

TOWARDS A THEORY OF SERVICE INNOVATION:
An Inductive Case Study Approach to Evaluating the Uniqueness of Services

By

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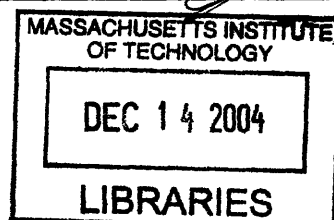
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Submitted to the Alfred P. Sloan School of Management on December 3, 2004 in Partial Fulfillment of the Requirements for the Degree of Master of Science.

ABSTRACT

Much of the innovation literature focuses exclusively on product-oriented companies. While scholars have begun researching innovation in service companies, the field of service innovation remains undeveloped and relatively immature. This paper begins with a summary of the various differences that distinguish services and products—building a key framework for analyzing services proposed by Bitran and Lojo (1993). Case studies of three service companies then present detailed information regarding seven specific innovation decisions. The paper compares, contrasts, and integrates these seven innovation decisions to develop three testable propositions suggestive of a service innovation theory. I conclude by drawing attention to future research that might advance the development of service innovation theory and the ultimate generation of a general innovation theory that incorporates both products and services.

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INTRODUCTION

Despite representing more than 80% of employment and more than half of consumer expenditures in the United States (Hilsenrath, 2003), services have received little attention from the innovation community within business schools. While management scholars remain interested in innovation, much of their focus has been upon product companies (Abernathy & Utterback, 1978; Anderson & Tushman, 1990; Benner & Tushman, 2003; Christensen, 1997; Henderson & Clark, 1990; Tushman & Murmann, 1998; Tushman & Anderson, 1986; Utterback, 1994; Utterback & Abernathy, 1975), with dramatic implications for the theoretical advancement of services innovation. Although several management theorists have studied the management of services (Sasser, Hart, & Heskett, 1991; Sasser, Olsen, & Wyckoff, 1978) and the role of technology in services (Guile & Quinn, 1988a, b; Quinn, 1992; Quinn & Paquette, 1990), few have addressed the issue of innovation in services (Barras, 1986, 1990; Sundbo, 1997, 2000; Tether, 2003). The topic remains relatively immature with a divergence of opinions.

Some management scholars have described services innovations in distinctly product terms (Guile et al., 1988a; Thomke, 2003), noting the importance of experimentation and an understanding of user needs. Guile and Quinn note that “many of the principles that have proved so essential to innovation management in product or manufacturing environments are equally important in services,” while others describe an “R&D” function within a services context (Baumol, 2002; Gwynne, 1998; Thomke, 2003). Others have suggested that service innovation, like product development, must be thought of according to development procedures as well as the interaction of various design components (Bitran & Pedrosa, 1998).

Despite these arguments regarding service innovation’s similarity to product development, some researchers have articulated key differences between service and product

innovation. They have argued that service organizations do not have “R&D” infrastructures (Sundbo, 1997) and that “service businesses are not product businesses” (Nambisan, 2001). Other scholars note the simultaneity of production and consumption and the intangibility of the offering (Bitran & Logo, 1993; Miles & Boden, 2000) as unique service characteristics. Cusumano’s extensive work on the software industry (Cusumano, 2004; Cusumano, 1991; Cusumano & Yoffie, 1998) also highlights the uniqueness of services and the usefulness of service revenues during tough economic conditions.

Existing innovation theory is only partially able to incorporate service innovation. This paper will evaluate architectural (Henderson et al., 1990), disruptive (Christensen, 1997; Christensen & Bower, 1996), product /process (Abernathy et al., 1978; Utterback, 1994; Utterback et al., 1975), and technology life cycle (Anderson et al., 1990; Tushman et al., 1986) theories of innovation for their ability to accommodate services innovation. The reverse product cycle theory (Barras, 1986, 1990) of service innovation merits attention; I evaluate it as an alternative to the product/process view of innovation.

Thus, as is clear through the divergence of opinions regarding service and product differences in the context of innovations, basic distinctions between services and products remain obscured. The subject of service innovation represents a major gap in the innovation literature, a gap that this paper addresses. My professional experience as a venture capitalist investing exclusively in services companies and my personal employment experiences within financial services and business services firms also motivates this research.

Colleagues have expressed concern about the use of the word “innovation.” A service innovation, for purposes of this research, is defined as the introduction of a new service offering (akin to “product innovation”) or the development of a new way of delivering a service (akin to

“process innovation”). Using this definition, there exist two primary types of service innovations: (1) “demand-side” or “product” innovations focused on meeting customer needs, growing revenue, and/or expanding the overall market, and (2) “supply-side” or “process” innovations targeting improved margins and greater “production” efficiency. Note that these two definitions closely parallel the Abernathy/Utterback distinction between product and process innovations (Abernathy, 1978; Abernathy et al., 1978; Utterback, 1994).

Defining service innovations in the terms described here yields an inevitable “blurriness” between a supply-side innovation and simple corporate and business strategy. Colleagues have regularly noted this confusion, warning that a supply-side service innovation is merely a strategic decision. To better understand the nuanced distinction I am seeking to make here, it is necessary to evaluate the inherent differences between services and products. One must understand how services differ from products before one can focus on the managerial ramifications of these differences. The paper’s first section addresses the uniqueness of services. Immediately following are three case studies of innovative services firms—Apollo Group (the parent company of the University of Phoenix), United Parcel Service, and American Express. Although I profile three companies, the analysis includes detailed descriptions of seven innovation decisions. These seven innovation decisions are effectively strategic innovations.

After presentation of the cases, the paper distills findings from the cases into a preliminary theory of service innovation. In particular, I use six measures (innovation “type,” managerial “motivation,” innovation “strategy,” outcome/ “impact,” “customer” characteristics, and “environment” conditions) to develop testable propositions. The paper concludes with a discussion of future research topics that may help advance the development of service innovation theory.

THE UNIQUENESS OF SERVICES

Services are very different than products, resulting in dramatic managerial implications (Bitran et al., 1993; Nambisan, 2001). Further, the “boundary between services and manufactured goods is extremely fluid and varies widely over time,” (Quinn, Baruch, & Paquette, 1988) in large part due to technological advances. Most companies today have both product and service businesses under the same roof, resulting in gradations ranging from a pure product orientation to a pure service orientation.¹ In this paper, “service companies” refer to companies primarily focused on services. The topic of mixed product/service companies will be revisited in the discussion section. In many cases, the conversion of a pure product or pure services company to a hybrid product/service company may not have been intentional. In other cases, the transition may have been a strategically motivated and intricately orchestrated business model transformation.

Unique Service Characteristics

Bitran and Lojo (1993) developed a comprehensive framework for thinking about service companies. In particular, they note six distinguishing and unique (vs. products) characteristics of service operations: (1) intangibility, (2) perishability, (3) heterogeneity, (4) simultaneity, (5) transferability, and (6) cultural specificity. Further, they note that these “attributes of services suggest the need for different skills in the management process” (Bitran et al., 1993). The paper now turns to a discussion of these six characteristics and some of their basic implications.

Intangibility: Underscoring the Importance of Reputation and Quality

¹ The software industry is particularly ripe with examples of companies that contain both products and services under the same corporate umbrella. For a detailed discussion of product-service issues in the software industry, see Chapter 3 (“Services, Products, and More Services”) of Cusumano, M. 2004. *The Business of Software: What Every Manager, Programmer, and Entrepreneur Must Know, in Good Times and Bad*. New York: The Free Press.

Services are intangible and do not have a physical manifestation. Examples abound. A customer purchases services from a hotel. After spending the night in the room, he/she has nothing to show for the service purchased. Another customer picks up the phone and dials a friend in Europe. After utilizing this communications service, he/she is billed for value received but again has nothing to show for the service purchased. Bitran and Lojo (1993) begin to explore the managerial implications of this quality, noting that “the intangible nature of services makes it difficult to promote their consumption on purely technical grounds.”

Due to the intangible nature, decisions to purchase services tend to overweight (relative to decisions to purchase products) expectations and perceptions, resulting in the prevalence of service guarantees and quality assurance programs (Heskett, 1987; Heskett, Sasser, & Hart, 1990; Reichheld & Sasser, 1990). Perhaps due to the inability of customers to “experience” a service prior to its consumption, reputation is a prominent element of any service business model—this is not to say that reputation is not important in products, merely that it seems to be of greater importance in services. Consumers will likely depend on the experiences and impressions of others as well as their own beliefs in making decisions regarding services.

Some services companies—such as auto repair, management consulting, investment management, IT services, and hotel companies—operate in unregulated environments. Despite the fact that no mandated restrictions affect these companies from market forces, many of these service companies use certifications to generate an image of quality consistency. Industry associations and independent certification organizations assure the consistency of human resource capability in several service industries. Even management consulting firms, which seemingly lack “quality assurance” measures comparable to certification, employ only MBA

students from the top business schools—effectively creating a “pseudo-regulated” certification process.

Further, certain services suffer from the “lighthouse syndrome.” Just like the unrecognized (until removed) value of a lighthouse, maintenance and preventative services are in an unfortunate situation vis-à-vis the customer when it comes to the obviousness of value delivered. Most customers do not realize the value of the service unless things go wrong, in which case they tend to blame the service provider. Service providers that efficiently and effectively accomplish their objective of no breakdowns, however, fall victim to their own success as customers may not see the value of their offering. Although reputation can alleviate some elements of this potential problem, the need to “materialize” the service and make the customer aware of value received remains important (Bitran et al., 1993).

