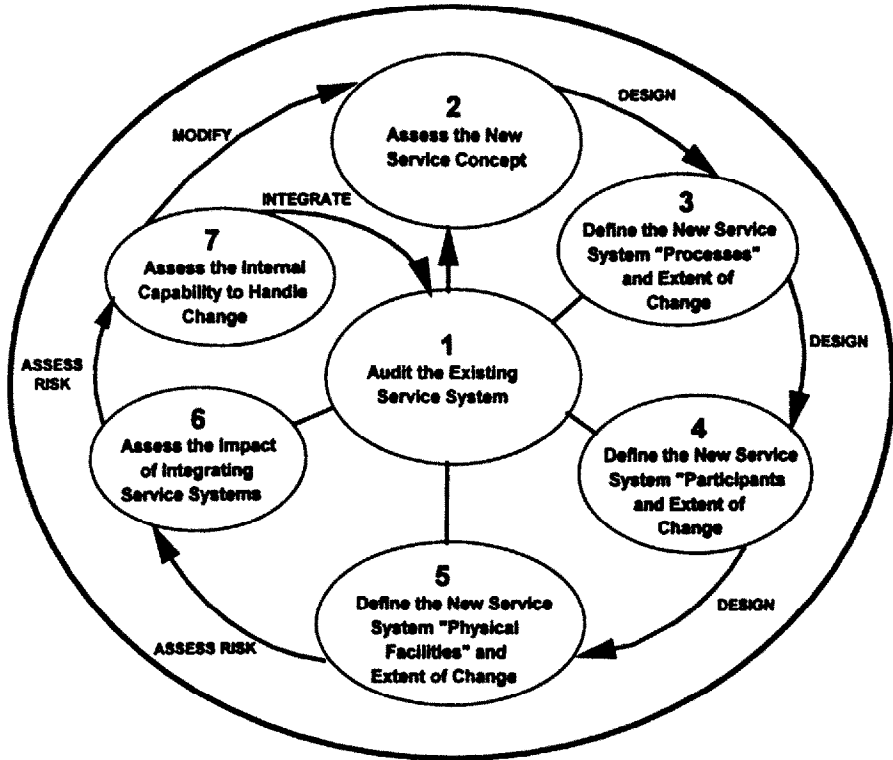


Figure 3. The Planning Cycle of Success for New Service Integration

(Murdick, Render, and Russell, 1990) audit provides a guide for conducting a comprehensive evaluation of the processes, physical facilities and participants dimensions of an organization's service system. Elements from the audit can be entered into the service system assessment frameworks developed in Tables 1, 2 and 3. Analyzing service systems generally requires both qualitative and quantitative research methods (e.g., organization records, focus groups, interviews and surveys) and multiple respondent groups (e.g., customers, front-line workers, back-room support people, managers). Among the central issues (see the audit frameworks for an exhaustive listing) to be addressed in Step 1 are an examination of:

1. The characteristics and roles of the current customers (e.g., gender, disposable income, age, price sensitivity, psychographics, role in the production process),
2. The benefits provided customers (e.g., speed, customization, consistency),
3. The processes used to deliver the service (e.g., job shop versus batch versus continuous flow, back-room operations, front-room activities, degree of automation, technology used, desired slack, capacity),

4. The skills, capabilities and personality traits of the service participants (e.g., selling skills, computer skills, ability to accept responsibility, attitude toward service, education), and
5. The physical facilities (e.g., lighting, seating, ergonomic features, decor, architectural design).

Firms should also assess their distinctive competencies—those strengths that allow an organization to achieve superior efficiency, quality, innovation, or customer responsiveness—to identify what assets can be leveraged for growth (Prahalad and Hamel, 1990). Distinctive competencies are generally capable of multiple uses and can provide access to new opportunities, making them potentially valuable in designing new service systems (Day and Wensley, 1988). For example, in Case B, the ability of the organization to provide customers with immediate cash for their check or next day cash for their tax refund represented a competitive advantage. The source of the advantage was anchored in their proprietary check authorization process and in the design of the tax processing center. Identifying distinctive capabilities can be difficult as they are typically deeply embedded in the organization. Asking a number of questions (e.g., “Is there a linkage between a capability and an enduring competitive advantage? Does the capability make a disproportionate contribution to customer perceived value? Is the capability difficult for competitors to understand and imitate?”) can help an organization uncover its distinctive competencies (Day and Wensley, 1988; Prahalad and Hamel, 1990).