The managerial implications of intangibility are numerous. First, intangibility makes it particularly difficult for firms to appropriate service innovations. The “open and obvious” nature is essential to share with customers what they will receive. Further, although business method patents are an increasingly popular class of patents, the ability to seek intellectual property protection for an intangible good is limited. Second, it complicates the sales process—since customers are unable to see or experience the actual service they will receive. Third, intangibility exacerbates a “taken-for-granted” and undervalued view from customers, particularly when the service is bundled with products.

Perishability: Complicating Supply-Demand Matching

Services are perishable; hence, it is impossible to store up an inventory of services to be delivered during periods of peak demand. This has two direct ramifications for service

managers: first, service production capacity may remain inactive for periods of time, and second, customer needs may be unmet during periods of peak demand (Bitran & Mondschein, 1997). These two direct results confuse pricing and complicate capacity planning. The issue is particularly acute in high capital-intensity industries such as air travel, hospitality, electricity, and telecommunications but is also present in areas such as professional services.

The perishability of service offerings creates unique managerial challenges. In particular, it calls for sophisticated management of both service production capacity and customer demand. Companies in the hospitality sector are uniquely sophisticated in this arena and have developed flexible ownership mechanisms (vacation ownership that is “rentable” to non-owner guests) to generate “surge supply” and intricate pricing mechanisms to smooth demand

Heterogeneity

Services tend to be specialized to provide the greatest value to individual customers. Even seemingly homogenous customer objectives (such as in the airline industry where customers want to be taken from point A to point B) have been customized for customers demanding refundable tickets and those who are willing to pay for extra comforts while traveling (first class). Customization is most clear, however, among professional and personal services firms that cater to each client’s specific situation. Accountants cannot pre-calculate tax returns for every potential consumer and automobile repair services need an understanding of the problem (tire alignment, engine malfunction, air conditioning problem) before they can devise an appropriate solution.

As a result of the fact that “humans tend to be inconsistent in their behavior and therefore in their delivery and consumption of services” (Bitran et al., 1993), the customer-provider

interface becomes a point of significant heterogeneity in services. One can contrast this heterogeneity with the factory-produced tangible offering which might have a six sigma quality rating of 99.9997% similarity to all other tangible offerings.

The implications of this service characteristic for managers are clear: in addition to training for consistent service quality, managers need to train employees to be flexible enough to handle heterogeneous customers and to keep the end goal of customer satisfaction in mind. Further, the exact characteristic that makes a service valuable (its customization and high relevance) has a direct impact upon the scalability of service companies. The inability to provide the same “cookie-cutter, mass-produced” solution to multiple consumers increases the cost of each service solution. Further, customization of services leads to non-continuous production that destroys the economies of scale—falling unit costs as volume rises—prevalent among most product manufacturers.²

Simultaneity

Most services are consumed in the same location at which they are produced (Bitran et al., 1993). This characteristic of services implies that producers either travel to the consumer or the consumer travels to the producer. It is impossible for a cleaning service to clean a house without visiting the house. The production (cleaning) necessarily occurs at the site of the consumption (the house). Similarly, a guest is unable to procure accommodations (the production) at a hotel without visiting the site to sleep in the room (the consumption). While modern technologies are introducing an element of “distance” into this relationship, they are unable to remove the essential existence of a production/consumption interface. This interface,

² This is not to say that products companies do not customize their offerings; in fact, some product companies extensively customize their product to meet customer needs (i.e. machine tools).

known as the “moment of truth” (Bitran & Hoech, 1990) because “much of a service’s perceived value is created at the moment and place of contact” (Quinn et al., 1990), is extremely important and successfully managing it is a goal of every service company.

Because services are produced at the time of delivery, potential customers are never able to see or experience the actual service they will receive. Services are perishable (Bitran et al., 1997) For example, the actual flight of an airplane from Houston to Detroit represents the simultaneous production and consumption of air travel between the two cities. It is impossible to have produced the offering without its simultaneous consumption. (One might argue that the plane might have been flown empty, but that is merely an act of wasted production, for to fly another plane is to reproduce the offering.) Other examples include telephone calls, hotel stays, doctor/dentist visits, electricity procurement, cleaning services, or automobile maintenance services. The inseparability of production and consumption, when combined with the relatively fixed nature of costs in these industries, leads to demand management efforts to maximize utilization. Given that utilization cannot at any point exceed 100%, many service firms “variabilize” supply and smooth demand to motivate customer purchases in off-peak periods. Managerially speaking, this quality of services leads to the increasing importance of flexible business models that allow for scale effects during booms but allow for cost minimizing variabilization strategies during busts.

Transferability

Bitran and Lojo (1993) note that customer experiences and expectations are transferable in the services sector in a manner not found among product businesses. They use an example from the retail sector to illustrate their point. A consumer who purchases a tennis-racquet and a

new automobile may not seek to compare the two products they have acquired, for obvious reasons since they would be comparing apples and oranges. However, “the quality of the salesperson’s assistance, the comfort of the environment in which the sale is made, the response time of the organization, and guarantees of satisfaction can be compared for tennis racquets and automobiles” (Bitran et al., 1993). The managerial implications of this “transferability” quality are clear: managers need to monitor developments in sectors tangential to their own as well as new service offerings within comparable businesses.

Cultural Specificity

Bitran and Lojo (1993) note that the cultural context in which a service is consumed and/or produced is an attribute of the service itself: “culture influences the expectations and behavior of customers and service providers, and gaps that may exist between their cultural orientations can either enhance or detract from the service encounter.” They go on to note how “good” restaurant service in the northeastern United States differs dramatically from “good” service in the South. Northeasterners expect formal distance (both figuratively and literally) between the customers and servers, while Southerners prefer informal, friendly interactions between the customers and servers.

The issue of cultural specificity is obviously important in international contexts, particularly when crossing major cultural barriers (Asia vs. Western Europe, etc.). The managerial implications of this service characteristic are straightforward: managers should be sensitive to differing values with the specific culture in which they are operating.

Either Low or High Capital Intensity

One characteristic which the framework proposed by Bitran and Lojo does not address is the distribution of capital intensity among service companies. Service companies tend to be either low or high capital-intensity businesses. Very few service companies exist between these two extremes. Examples of service companies in the first group—low capital-intensity—include professional service firms such as management consultancies, law firms, accounting firms, and some training companies. These organizations are people intensive, with a majority of the costs originating in human resources. Due to the inability to fire professionals on a project by project basis, the cost structures of these professional service firms are primarily fixed. Management of professional services firms is difficult, as personalities and egos often complicate efficient teamwork. Scholars have addressed the importance of recognizing this dependence upon employees, providing case studies of professional service firms managing strong egos while fostering teamwork (Lorsch & Tierney, 2002; Maister, 1993; Sasser et al., 1991).

Examples of high capital-intensity businesses include hotels, airlines, and telecommunications companies. Large fixed plants and high capital expenditures characterize these companies, with initial start-up costs running into the hundreds of millions of dollars. Similar to the low capital intensity businesses, which are driven by staff utilization, these high capital intensity businesses are driven by plant utilization. Success is driven by customer loyalty, demand management, and achieving consistent consumer satisfaction. Scholars have written cases on airline, hospitality, electric utility, telecommunications, education, and logistics companies (Guile et al., 1988a; Heskett, Sasser, & Schlesinger, 1997; Sasser et al., 1991).

Service Company vs. Service Operation

Another important point not directly addressed by the Bitran/Lojo framework is that of the difference between “service operations” and “service companies.” The distinction between is important to make explicitly clear. Service companies are those companies that sell services. Airlines, law firms, and universities are prime examples of service companies. Service operations are support organizations within a company that provide functional support to the main organizational objective (Sasser et al., 1991; Sasser et al., 1978). Customer service, accounting, and human resources are good examples of service operations within a company. Note that service operations exist for both product and service companies.

The table on the following page summarizes the six unique service characteristics from the Bitran and Lojo framework.

The Uniqueness of Services

Characteristic	Description of the Characteristic	Managerial Implication
Intangibility	After “consuming” a service, no physical manifestation of the offering exists. Customers are not left with anything tangible as a result of their having purchased a service. For example, after a customer has consumed travel services such as air transport, she/he is left at the destination with nothing physical (apart from the ticket stub) to show for the expenditure.	<ul style="list-style-type: none"> ➤ Difficult to appropriate innovations resulting from service innovations ➤ Complicated sales process that heavily weights reputations and service guarantees ➤ “taken-for-granted” factor, particularly in bundled product/service offerings
Perishability	Given the simultaneous production and consumption of services, services are perishable and cannot be “stored” in a format for later delivery.	<ul style="list-style-type: none"> ➤ The entire concept of “inventory” does not apply ➤ Need to closely manage supply and demand
Heterogeneity	Each service encounter is somewhat unique and the particular service being procured is not produced (for examination by the client or anyone else) before the time of consumption. Further, customization creates heterogeneity in customer and producer expectations.	<ul style="list-style-type: none"> ➤ Managers need to focus on training staff to be both consistent and flexible ➤ Difficult to “scale”
Simultaneity	Services are simultaneously produced and consumed. Customers are therefore unable to see or experience the actual service they will receive before it is delivered. Most services are also consumed in the same location at which they are produced.	<ul style="list-style-type: none"> ➤ Raises quality concerns on the part of customers ➤ Increases importance of reputation and quality of service guarantees
Transferability	Customers may develop service experience expectations which they transfer across sectors.	<ul style="list-style-type: none"> ➤ Managers need to be aware of general service trends that be prevalent in different market segments
Cultural Specificity	Both consumers and servers are prone to have culturally specific expectations and values that will affect their respective interpretations of the service encounter.	<ul style="list-style-type: none"> ➤ Attention must be given to culturally specific expectations and mores

(Bitran et al., 1993)

DO SERVICE INNOVATIONS FIT INTO INNOVATION THEORY?