Finally, service blueprinting and process flow diagrams can be used to display and assess the service system (Kingman-Brundage, 1989). At the concept level, blueprints illustrate how each job functions in relationship to the complete service. Blueprints also provide details on such service characteristics as the various process stages, information exchange requirements, customer/service provider contact points and contact duration (Shostack, 1987). From a service audit standpoint, blueprints are particularly valuable because they often reveal systems that might otherwise remain concealed (Kingman-Brundage, 1989).

STEP 2: *Assess the new service concept from a market perspective (New or Existing Customers and New or Existing Benefits).*

This step assesses the new service design from traditional marketing perspectives. Key questions include, but are not limited to: Are the users of the service likely to be new to the firm or will the service appeal primarily to current customers? What combinations of features should be offered? What price should be charged?

The issue of whether the offering is going to appeal to new or existing customers is an important strategic decision (market expansion versus market penetration). In Case A, the new service was planned to attract a different customer segment with a disparate set of priorities (e.g., nutritional meal versus speed of delivery). The market included a greater proportion of females, coming from predominantly white collar jobs. In Case C, the customer base was anticipated to be similar (i.e., tourists) but the benefits provided would go beyond information provision to include a vacation planning and booking service. The addition of diverse customer segments requires consideration of the compatibility of the market segments (Martin and Pranter, 1989).

A number of approaches can be used to evaluate service concepts. Service development and design research recommends traditional approaches for testing new services at the idea generation, concept development, process and system design development and marketing program testing phases of development (e.g., Bowers, 1987; Scheuing and Johnson, 1989). Two particularly attractive analytical techniques for assessing new services include conjoint analysis and multidimensional scaling (e.g., Dev, Morgan, and Shoemaker, 1995; Van Auken and Lonial, 1991; Wind et al., 1989). Conjoint analysis is a particularly effective tool to assess the combination of features and services that customers are willing to trade-off in a new service (Wind et al., 1989). In Case A, the company could assess the importance (part worths) of attributes such as nutritional value, comfort of the surroundings, speed of service, sandwich variety and customer participation in the production process (i.e., self-service versus table service) in determining the likelihood of attracting a customer based on design choices. Different configurations of the service could then be tested (survey or experimental testing in selected stores or test facility) to judge design and pricing strategies.

STEPS 3, 4 & 5: *Assess the new service design from the perspective of Processes, Participants and Physical Facilities. Identify differences between existing and new service systems.*

The purpose of these steps is to determine how to deliver on the customer driven features developed in Step 2. This portion of the framework also addresses the issue of the degree of difference between the requirements of the new service system and the attributes of the original system.

Processes

The service assessment approach identified in Table 1 used in conjunction with service blueprinting provides a means of examining the critical elements of the new service processes. In Case A, the modified service system transformed the stores into job shops, featuring a highly customized sandwich making process. Order processing was still based on a first come, first served queue discipline with a single channel (one server), however, a second phase (sandwich operation) was added. The increased throughput time for lunch customers was another significant difference in the service process, having implications for capacity limitations.

In addition to blueprinting and the assessment matrix, queuing analysis and simulation can be used to estimate aspects of service process performance (e.g., length of queues and related space requirements, waiting times and total time in the service system). Overall, a comprehensive evaluation of the new service processes provides input into system requirements and potential conflicts (Zeithaml and Bitner, 1996).

Participants

The approach presented in Table 2 can be used in tandem with service blueprints to help assess the participant requirements of the new service. This includes the preparation of job descriptions, selection criteria, appraisal systems, training programs and compensation

schemes (Kingman-Brundage, 1989). Human resource planning models (e.g., Walker, 1978) can further aid in assessing the available labor pool and in matching of the human resources with the requirements of the service system. The considerable change in the role of the front-line tourist information center employee in Case C required a comprehensive overhaul of the human resource practices which could have been facilitated by the blueprinting and HRM planning techniques. The role of the customer in service production also needs to be specified. Modifications to the tax preparation service in Case B resulted from customer concern over the increasing demands being placed on them to fill out forms and be knowledgeable about income tax laws. In addition, customers were generally not performing their role (i.e., filling out forms prior to approaching a teller) causing a service slowdown. Frameworks that identify the level of customer participation in service production (Hubbert, 1995) as well as ways of managing customers as human resources (Bowen, 1986; Kelley, Donnelly, and Skinner, 1990; Zeithaml and Bitner, 1996) are useful for this purpose.

Physical Facilities

In addition to blueprinting, the physical facility aspect of the service system can be examined using the "Servicescape" approach developed by Bitner (1992). This framework guided the creation of Table 3. The Servicescape framework considers how three physical environment dimensions (ambient conditions, space/function and signs, symbols and artifacts) provide a means of understanding environment-participant relationships in service systems. This includes how the physical environment influences customer and employee cognitive, emotional and physiological responses and behaviors.