Over the past twenty-five years, management scholars have paid significant attention to innovation and product development. During this time, several powerful explanations of innovation have emerged, specifically theories of architectural innovation (Henderson et al., 1990), disruptive innovation (Christensen, 1997; Christensen et al., 1996), and product/technology life cycle innovation (Abernathy, 1978; Abernathy et al., 1978; Anderson et al., 1990; Tushman et al., 1998; Utterback et al., 1975). This section of the paper will evaluate each of these theories and their respective ability to incorporate service innovation before then turning to a very brief review of service innovation theory (Barras, 1986, 1990; Feeley, Foden, & Warren, 1986; Gwynne, 1998; Martin & Horne, 1993; Miles, 2000; Sundbo, 1997, 2000; Tether, 2003) that highlights the “reverse product cycle” theory of service innovation. After this section of the paper, I present detailed information on the three service companies and the seven innovation decisions.

Architectural Innovation

Henderson and Clark’s theory of architectural innovation is explicitly focused on products. In addition to framing their research in terms of product development, the authors define architectural innovations as “innovations that change the way in which components of a *product* are linked together, while leaving the core design concepts (and thus basic knowledge underlying the components) untouched” (Henderson et al., 1990). All of the anecdotal examples they provide (Xerox small copiers, RCA radio receivers) and the foci of the research (photolithographic aligners) are products. While there is no direct mention of the theory’s applicability to services, the authors do summarize the underlying logic of architectural

innovation in terms applicable to services: “the essence of an architectural innovation is the reconfiguration of an established system to link together existing components in a new way” (Henderson et al., 1990). Many service offerings can be broken down into subservice components, thereby facilitating a link between architectural innovation and service companies.

For example, most Borders bookstores have an information desk where employees can provide information to customers about a particular book, whether it is in stock, and if so, its location in the store—a function that is one subservice in the total value proposition that Borders offers its customers. Employees use a computer terminal to look up this data before regurgitating it to the customer. Recently, however, most Borders bookstores have installed “Title Sleuth” stations equipped with user-friendly computers to access to the same databases formerly used exclusively by employees. Notice that the retail service offering did not introduce any new components; rather, the company altered the connections between existing components in a manner that reduced customer wait times and improved customer satisfaction. Thus, the theory of architectural innovation is broad enough to include service innovation, especially when one considers subservices as comparable to components of product systems. Although it may not incorporate all the nuances specific to services, there is no reason to believe that the architectural innovation theory is not applicable to service innovation.

Disruptive Innovation

The disruptive innovation theory espoused by HBS professor Clay Christensen is a story of customer power (Christensen et al., 1996). In particular, it is about the power of customers to mislead their suppliers into overshooting (in terms of performance) the needs for which customers are willing to pay. Eventually, the very customers that faithfully informed vendors of

their demands switch to lower cost “downmarket” providers of similar offerings. These innovators that attack from below with initially less capable offerings eventually achieve “offering performance” demanded by customers at costs lower than incumbent providers. Often, initial markets of the innovator do not overlap with the incumbent’s markets.

Given that disruption is a theory about markets, there is no reason to believe that it is not applicable to services. In fact, several examples indicate that the disruptive framework is extremely powerful in explaining innovation within services industries. The market for small parcel and letter delivery is a case where disruption from below went effectively unnoticed by the United States Postal Service, a dominant incumbent. United Parcel Service, the global logistics company, began its operations in 1907 as a local message delivery and errand service in Seattle. The American Messenger Company, as it was then known, preceded the United States Parcel Post system by six years and primarily served individual consumers. The company expanded by addressing the needs of retailers, providing services seen by the United States Postal Service as “downmarket” and non-threatening, through the 1950’s. From the 1950s to the 1980s the company acquired the legal rights to enter new markets and, by 1985, UPS offered next day air service to all fifty US states. The late 1980s led to international operations and the company increased its information capabilities (tracking, etc.) through much of the 1990s. Since 2000, UPS has expanded its set of offerings to include logistics management services and purchased retail business service provider Mailboxes Etc., thereby creating a company that competes head on with the United States Postal Service (UPS, 2003). The following section will evaluate the specifics of the UPS case, but it suffices for now to say that elements of the disruptive technologies framework apply to service innovation.

Product/Process and Technology Life Cycle Innovation

The primary model of product evolution argues that major innovations appear during a period of heightened innovation activity, a period labeled by some scholars as the “era of ferment.” This heightened level of activity drops off dramatically following the adoption of a dominant design. At this point, innovation activity again begins to pick up, but focused upon incremental process innovations (versus major product innovations) that increase quality and reduce cost, rather than enhance features or performance (Abernathy, 1978; Abernathy et al., 1978; Utterback, 1994; Utterback et al., 1975). The concepts of supply-side and demand-side innovations that I present are heavily based upon and influenced by the Abernathy and Utterback process and product innovations, respectively.

HBS professor Mike Tushman and INSEAD professor Phil Anderson expanded upon the early Abernathy and Utterback work to advance the product-process life cycle model by introducing technological discontinuities (Anderson et al., 1990; Tushman et al., 1986), innovations that punctuate relatively long periods of incremental change. The cycle begins with an era of ferment (in which numerous possible designs exist) and continues until a dominant design emerges. At this point, the cycle enters a period of incremental change and is punctuated with a discontinuity that leads to another era of ferment.

The case of online retailing demonstrates how an era of ferment relating to a core subservice (shipping design) resulted in a shift in the basis of competition and entry into an era of incremental change. Prior to 2003, many different models existed for the pricing of the shipping expense subservice. Designs ranged from treatment of shipping as a loss leader (no cost to customer) through viewing shipping as a profit center (making a profit on shipping). Some vendors offered free shipping on purchases of certain dollar amounts or certain physical

sizes. During this “era of ferment,” consumer perception of cost as measured by shipping expenses drove competition.

Although it is not yet obvious if customers now expect (ala a “dominant design”) the free shipping offer, let’s assume that free shipping for orders exceeding a certain dollar amount emerges as the accepted standard. If this were the case, all online retailers would adopt this core subservice or face the prospect of failure. Further, the adoption of a core subservice in the business model—such as free shipping for orders above a dollar amount—transforms the basis of competition in the overall service to one in which cost of shipping is no longer a variable. The industry transforms from a fluid state to a specific state. The basis of competition shifts to other variables and shipping design innovations enter an era of incremental innovation, with a focus upon real time tracking capability and estimation of arrival dates. Thus, the “standardized” subservice effectively becomes a “dominant design.”

The emergence of a dominant design at the overall service level is also worthy of analysis. Financial services firms provide an interesting example, especially in light of their recent emphasis on “one-stop-banking.” It is possible to argue that this current emphasis on consolidated financial services is the result of an emerging dominant design which began with Merrill Lynch’s 1977 introduction of its innovative Cash Management Account (CMA), a single account which consolidates a client’s checking, brokerage, mortgage, and credit card accounts. The 1970s, 1980s and 1990s might classify as an “era of ferment” in which numerous designs for client account management emerged; discount brokerage, savings and loan, and online banks all drew clients in separate directions providing “best of breed” or “point solutions.” Beginning in the late 1990s, however, most financial service firms stopped competing for a portion of a client’s financial services business and instead adopted Merrill Lynch’s integrated approach to

financial services, seeking to gain all of client's financial services business. Even E-trade, the discount brokerage firm started in the heyday of online trading, today offers insurance, online brokerage, mortgages, auto loans, and credit card services in a single integrated account.

Thus, the concepts of dominant designs are most certainly applicable to service companies and while the parallel is stronger with the concept of standards, the product cycle theory has some relevance to services.

Service Innovation Theory

Despite the differences noted above in the framework described by Bitran and Lojo (1993), many scholars have concluded that traditional, product-focused theories of innovation are applicable to services (Guile et al., 1988a). In fact, almost all work on services innovation has focused on either demonstrating the existence of innovation activities within services firms (Miles, 1993) or on demonstrating the applicability of product innovation management tactics to services (Guile et al., 1988a; Quinn, 1988). Recently, European scholars have been increasingly focused on service innovation, with scholarship concentrated at Lille University in France (Gallouj, 2002; Gallouj & Weinstein, 1997), the University of Manchester in the UK (Miles, 1993, 2000; Miles et al., 2000), and Roskilde University in Denmark (Sundbo, 1997, 2000). Very little, if any, recent academic research focused on services innovation has taken place in the United States. One particularly intriguing theory developed in Europe is worth highlighting because of its direct comparability with traditional innovation theories.

Richard Barras describes service innovation as a "reverse product cycle" (Barras, 1986, 1990). He argues that incremental innovation precedes an era of ferment and that the era of ferment is punctuated with a discontinuity through a new service offering. In particular,

improvements in the efficiency of delivering existing services lead to quality improvements, eventually yielding to new service offerings. He draws examples from the financial services industry, where he notes how computer technologies led financial services firms to improve existing offerings before providing entirely new services.

Given that the reverse product cycle does not dispute the concepts of incremental innovation or the importance of a discontinuity, the model boils down to a question of timing. If the reverse product cycle theory holds, periods following incremental innovation (i.e. after the adoption of a standard subservice) should lead to an increased level of subservice variation, which in turn should result in a new service offering.

Thus, while each of these innovation theories has some applicability to the world of services, they do not focus on the unique elements of services. In particular, perishability and the lack of inventory capability receive no mention in the language of architectural innovation. Likewise, while Christensen's story of customer power applies to services, it does not accommodate the provider's inherent power advantage—no customer is able to completely evaluate a service prior to its delivery³ since service production and consumption occur simultaneously. Thus, traditional innovation theory only partially accommodates service innovation.

In the sections that follow, this paper attempts to begin development of a service innovation theory. By studying seven innovation decisions in great detail, the paper hopes to inductively develop a preliminary theory of service innovation that presents testable propositions for future research to evaluate.

³ Customers can, however, evaluate historical service performance such as on-time percentages for airlines, hospital error rates, and even broader customer satisfaction ratings. Nevertheless, this does not eliminate the possibility of a delayed flight, a medical error, and/or poor overall satisfaction with a service.

THE CASE STUDIES

Having now described three unique characteristics of services and several corresponding business model implications, the paper now turns to detailed case studies of three innovative services firms: the Apollo Group, United Parcel Services, and American Express. The unit of analysis within these firms is an innovation decision or event. Within the three companies, I present detail on seven innovation decisions.

Given the relatively immature state of knowledge with respect to service innovation, this paper takes a grounded theory building (Glaser & Strauss, 1967) approach that emphasizes description and categorization, as opposed to hypothesis testing or theory confirmation. Case studies serve as the primary method through which theory is generated. The cases do not test theory; they are intended to suggest theory. In particular, the cases highlight relationships which may prove useful in theory generation. As such, the resulting outcome of the detailed cases is a set of propositions suggestive of theory.

Each case follows a consistent presentation format to allow ease of comparison. The cases begin with a company overview, describing the current state of the firm and the relative weighting of the multiple businesses under the corporate umbrella. The next section in each case is a history section that provides a background context on the firm's development over time. The third section of each case describes the market(s) in which the firm is operating. The fourth and final section focuses on service innovations within the firm.

UNITED PARCEL SERVICES: MORE THAN JUST DELIVERY

United Parcel Services (UPS) is a valuable case to study because it demonstrates many issues facing service companies attempting to innovate. I present the case in four parts: (a) a description of UPS, (b) a brief summary of the company's historical developments, (c) an overview of the industry, and (d) an analysis of how UPS has struggled with issues related to innovation and sustaining its remarkable history of growth.

Company Overview

UPS is the world's largest commercial and residential package delivery company and a growing provider of supply chain services. The company recorded revenues of over \$31 billion in 2002 and is expected to grow 5-8% per year for the foreseeable future. Based in Atlanta, UPS operates the ninth largest aircraft fleet in North America with approximately 600 aircraft. During 2002, the company delivered approximately 13 million pieces per day. UPS is today organized as nine separate companies, ranging from the familiar cargo delivery services to UPS Capital (a bank to assist with inventory and trade export financing) and The UPS Store (a retail outlet formerly known as MailBoxes Etc.). While UPS earns a bulk of its revenues (and an even higher percentage of profits) from domestic package delivery, the fastest growing segments include international package delivery and non-delivery services. Management expects the domestic package delivery service, which consists of ground and air based offerings, to grow at 3-4% per year and international package and non-package services to grow at 11-13% per year.⁴

The integrated ground delivery system accounts for the largest portion of domestic package delivery revenue. Ground deliveries account for about 50% of total revenues and air

⁴ Unless otherwise noted, all figures regarding the company are taken from UPS annual reports for the years 2000, 2001, and 2002.

deliveries account for the remaining 26% of total revenues. International package delivery services consist of US export shipments (~10% of total revenues), domestic service in foreign countries (~3% of total revenues), and cargo services (1% of total revenues). Non-package revenues are derived from the company's retail operations, financial offerings, and consulting services. Between the company's initial public offering in 1999 and mid 2003, UPS has acquired more than twenty companies—most of which provide(d) non-package services. The three largest of these include Mailboxes Etc (retail shipping outlets), Fritz Companies (freight forwarding services), and First Interstate Bancorp (export and supply chain financing solutions). Over the 1981-2002 period, revenues rose at a compounded annual growth rate of 9.2% and net income rose at a compounded annual growth rate of 10.0%. Given this impressive track record, UPS finds itself today facing one of its largest challenges to date: figuring out a way to sustain the growth. Before diving into an analysis of UPS actions to fuel future growth, I present a brief overview of the company's history.

*The Making of "Brown"*⁵

The origins of UPS date back to 1907 when an enterprising 19-year-old, James E. Casey, borrowed \$100 from a friend to establish his own messenger company in Seattle. The company, the American Messenger Company (AMS), was one of many messenger services in the town and faced stiff competition. Casey dealt with the competition by instituting "strict policies of customer courtesy, reliability, round-the-clock service, and low rates" (UPS, 2004). The company's primary offerings at this point included running errands, delivering packages, and

⁵ Unless otherwise noted, most of the facts regarding the history of UPS are taken from the author's interviews at the company or the company's online corporate history (<http://www.ups.com/content/corp/about/history.html>).

conveying messages and documents. AMS preceded the founding of the US Parcel Post system by six years.

By 1913, several developments led the company to re-evaluate its strategic direction. Improvements in the telephone and automobile greatly reduced the need for the company's messenger services, and Casey determined it prudent to merge the company with competitor Evert McCabe. As part of the combination, the new company was named Merchants Parcel Delivery and shifted its focus from message delivery to parcel delivery. The company purchased its first car (Ford Model T) in 1913. By 1918, three of Seattle's largest stores were customers.

From 1919-1930, the company expanded into neighboring California. In addition to beginning operations on Oakland, CA, the company acquired a Los Angeles-based "common carrier" service provider in 1922. To help signify the common high quality service among the different geographic pockets in which it operated, the company changed its name to United Parcel Service. Common carrier services were distinguished from traditional delivery services in that they provided automatic daily pickup calls, automatic return of undeliverables, and streamlined billing. These services, although limited to the LA area until 1952, would prove essential in fueling the company's later growth.

The young UPS began retail delivery operations in NYC during the 1930s, but "by the early 1950's it was clear that contract service to retail stores was limited. UPS managers began looking for new opportunities while the core business remained focused on retail delivery" (UPS, 2004). In 1953, the company began offering common carrier services in Chicago. The company also began offering air based delivery options in 1953, with two-day service available between major cities on the East and West coasts. By 1978, UPS "Blue Label Air" (which utilized existing capacity in the commercial airline fleet) was available in all 50 states.

The desire to grow the business through the addition of common carrier services led UPS into regulatory battles against the United States Postal Service. In fact, UPS engaged in legal and regulatory negotiations with various state and federal authorities throughout the 1950s, 1960s and 1970s in a quest to obtain authorization to ship freely across all 50 states. Success was slow, and arrived in pieces. After gaining authority to begin interstate service between Utah and Montana, the federal government granted UPS authority to connect its service in Arizona, Idaho, and Nevada. Eventually, the company secured the right to connect its common carrier services in every state.

By the 1980s, UPS was established as the country's leading parcel delivery service. Nevertheless, in response to airline schedule and route disruption during the 1980s deregulation of the airline industry, UPS began to assemble its own jet cargo fleet. The quickening pace of American business led to the introduction of Next Day Air service, and by 1985, the service was available through the 48 contiguous US states. International expansion marked the 1980s, with service being offered between six European countries and the US. In 1989, UPS began domestic delivery service in Germany. Over a period of less than two years, UPS went from a third-party managed fleet of 80 aircraft visiting a handful of other countries to a company operated airline that employed over 1000 pilots and visited over 200 countries.

By 1993, the company was averaging more than 11.5 million deliveries a day. In order to keep track of all these deliveries and the whereabouts of each package, the company began investing heavily in IT systems. Between 1986 and 1996, UPS spent over \$4.7 billion on technology to improve package processing efficiency. Ground package tracking was a service that UPS began offering in 1992, and as of November 2003, UPS.com's online package tracking tool was receiving more than 1 million tracking requests a day.

In the late 1990s, UPS once again found itself re-examining its strategic direction. Sources of future growth were not obvious. UPS management decided that “the company’s expertise in shipping and tracking positioned it to become an enabler of global commerce, and a facilitator of the three flows that make up commerce: goods, information, and capital”(Sanderlin et al., 2003). UPS managers immediately began acquiring or forming companies to fulfill the new vision. To facilitate acquisitions, UPS went public in 1999 and has since made three major acquisitions, as well as several smaller purchases. First, the company acquired the Fritz Companies for \$450 million in stock. Second, a mere six days later, UPS acquired First International Bancorp for \$78 million in stock. Then, in March 2001, it purchased Mailboxes Etc.

Management recently formed UPS Supply Chain Solutions, an integrated supply chain solutions provider that streamlines the coordination of logistic, global freight, financial, mail, consulting, and optimization services to enhance customer performance. UPS either formed or acquired companies that gave it capabilities to supply each of these services. Today, UPS Supply Chain Solutions delivers an integrated solution fulfilled by UPS Capital, UPS Logistics Group, UPS Freight Services, UPS Mail Innovations, and UPS Consulting (Sanderlin et al., 2003).