The Servicescape approach would have been valuable in Case A, where the design of the sandwich service necessitated a major change to the physical facilities to meet the seating space requirement for eat-in customers. In addition, the design required new forms of equipment, changes to the physical facilities to be consistent with new customers' decor preferences and increased concern with ventilation in smoking areas.

Overall, the planning techniques provide the designer a means of illustrating the demands of the new service on the most critical dimensions. Further, by highlighting the major differences between the new and core service systems a preliminary assessment of risk can be made.

STEP 6: *Assess the impact of integrating service systems on the original and new service in each of the key service dimensions.*

While previous steps in the design process assessed the market driven requirements of the new service and the extent of change that the new service represented from current practices and/or capabilities, this step formally recognizes the cross impact that the new service will have on the existing service system and vice versa. This is particularly critical when the new service shares elements with the original service system. For example, in Case A the initial decision to use a single line for processing both sandwich and coffee/donut customers had the effect of causing dissatisfaction among the latter segment. Because the new

service process compromised the quality provided the original clientele, an alternative approach to order taking was necessary. The final columns in Tables 1, 2 and 3 identify the most significant cross impact issues for Case A.

A particularly useful planning technique under conditions where tradeoffs in design features are required is Quality Function Deployment (QFD) using the "House of Quality" (Hauser and Clausing, 1988; Stuart and Tax, 1996). This technique provides a comprehensive mechanism for addressing the inter-relationships between desired customer driven service attributes and the systems (processes, service personnel and physical facilities) required to achieve performance objectives. While key design decisions are driven by the voice of the customer, the planning process encourages discussions among HRM, operations and marketing decision makers to understand the implications of their decisions on both service system attributes and customer benefits.

The QFD process would have identified the potential impacts on staff training requirements, store layout and customer participation in service production if Firm B had introduced its initial tax preparation design. Using QFD would have also identified the limitations, in terms of meeting customer requirements, of providing tax preparation services without the availability of next day cash refunds.

Evaluating the integrated service system also requires assessing the compatibility of customer segments. Martin and Pranter (1989) provide a means to evaluate the importance of having compatible segments and a measurement scale to determine how "other" customer behaviors impact satisfaction and loyalty decisions. Such an instrument could help predict the problems for the firm in Case A when the new lunch and original snack segments interact.

STEP 7: *Assess the capability of the firm to manage the change involved. Identify strategic options available for service implementation.*

This final step recognizes that the risks arising from service system integration may require firms to reconsider their strategic options. First, firms need to evaluate if their existing capabilities, or capabilities that can be acquired reasonably, match the specifications of the combined service systems. For example, the final version of the tax service in Case B required the company to acquire tax specialist information as well as develop a processing center before implementing the service. In Case A, concern over the space limitation in stores raised some doubts about adding the lunch service. After an analysis comparing existing capabilities with new service needs, both organizations determined that it was within their capability to handle the specific requirements for the combined service systems.

Second, on a more macro level, firms need to assess their organizational capacity to handle the change. Useful tools to judge a firm's capability to handle transformation include Kotter and Heskett's (1992) corporate culture scorecard, particularly the adaptive culture dimension and Quinn's (1988) scale of innovator traits. A firm's history in terms of the rate of new service introductions, continuous improvement philosophy and growth in sales due to service enhancements are traditional objective measures of innovativeness. These scales can be enhanced and tailored to measure a service firm's capacity to handle the change associated with adding a new service.

If the firm is able to harness the requisite capabilities and is prepared to make the necessary organizational changes, the service can be integrated. However, if the challenges appear too great, the service concept may need to be redefined.

At least three alternative courses of action are available at this point. The firm could revise its objectives by limiting the attempts to attract new customers or to provide new benefits, such as the tax service in Case B. This option is particularly appropriate when the requirements of the new service system represents too great a departure from existing capabilities. This leads to a repeating of the design process at Step 2 in the planning cycle. Alternatively, a firm could choose to provide the new "ideal" service but in a different location, adopting a multisite/multiservice strategy to growth. Finally, the firm could choose to integrate service systems and accept that quality may be compromised for both the initial and new services.