Of the \$6.5 billion in revenue growth that UPS experienced between 1998 and 2002, approximately 30% of it originated in Non Package services (despite the fact that non-package services were approximately 9% of total revenues in 2002), and about 20% of revenue growth originated in International Package (despite that fact that it was approximately 15% of total revenues in 2002.) Clearly, the fastest growing segment is non-package services.

Industry Overview

As mentioned earlier, UPS has offerings in three different industry segments: domestic package delivery, international package delivery, and non-package services. Given the relative sizes of the three segments, I first evaluate domestic package by itself and then combine international and non-package services into a single brief overview.

Domestic Package (76% of revenues in 2002)

In the broadest possible sense, UPS competes with any form of delivery service operating within the United States—including ocean shipping companies, freight forwarders, and less-than-truckload (LTL) transportation providers. The direct competition, which is more pertinent for this discussion, includes the United States Postal Service and competitor companies like FedEx, Airborne, and DHL. Of these competitors, UPS is clearly the dominant parcel delivery service with 13 million daily deliveries (vs. ~9 million for the USPS).

While the business has been relatively stable for many years, recent innovations in the mail sector have paralleled the deregulation of the telecommunications business. “Post office hybrids” (such as SmartMail, Airborne@home, and Parcel@home) have recently emerged and created new business models that rely on the United States Postal Service for the “last mile” of delivery, traditionally the most expensive part. These hybrids utilize their own transportation network and then hand off the package to the USPS for final delivery.

In terms of general offerings for the domestic delivery market, UPS has more breadth than any other provider. These standard offerings resemble “products” and possess similar economics. They offer 4 overnight delivery options—Early AM, Next Day Air, Next Day Air Saver, and UPS SonicAir Best Flight—which guarantee delivery by 800am, 1030am, 300pm or

the first available flight, respectively; 3 delayed/deferred delivery options; and 2 ground options. Recall that a bulk of UPS revenue is derived from ground based delivery services.

International Package and Non-Package (24% of revenues in 2002)

Equity research analysts expect the \$35 billion international package market to grow at 6-8% per year, nearly double the anticipated domestic package growth rate (McKinley, 2001).

Leading competitors in this market include Deutsche Post, TNT Post Group, DHL International, FedEx and various freight forwarders. A substantial portion of the international package delivery market, claims MacDonald Investments analyst Daniel McKinley, is in Europe. In Europe, the leading competitor is Deutsche Post, with an approximately 14% share of the market. UPS trails Deutsche Post, TNT Post and DHL and has been roughly equal to FedEx over the past 3 years.

The fastest growing segment of UPS is non-package services. This segment includes a wide variety of service offerings that range from insurance services through route scheduling software. The relative enormity of these markets (software alone is a several hundred billion dollar market), combined with the company's extremely small share of these markets, translates into an opportunity for UPS to find almost unconstrained growth opportunities through the addition of non-package services.

UPS as a Service Innovator

Over the 97 years of its history, UPS has undergone numerous business model transformations. This final section of the case study analyzes three extremely important strategic decisions made by UPS management over the last 50 years—namely, the decision to (a) begin offering common carrier services throughout the United States, (b) build an airline business, and (c) begin offering non-package services.

Common Carrier Services: Productizing the Service

The 1953 decision to begin offering common carrier services outside of the Los Angeles area was a major business model transformation for UPS. Common carrier services are effectively standardized offerings that resemble many of the characteristics of product models. The common carrier model was a means of “productizing” the offering by creating a high fixed cost operating model that enables economies of scale. Given the company’s commitment to drive a particular route, the effective marginal cost of an additional package was close to zero, thereby mimicking the dynamics of a “product model.”

Once management decided to pursue common carrier services around the country, the company’s strategy was straightforward: seek regulatory approval to transport packages and documents within and across any of the 50 United States. As noted earlier, this was no easy feat and took the company almost 30 years to accomplish. Having built the network, the company began resembling a high capital intensity service company with standard “product-like” offerings. Revenues increased dramatically, margins increased with additional volume, and the company entered a virtuous cycle of increasing growth and profitability.

Thus, the key strategic decision that enabled growth UPS growth through the early 1980s was the implementation of the common carrier model. It inherently changed the economics of the business by creating a network model that scaled, versus the previous one-off contract delivery model in which the company got paid for effort expended. By the early 1980s (just as the air service offering was gaining momentum), however, UPS management began to realize that they were subject to the whims of air fleet operators, a situation that left the company

vulnerable vis-à-vis its “product” quality. To mitigate this vulnerability, UPS built its own airline specifically to support its now thriving products business.

Building an Airline: Gaining Control of the Supply Chain

UPS management’s decision to build an airline was in direct reaction to misaligned incentives between its suppliers and its own needs. In order to control service quality and manage uncertainty, the company decided to vertically integrate. Tom Weidemeyer, Chief Operating Officer of UPS and President of UPS Airlines, notes how the decision unfolded:

*First off, we couldn’t lease enough space in the bellies of airplanes, so we went out and bought some. Now we didn’t have any expertise in running an airline, so the first thing we did was turn those aircraft we owned over to somebody else to operate them. And we said, “We need to have this service level.” Over time, that grew from six aircraft that we bought back in 1981. By the time we got to ’87 or ’88, we had 80 aircraft. And we had four different operators trying to maintain the service level that we believed was necessary for our customers. But **our service level objectives were not intrinsic to their businesses**...And so, in the summer of 1987, we announced to the world that the following spring, we were going to be an airline. We marched down that path...put 1,000 pilots on the payroll in the space of about 8 months...hired the mechanics, and went outside and hired some management expertise (Weidemeyer, 2002).*

Thus, the driving consideration of the airline entry decision was to align the service delivery professionals’ incentives with those of UPS. By reducing supply side uncertainty, UPS was able to successfully wrestle control of critical service quality drivers from suppliers.

How did the decision fare vis-à-vis corporate profitability? While it is difficult to tease apart the impact of this decision upon the company’s financial performance, some facts speak for themselves: Net margin increased from 6.5% in 1987 to 7.1% in 1998, EBITDA margins expanded from 14% in 1987 to 17% in 1998, and revenue grew more than 250% over the same

time frame. (Note that I specifically chose a 10 year window post the development of the in-house airline.)

Respectfully Complementing: The Addition of Non-Package Services

Given its current size and relative dominance of the domestic delivery market, UPS found itself struggling to maintain its growth rate in the late 1990s. The company held a series of strategic meetings to discuss future strategy. A key outcome was a redefinition of the company's mission to one in which it focused on enabling global commerce. Former Chairman and CEO Jim Kelly eloquently summarized the logic of the UPS decision to grow through non-package services during an interview with the *Harvard Business Review*:

*We know we need to reach far beyond our core business, but in ways that **respect and complement** it. A few years ago, we undertook an effort to rethink our mission and charter. Instead of seeing ourselves as just a package delivery business, we defined our purpose more broadly as enabling global commerce. It's certainly true: we serve 8 million shippers and receivers a day and move about 6% of the US GDP. But global commerce involves a lot more than delivering goods; it's just as much about moving information and money. So now we think in terms of all three of those flows as we create broader offerings for our customers and push deeper and deeper into their supply chains (Kirby, 2001).*

A big reason for this change, notes Kelly was the emergence of e-commerce (Kelly, 2000). Kelly argues that the traditional world, in which suppliers push their products through distributors into retailers and ultimately to customers, had transformed into a world in which end-users pull desired products and services through the system. Kelly also predicts this change will combine with globalization in an explosive way, resulting in "the convergence of once-independent flows of goods, information, and finance."

Weidemeyer describes the new focus as enabling the company to get a larger portion of the supply chain dollars. By expanding UPS's focus to include the flow of goods, information

and finances, “we’ve gone from the ability to participate in six cents of every logistics dollar spent to all 100 cents of the dollar,” notes Weidemeyer. “We now do warehousing...pick and pack...billing and phone center answering, financing inventory, and service parts logistics, just to name a few specific pieces of the supply chain picture” (Weidemeyer, 2002).

This expansion of services is an excellent example of service innovation targeting economies of scale and economies of scope. By taking the time to understand customer needs, UPS has leveraged its trusted advisor position into selling additional services—an exemplary demonstration of economies of scope. Further, if UPS is able to convince multiple parties to consolidate their warehousing and service parts logistics (to name a few specific supply chain functions) under a single UPS roof, they may in fact be able to also generate economies of scale. In fact, notes Weidemeyer, “Today we’re trying to convince Dell and Gateway, and potentially Best Buy, to be in the same warehouse that UPS is now going to maintain, take the returns, repair them, and then replenish or replace them for the ultimate customer...to synchronize commerce for our customers”(Weidemeyer, 2002).

THE APOLLO GROUP: BRINGING EDUCATION TO WORKING ADULTS

The Apollo Group's innovations in the field of for-profit education have enabled the company to grow from a small start-up to a \$12 billion market capitalization company at a remarkable rate.

Company Overview

The Apollo Group is the largest private provider of higher education services in the United States and currently offers educational programs at 176 campuses and learning centers in 37 states, Puerto Rico, and British Columbia. As of August 2003, combined degree enrollment was in excess of 200,000 students. 2003 revenues were \$1.3 billion, and the company's online university, the University of Phoenix Online, had more than 79,300 students enrolled and pursuing degrees. The Apollo Group operates through four wholly-owned subsidiaries—The University of Phoenix (“UOP” or the “University”), the Institute for Professional Development (the “Institute” or “IPD”), the College for Financial Planning Institutes Corporation (the “College” or “CFPI”), and Western International University (“Western” or “WIU”).