Summary

The planning cycle and related assessment frameworks provide significant contributions to service design research. Importantly, by adopting the approach that changes to any element of the existing system represent a "new" service, they account for the complexities and risks inherent in altering service systems. The cases and frameworks also illustrate the relationships between the three key design dimensions of services (processes, participants and physical facilities) and how they must be jointly considered to effectively plan a new service system. The planning cycle provides a comprehensive, organized approach to service system integration, while the discussion of specific planning techniques offers managers guidance on conducting the necessary analyses. Firms that systematically plan for growth are likely to achieve a greater degree of success and experience reduced complications and failures in the introduction of new services to their existing service systems.

LIMITATIONS AND SERVICE DESIGN RESEARCH AGENDA

The case studies and frameworks illustrated several key concepts for firms to consider in designing and introducing new services into existing systems. Some limitations serve to identify additional research opportunities.

The case study insights are, by design, limited in terms of their generalizability to all service growth situations. This effort can be viewed as one of the initial steps in service design theory development, meeting the call for basic research (Brown, Fisk, and Bitner, 1994; Gummesson, 1994). This article focused on only one form of design situation: adding a new service to an existing operation. Additional research is needed examining other forms of service design situations, such as the development of multisite strategies.

Alternate approaches to conducting the case studies might have yielded additional insights. While the managers interviewed were knowledgeable of the impact of the changes on the entire operation, including discussions with customers, front-line personnel and oth-

ers responsible and affected by the new service would have been valuable. Tracing the cases as they developed, rather than through retrospective reports, may also have led to additional insights. A number of other opportunities to contribute to service design understanding are apparent. In this article, we argue that a new service could result from any change that altered a customer's experience or required different service systems from the organization. This could involve one or some combination of the introduction of a distinct service (bundle of benefits), change of participants (e.g., adding a new customer segment or changing front-line staff), reengineering of processes or restructuring of the service's physical dimensions. More research is needed investigating the implications of these different forms of new services.

This article focused on the issues most closely associated with the integration of service systems. Research is needed to develop models that fully consider all of the elements of new service strategy development and design as well as those steps indicated in the planning cycle for new service integration. For example, traditional models of service development include stages of idea generation, concept development and evaluation, business analysis, market testing, introduction and postintroduction evaluation (e.g., Bowers, 1987; Donnelly, Berry, and Thompson, 1985; Scheuing and Johnson, 1989). The planning cycle approach compliments the traditional product design models and, importantly, includes considerations specifically geared to the challenges of service development.

Research in new product development indicates that crossfunctional integration is needed to successfully design and market a product (Cooper and Kleinschmidt, 1991). Generally, it is held that representation from R&D, engineering, manufacturing and marketing, at a minimum, are required to enhance the probability of success. Building on the insights from the case studies and recommendations of Scheuing and Johnson (1989), research is needed to address the composition of service design teams. Considerable input at the strategic level is required because changes in service systems impact future growth options. This was evident in the design decisions of the donut store case. Initial failure to include consideration of the drive thru additions in the design of the sandwich service resulted in additional expenses for redesigning the layout. Input at the operations/store management level is also required. Managers are best suited to assess the impact of new services on their operation. Front-line personnel are likely to have valuable ideas since they are closest to the customer and responsible for enacting many of the service's moments of truth. Finally, two sets of customers will have very relevant input. These are the new customers who are being attracted by the innovation and the longtime customers who may be affected by changes in the service system. The composition of service design teams is likely to be a critical success factor and more research is needed to understand it.

In all three case studies, the new services followed what could be described as an evolutionary process, with considerable learning and reengineering of the design after the initial introduction. More research is needed to confirm whether this evolutionary design pattern is prevalent and, if so, why. The design challenges posed in the case studies provide some initial insights, however, larger studies of new service introductions are necessary to answer these questions.

The apparent complexity in designing and implementing new services requires research approaches that complement the current focus on cross-sectional surveys of successful versus failed introductions. Longitudinal approaches are more suited to understanding the

challenges managers face over the course of the design and implementation processes. Social network analysis would be a particularly effective technique for understanding how those responsible for operations, marketing, human resource management and information systems decisions influence the service design process (Frankwick et al., 1994). Studying service introductions using the critical incident method (Bitner, Booms, and Tetreault, 1990) can help identify classifications of design issues that will contribute to our understanding of this important process.

In conclusion, the frameworks presented will assist researchers develop and test comprehensive models of service design. Managers who follow the guidelines for service design will benefit from the attention paid to the entire service system enhancing the probability of successful integration.

APPENDIX A

Protocol For Company A

Introduction: My colleague and I are investigating the processes that service firms use in their development and planning for the introduction of new service offerings, specifically the approach taken in introducing such services into existing service facilities. Your firm recently introduced the sandwich and soup service into the traditional company's outlets and we would like to explore in detail this experience.

1. How would you describe the "service concept"? By this, we generally refer to very general descriptions of customer benefits or product attributes. Does it represent a fundamental change in the company's business? Who was involved? Market segment identified? Who did you consider to be the key competitor (McDonalds, Subway, brown baggers) (watch for signals-customer's perspective/benefits/results or from an internal perspective) (e.g. meals vs. snacks)
2. Where did the preliminary idea come from for this service? (customer comments, marketing initiative, focus groups)
3. What preliminary market assessments occurred before any significant investments were undertaken? (market research, market segmentation)
4. What other design considerations were explored before the concept became formally accepted? (may need a prompt—fit with existing skills, human resources, operations process, equipment, space, physical facilities, parking, existing locations consistent with new service, new locations consistent with old service, changes to attributes sought in finding new locations, design considerations, travel distance, all franchises/national ads vs. prime locations/local ads)
5. At this point in time, were there any major obstacles that were obvious? Specifically, what tradeoffs had to be decided upon? (market, packaged/fresh, on site/delivered, chili/sandwich/soup, take out/eat in, customer/image fit) (was speed to

- market an issue? franchise agreement and restrictions/approvals necessary?) Are these documented in any way in some form of management report?
6. What did/would happen next? Is what happened in this case the norm? (A pilot trial, a franchise test market)
 7. Were there any changes to the initial service design that had to be made based on the initial test trials?
 8. Were any “real” customers be involved in the trials? If so, what data was gathered during the trials that could be used to refine the design? (customer comments, quantifiable measures such as queue length, waiting times, congestion)
 9. Are there measures of customer satisfaction that the test trial would be unable to measure/determine? (e.g., test facility may be a process & taste facility but lack the random arrival patterns of customers that causes queues)
 10. Once the trials were completed, what was the next step? (roll out to all stores, stores of a particular layout, stores with target market populations, franchisees that agree, pace, timing, purchase of equipment, food supplier assessment).
 11. At this point, can I ask a few specific questions about the three “functional” areas that were incorporated in the new service—marketing, operations and human resources?

MARKETING: -pricing (who compare to), image of old store/new store - old customer/new customer - product decisions (tradeoffs, condiments) - promotion (tv ads are different -snowplough/business attire) - distribution - store locations ideal, impact on new store location choice, smoking versus non smoking & company image.

OPERATIONS: - schedules and demand projections, quality control and metrics, staffing levels and capacity planning, time standards, process flow diagram and blueprints, process choice (customization vs. prepackaged), supply of raw materials & buns/supplier selection, layout of work centres & eating areas, equipment required & expense, contact time with customer)

HUMAN RESOURCES: - *employee side:* staffing requirements, training on the job, critical skills, breadth of job description (i.e. cross training), part time/full time, compensation system, productivity measures, quality of work life, safety

HUMAN RESOURCES: - *customer side:* contact time, expectations of socialization (reference advertisements and image), relationship building, value of retained customer, training in dealing with angry customers, emphasis on friendly service vs. production line efficiency.

12. Based on the roll out into real stores, were there any problems that surfaced that you did not expect? (some evidence that it was only here that “freshness” meant customization and on the spot, not a prepared sandwich. This caused queue problems and required a different ordering approach—in operations lingo, a two phase queue versus the original one phase approach)
13. Were there any changes from a marketing perspective that were also under consideration? When would such an innovation have been actively considered (time of new design, only after introduction)? Is there communication between the long

- term plan for marketing changes and the short term objectives of a new service design? (this gets at the drive-in option that caused another series of headaches)
14. Where did this new marketing innovation come from? (existing customers, new customers, market research, *always part of the plan?*)
 15. Were there any problems that developed because of this new service?
 16. Was there a similar iterative process followed for this innovation? (i.e., did they follow the same preliminary assessment, pilot trial and roll out strategy or did they just implement it?) (We can walk our way through the entire protocol again or simple prod for details on the innovation)
 17. Is your market research refined enough to detect any changes in your previous customer base satisfaction levels (i.e., coffee and donuts) as a result of the introduction of the new service? If so, please explain.
 18. In your assessment, would you consider the introduction of this new service to be reasonably representative of the process and planning for new services within company? Can you site similar examples from the past?
 19. In your assessment, would you consider the sandwich concept to be reasonably successful in achieving your firm's objectives? Why?
 20. What, if anything, would you change (process, timing, degree/extent of research) if you could do the whole thing over again? Why?
 21. Would you say that the introduction of the new sandwich line has changed your description of what the company is or what the world thinks of when one thinks of the company?

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