The University of Phoenix, a member of the North Central Association of Colleges and Schools, currently has 80 learning centers.⁶ The University of Phoenix also offers its educational programs online through the University of Phoenix Online. Approximately 60% of the University's students receive some level of tuition assistance, most from their employer.

The Institute for Professional Development, according to the most recent Apollo Group annual report, “provides program development and management services to regionally accredited private colleges and universities (client institutions) who are interested in expanding or

⁶ Arizona, California, Colorado, Florida, Georgia, Hawaii, Idaho, Illinois, Louisiana, Maryland, Massachusetts, Michigan, Missouri, Nevada, New Mexico, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Utah, Virginia, Washington, Wisconsin, Puerto Rico, and Vancouver

developing their programs for working adults.” The Institute currently offers these services to regionally accredited client institutions at 22 campuses and 28 learning centers in 23 states. Its business model is somewhat unique in that it provides these services in exchange for a share of tuition revenues generated from the adult learning programs they help create or manage.

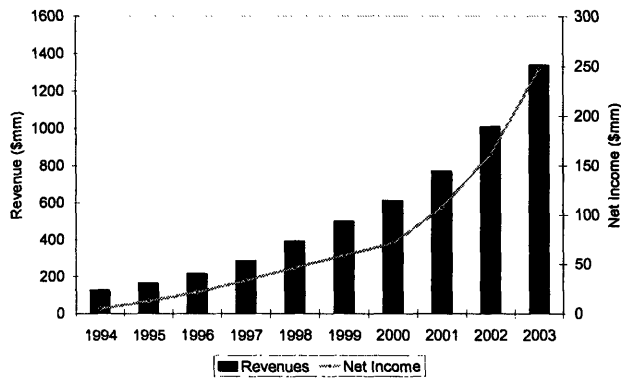
The College for Financial Planning provides educational programs in the field of financial planning. Current programs include Certified Financial Planner (CFP) certification preparation, the Chartered Financial Analyst (CFA) certification preparation, as well as a Master of Science Degree in Personal Financial Planning.⁷ The College also administers and/or runs programs such as the Registered Paraplanner, the Chartered Mutual Fund Counselor, and the Certification in Long Term Care.

Western International University is an accredited school that offers degree programs in Arizona (Phoenix, Chandler, Scottsdale, and Fort Huachuca). Apollo acquired WIU in 1995. Today, Western offers an associate degree in Arts, as well as 10 different bachelor degree programs. Graduate degree programs include 8 separate offerings.

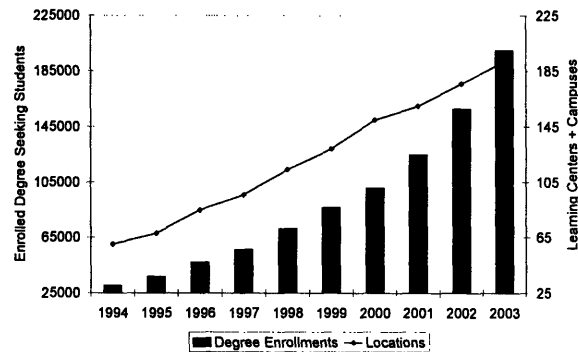
Relative to other companies, Apollo has an unusual capability in scaling its business and profitability. Revenues grew by a compounded annual growth rate of 30.2% over the 1994-2003 timeframe, while net income grew over the same periods at a compounded annual growth rate of 54.6%. Likewise, locations grew at a compounded annual growth rate of 13.8% over the same timeframe while student enrollment in degree programs grew at a 23.4% rate. Both charts below demonstrate the powerful scale and scope economics developed by the Apollo management team in creating a service business that has evaded traditional service growth limitations.

⁷ All factual information, unless otherwise noted, is taken from <http://www.apollogrp.com> and the company’s annual reports for the years ended 2002, 2001, and 2000.

Apollo Group - Revenues and Net Income Trends



Enrollment and Location Growth



One final issue worth discussing before turning to the historical origins of Apollo is the company’s learning model. The company designed, tested, refined, and some might say perfected its teaching model to meet the needs of working adults. It allows students who hold full time positions to fulfill their personal and professional obligations while simultaneously achieving their educational objectives. According to the 2002 Form 10-K,

Students attend weekly classes, averaging 15 students in size, and also meet weekly as part of a three to five person learning team. Learning team sessions are an integral part of each course. They facilitate in-depth review of and reflection on course materials. Members work together to complete assigned group projects, and develop communication and teamwork skills. Courses are designed to facilitate the application of knowledge and skills to the workplace and are taught by faculty members who possess advanced degrees and have professional experience in business, industry, government, or the professions. In this way, faculty members are able to share their professional knowledge and skills with the students.

The various curriculums integrate theory and application; faculty possess Masters or Doctoral degrees as well as five years of recent professional experience; courses encourage high levels of collaboration and student involvement; and students/faculty have access to “online libraries” with significant resources. Further, and perhaps most uniquely, the company’s learning/teaching

model⁸ is sequential, allowing students to focus on one subject at a time and allowing for a balanced student life without reducing the quality of educational outcomes.

Rebel with a Cause: John Sperling's Creation of the Apollo Group

San Jose State University Professor John Sperling founded The Apollo Group in 1973. Sperling vehemently opposed the rigidity and lack of accountability of traditional non-profit education service providers and sought to create a new model for education targeting the needs of adult learners.

In 1972, the university asked him to teach a series of classes for police officers and teachers to learn how to deal with juvenile delinquents. Experimenting with a new pedagogical technique, he brought in working experts with relevant experience (rather than teaching classes himself). Further, he divided the class into groups and required the completion of a relevant project. Students loved the method and sought a degree program with similar practical relevance. Eventually, he and two of his students founded the Institute for Community Research and Development (ICRD), in direct reaction to academia's rejection of his ideas: "My university said they didn't need no more stinkin' students, that they had all they can handle....They told me to go back and behave—be a professor"(Breen, 2003).

In March 1976, Sperling turned IPD operations over to his cofounders and began a new quest—the creation of a new, for-profit university dedicated to the needs of working adults.

⁸ The model has five key components. First, the company strives to make its offering accessible via a variety of delivery modes to meet the needs of working adults. Second, in an effort to provide students significant value for their tuition dollars, extensive use of part-time faculty members who hold full-time professional positions outside of Apollo keeps costs low. Third, leased facilities with options for expansion allow for rapid accommodation of student demand without the burden of underutilized real estate. Fourth, in an effort to reduce capital intensive services such as dormitories, onsite healthcare, entertainment, etc. the company retains its focus on working adults. Finally, the company retains strong ties to employers as a means to (a) increase the efficiency of recruiting efforts, (b) understand employer needs vis-à-vis student skills, and (c) diversify the revenue base through employer tuition reimbursement programs.

Sperling initially formed IPD, Inc. as a university seeking accreditation. One of the main suggestions the accrediting body gave him in order to improve the chance of securing accreditation was to clarify the distinction between IPD and IPCD, Inc. “We chose to change the name of IPD, Inc. and, after long discussions and with much trepidation, the Board of Directors decided on University of Phoenix” (Sperling, 2000). Eventually, the University did gain accreditation.⁹ Overcoming regulatory barriers to establish a stable presence proved elusive.

Over the next twenty years, Sperling desperately struggled to grow the business, often pushing the company to the brink of bankruptcy. Sperling admits to making many mistakes, including overexpanding: “I can attribute all of them to frustration/boredom/naivete,” he notes. This “frustration/boredom/naivete,” however, is what also led Sperling to purchase a defunct distance learning company in 1989, a move that created the University of Phoenix Online. It took more than 5 years to move the classroom experience online, but the “factory” is now built. Today, the University of Phoenix Online generates more than \$750 million in revenues a year.

During the early to mid 1990’s, Apollo looked at dozens of potential acquisitions, but consummated only two transactions—the purchase of Western International University, a small accredited college in Arizona that had about 900 students at the time, and the acquisition of the College of Financial Planning, the country’s leading provider of financial planning training and education service.

The For-Profit Higher Education Industry

Two primary issues affecting the for-profit higher education industry merit attention: (1) industry drivers of the rapid growth in for-profit education, and (2) regulatory dynamics that

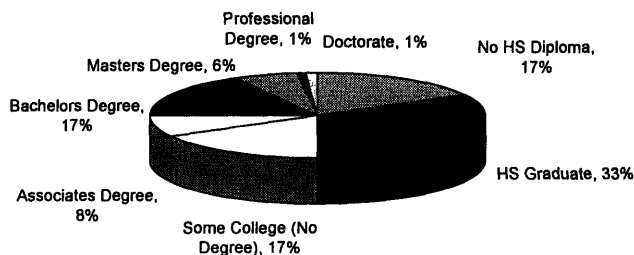
⁹ Gaining accreditation is not a small accomplishment and involves extensive regulatory review of curricula, teaching standards, and general management processes. For a better understanding of accreditation processes and standards, please visit www.ed.gov.

affect the intensity of competition. Key drivers of the rapid growth in for-profit education include (a) powerful demographic trends that continue to expand the addressable market of customers and (b) the opportunity for for-profits to take share from non-profit providers who have demonstrated lackluster responsiveness to customer (parent and/or student) demands, and (c) the increasingly visible returns for higher education. It is also important to understand the regulatory factors affecting education as a business.

According to the US Department of Education and the US Census Bureau, the echo boom (the boom of baby boomers' babies) peaked in 1990 when 4.2 million babies were born, approximately 100,000 fewer than the baby boom's peak in 1961. This strong demographic trend has led the Department of Education to project that college enrollments will increase 13% between now and 2012, adding 2.1 million students to the 15.6 million enrolled in 2002.

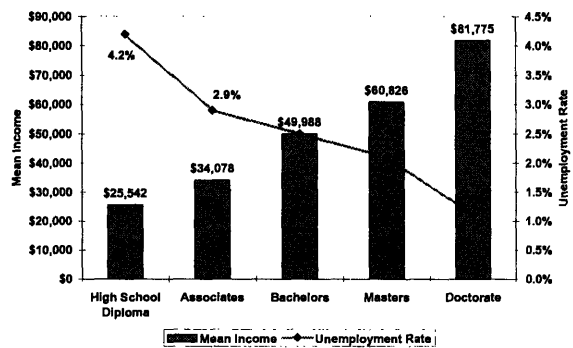
There is also an enormous opportunity among the "installed base" of working adults that do not have college degrees, a market historically neglected by large non-profit educational institutions (Symonds, 2003). The pie chart below summarizes the educational attainment of the US population which is 25 years of age and older. Note that this data, which is reported for the year 2000, has remained basically flat for the past 30 years.

Educational Attainment, Age 25 and Older



SOURCE: National Center for Education Statistics (NCES)

Mean Income and Unemployment by Degree, 2000



SOURCE: US Bureau of Labor Statistics, US Census Bureau, CSFB Equity Research

The last major driver of industry growth is the clear and increasingly visible returns to higher education. The chart above that shows the relationship between unemployment and educational attainment powerfully delivers the message that further education provides higher income and greater employment security.

Education is a heavily regulated industry. There are two essential regulatory hurdles that facilitate success in the education industry: accreditation and state licensure. Accreditation is an important part of the education industry as it provides significant competitive benefits, including qualification to participate in Title IV federal financial aid funding programs and transferability of student-earned credits to other institutions and government entities. The ability to offer Title IV funding to students is a key differentiator that sets accredited and licensed institutions apart from “mom and pop” diploma mills. Transferability of credits allows for network effects to increase the value of each accredited institution while simultaneously increasing the value of partial education (beginning but not completing a degree program) to students.

Apollo as a Service Innovator

The Apollo Group undertook two major service innovations that serve as the focus of this section: (a) the development of Apollo’s unique teaching model, and (b) the expansion into new markets and the addition of new programs.

The Teaching Model: Developing Economies of Scale through Productization

Sperling specifically designed the Apollo teaching model to meet the needs of working adults. However, it also allows the business to develop more scale than traditional education service delivery. Specifically, the teaching model allows the Apollo Group to standardize education into a “product-like” offering.

A key component of the University of Phoenix teaching model is the utilization of centralized curriculum development experts. Rather than allowing for idiosyncratic and customized course content that caters to the whims of particular faculty, standard course modules that include class lesson plans, course objectives, desired outcomes, and specific assignments to reinforce course goals are centrally developed. A “corporate” curriculum development group selects all textbooks and course materials, removing variability in service quality due to instructor differences (Cappelli & Sledgister, 2003; Childe & Newell, 2003). In addition to effectively acting as a service guarantee (students know before they take the class exactly what they will learn), the standard format allows product-like recurring profits. It also allows the company to rapidly bring faculty up to speed by effectively automating the teaching process.

Through its unique approach to faculty (i.e. the supply) management, Apollo has successfully avoided the burden of carrying underutilized people as pseudo-fixed costs. The company does not hire tenure faculty and courses are contracted for on a single class basis. If a particular course does not have adequate demand, the burden of carrying costs (faculty) is avoided.

The third element of the teaching model that demonstrates the power of service innovation is the flexibility in location and time of service delivery. In particular, the company’s University of Phoenix Online offerings and FlexNet offerings have allowed it to decouple the simultaneity and collocation of service production and consumption. While not exactly “inventory,” catalogs of student-teacher interactions in an online threaded discussion “room” allow other students to consume the education anywhere in the world at anytime. FlexNet is another alternative developed by the Apollo Group that allows the company to alter the time and location of the service delivery. It differs from the traditional classroom-only and online-only

offerings by offering students a hybrid model: rather than attending all classes on site, students attend the first and last class in person and complete all other coursework online.

An ancillary benefit of these alternative delivery models is a reduction in the physical plant needed to support the students. Further, Online and FlexNet multiply the addressable market by an order of magnitude. In addition to attracting students from markets that do not justify a physical presence, altering the timing and location of service delivery creates a market that includes billions of potential adult students from around the globe.

Achieving Economies of Scope: Growing the List of Offerings

The Apollo Group has actively sought to develop economies of scope through multiple sales of a standard service. Three major initiatives deserve mention: (a) the company's initiative vis-à-vis student learning materials, (b) entry into new and untapped geographic markets, and (c) the addition of new degree programs at existing locations.

In 2002, the company began an initiative called "rEsource." According to the 2003 Annual Report, "with rEsource, course materials are created digitally and delivered via the Internet. In this way, students get instant online access to their course materials—digitized textbooks, syllabi, relevant articles from the online library and other media sources, simulations, multimedia presentations, and more." rEsource offers three key benefits to the company. First, it allows streamlining of distribution of educational materials to students (at a 33% savings to traditional hard-copy equivalents). Second, the rEsource model allows the company to rapidly update content. Finally, the rEsource offering generates additional revenues from its existing base of customers—thereby leveraging customer acquisition and customer service functions.¹⁰

¹⁰ It is interesting to note that rEsource is also significantly more profitable than the textbook business it is cannibalizing. Apollo earns approximately \$8 on a \$75 textbook and will earn approximately \$45 on a \$65 rEsource

The next major part of the Apollo strategy is the addition of new campuses and learning centers with standardized approaches. The 2003 Form 10-K notes that “the University of Phoenix has customized computer programs for student tracking, marketing, faculty recruitment and training, and academic quality management. These computer programs are intended to provide uniformity among University of Phoenix’s campuses and learning centers which enhances University of Phoenix’s ability to expand into new markets while still maintaining academic quality.” New entry has accounted for a substantial portion of growth over the past decade: the number of locations in which Apollo offered educational services grew from 60 in 1994 to well over 192 in 2003, a 13.8% compounded annual growth rate. The ability to leverage a common management architecture resulted in enrollment growth of 23.4% over the same period—demonstrating the power and leverage of scope economics.

New degree programs have expanded the universe of potential customers without concomitant increases in delivery costs, allowing the business to achieve increased profitability. For instance, the recent addition of a Doctor of Business Administration degree program utilizes much of the content and courses delivered in other degree programs. Further, the company cross-sells across its network of companies. For example, in 1999 the College began offering non-degree programs at University of Phoenix campuses.

sale. According to Credit Suisse First Boston Equity Research Analyst Greg Cappelli, rEsource has the potential to add roughly \$70 million in revenue and close to \$23 million in earnings (see the June 24, 2003 equity research report from CSFB). Further, Cappelli notes that “importantly, students are required to purchase this service, whereas in the past they could simply share a textbook.”

AMERICAN EXPRESS: FEES, CHEQUES, FEES, CARDS, FEES, & FEES...

The American Express Company (“American Express” or “Amex”) is a diversified financial services company that has grown from a delivery service company focused on the state of NY into one of the world’s most recognized financial services brand. As of December 2003, the company was worth about \$60 billion and had more than 75K employees around the world.

*Company Overview*¹¹

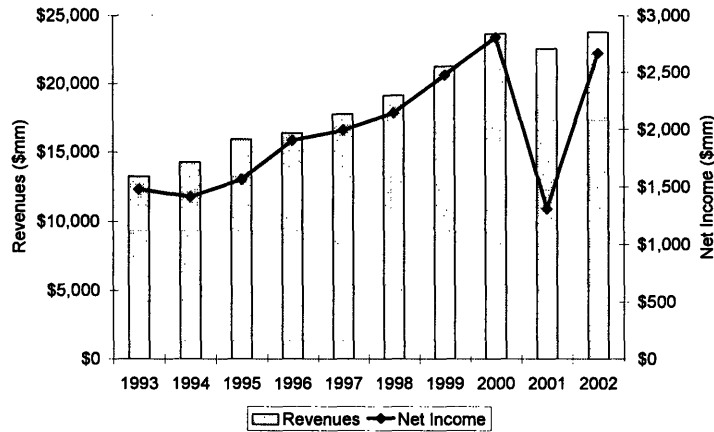
American Express generates revenues from three business units—Travel Related Services (TRS) (which includes the charge and credit card businesses) representing approximately ¾ of the company’s revenues, American Express Financial Advisors (AEFA) (the company’s brokerage business) which accounts for about 1/5 of the company’s business, and American Express Bank (Amex Bank) (a traditional bank offering lending and depository solutions to individuals and small/growing businesses).

Travel Related Service is disproportionately profitable, while AEFA lags. Nevertheless, the company maintains an impressive brand. According to Interbrand (a brand management consultancy and research firm), the American Express brand is the second most valuable financial services brand (second to Citibank) as the 15th most valuable brand in the world.¹² The chart below—which summarizes the company’s performance over the past 10 years—demonstrates how management leveraged the brand to drive outcomes.

¹¹ Unless otherwise noted, all factual data regarding the company is sourced from the company’s SEC filings, including the company’s annual reports for the years ended 2002, 2001, and 2000.

¹² Interbrand’s methodology is based upon evaluating the present value of the premium the brand allows in terms of pricing. The 14 brands deemed to be more valuable than American Express are Coca-Cola, Microsoft, IBM, GE, Intel, Nokia, Disney, McDonalds, Marlboro, Mercedes, Toyota, HP, Citibank and Ford.

Amex Revenues and Net Income (1993-2002)



SOURCE: Company filings

Travel Related Services

Travel Related Services is Amex's largest business unit, generating 74% and 79% of the company's revenues and pretax profits, respectively, during the first nine months of 2003. The business consists of six operations: (1) global network services, (2) global merchant services, (3) the consumer card, small business, and consumer travel services, (4) global corporate services, (5) global traveler's cheque and prepaid services, and (6) other products and services.

Global Network Services operates a general purpose charge and credit card network. The network offers numerous services to its members, including operations, service delivery, systems, authorization, settlement, brand advertising, new product development, and creation/maintenance of the network through merchant relationship management.¹³

Global Merchant Services is the TRS unit focused on obtaining network breadth:

According to the 2002 Form 10-K, "TRS' objective is to achieve merchant coverage wherever and however Cardmembers want to use the Card. TRS signs up merchants through a number of

¹³ Although TRS issues the vast majority of cards utilized on the network, recent efforts to grow the Global Network Services category have included an opening of the network to non-Amex card issuers. As of 2002, Amex had created 77 relationships in 77 different countries to allow banks to issue American Express branded cards.

sales channels: a proprietary sales force, third party sales agents, the Internet, telemarketing, and inbound ‘Want to Honor’ calls” in which merchants calls Amex to join the network. TRS earns revenues from “discount fees,” amounts deducted from payments owed to merchants as a result of Cardmember charges.

The Consumer Card, Small Business, and Consumer Travel Services segment of TRS is focused on the products most familiar to consumers. Individual charge cards offered through this category include the Amex Card, the Amex Gold Card, the Amex Platinum Card, and the invitation-only Amex Centurion Card; credit cards (allowing users to maintain a balance each month) include Blue from Amex and the Optima Card, among others.

The Global Corporate Services segment of TRS focuses on meeting the needs of large and middle market companies through offerings such as the Corporate Card, the Corporate Travel Card, and the Corporate Purchasing Card. In addition to offering detailed billing and customized services, Amex also offers corporate customers integrated card and travel services. Additional fee-based services offered to corporate customers include travel policy consultation, IT systems, on-site ticketing and travel agent services, as well as incentive travel programs. Global Corporate Services earns revenues through membership fees on each card issued, consulting services rendered, and commissions on the sale of travel services.

The Global Travelers Cheque and Prepaid Services category of TRS offers traveler’s cheques and prepaid funds cards as an alternative to currency. Other offerings in this segment include Gift Cheques, the Be My Guest Card, and the Amex Gift Card. TRS earns revenues through these offerings in two ways. (1) Amex earns interest on the money once it is received from the purchaser of the cheque or prepaid card until the cheque/card is redeemed, and (2) Amex charges a fee for the purchase of cheques and prepaid cards.

Other Products and Services offered by TRS include interactive services that allow cardmembers to self-manage their account, tax and business consulting services to small/medium-sized businesses, and a publishing business with a variety of offerings focused on general interest, cooking, wine, travel, and financial/time management.

American Express Financial Advisors

American Express Financial Advisors (AEFA) is the Amex business unit focused on leveraging the Amex brand into the large and growing financial planning and management industry. Through field sales force of over 11,600 financial advisors, AEFA had more than 2 million customers in 2002 throughout the United States. According to the 2002 Form 10-K,

The core of AEFA's business is financial planning and advice. AEFA's financial advisors work with retail clients to develop strong relationships and long-term financial strategies. To fulfill the needs of its retail clients, AEFA also develops and offers a broad array of financial products and services, including annuities; a variety of insurance products, including life insurance, disability income insurance and property and casualty insurance; a variety of investment products, including investment certificates and mutual funds; investment services, including wrap programs; a variety of tax-qualified products, including individual retirement accounts, employer-sponsored retirement plans and Section 529 college savings plan; personal trust services; and retail securities brokerage, including online direct brokerage services.

American Express Bank

The American Express Bank (AEB) is focused on meeting the needs of three distinct client groups: (a) retail customers, (b) wealthy individuals, and (c) financial institutions. AEB has a global presence with offices in 42 countries. AEB has three main segments: Personal Financial Services (PFS), The Private Bank, and the Financial Institutions Group (FIG). Again, the 2002 Form 10-K provides an eloquent and succinct summary:

PFS provides consumer products in direct response to specific financial needs of retail customers and includes interest-bearing deposits, unsecured lines of credit, installment loans, money market funds, mortgage loans, auto loans and mutual funds. The Private Bank focuses on wealthy individuals by providing such customers with investment management, trust and estate planning and banking services, including secured lending. FIG provides financial institution clients with a wide variety of correspondent banking offerings including international payment processing (wire transfers and checks), trade related payments and financing, cash management, loans, extensions of credit and investment products, including third party distribution of AEB offshore mutual funds. AEB also provides treasury and capital markets products and services to its customers, including foreign exchange, foreign exchange options, derivatives and interest rate risk management products.

From Delivery to Financial Services: A Brief History of Amex

The American Express Company started operations in 1850 when Henry Wells merged his delivery operations with two competitors – Livingston & Fargo and Butterfield, Wasson & Co.¹⁴ It was not until 1868, however, that the new American Express made its first major strategic move and merged with Merchants Union Express to develop a money order to compete against the US Post Office (Ryan & Parechianian, 1999).

Although the company continued to prosper through the 1870s and 1880s with its package delivery and money order business, in 1891, management made another major strategic move by introducing travelers cheques.¹⁵ From its original development through World War I, the traveler's cheque business grew rapidly while the traditional delivery and money order business grew modestly. Following the war, American Express incorporated as an overseas freight, financial services, and currency exchange provider. To grow the company's financial

¹⁴ Separately, it is interesting to note that Henry Wells then teamed with Amex vice president William Fargo to form Wells Fargo...

¹⁵ During a visit to Europe, Amex VP Fargo grew increasingly frustrated at his inability to efficiently cash letters of credit from his bank. He returned to America convinced that there had to be a better way to manage international access to money for the ordinary citizen, a conviction that resulted in the development of the American Express Travelers Cheque.

services business, management introduced the Amex Charge Card in 1958 to gain access to high net worth and high income individuals who pay their bill in full each month.

By 1970, the company's success in financial services had exceeded expectations and management decided to divest the freight business and focus on rapidly growing financial services offerings. The Board appointed James Robinson CEO in 1977, the same year in which the company went public. Robinson believed that customers wanted a single financial services company to meet all their needs. Under Robinson, Amex purchased insurance, brokerage, real estate, commercial banking and investment banking operations (Hochstim & Gokhale, 2003; March & Garvin, 1996; Ryan et al., 1999). The early 1980s also brought a rise in the demand for credit cards, a competitive offering that threatened the Charge Card. To participate in this market, Amex introduced the Optima Credit Card.

Optima had compelling prospects: revenues could be generated from spreads on consumer balances as well as increased volume in the network transaction processing and clearing infrastructure. However, "in spite of the company's extensive charge card experience, management was not sophisticated or disciplined enough to adequately control losses on a revolving product"(Ryan et al., 1999). The new card proved was a major disappointment.

The losses at Optima combined with difficult markets in 1990 and resulted in a 71% drop in earnings on roughly flat revenues. Management lost faith in the "one-stop shopping" vision and began selling many of the businesses into which the strategy had led them. The brand was rapidly losing appeal and in an infamous event later referred to as the "Boston Fee Party," a group of 100 prominent Boston restaurants threatened to stop accepting the Amex card due to high fees (Bianco, 1998).

In 1993, Robinson resigned and Harvey Golub (who had been running Travel Related Services) accepted the CEO position. Golub immediately divested several major acquisitions (Lehman Brothers, EF Hutton, Shearson brokerage, etc.) and focused on developing a uniformly branded business. He emphasized integration (with the objective of gaining a seamless view of the customer) and began coordinating divisions previously been run as autonomous units.

One of Golub's key lieutenants at American Express was Ken Chenault, an ex-lawyer turned management consultant who had made a name for himself through notable successes such as turning around the merchandising business.¹⁶ Chenault was also intimately involved with fixing the card business. Under his leadership as head of TRS, the number of Amex cards offered to consumers and corporations soared from four to sixty. Chenault was convinced, that card associations like MasterCard and Visa represented a threat to the core Amex card business. He created the blockbuster Membership Rewards program¹⁷ and signed up joint-issuers such as Delta Airlines and the New York Knicks.¹⁸ By 1996, Chenault convinced the last of the Boston Fee Party restaurants to accept the Amex Card (March et al., 1996).

¹⁶ The merchandising business was based upon flyers inserted into monthly cardmember statements. Chenault grew the business from under \$100 million to over \$700 million in revenues. Another particularly telling incident occurred when United Airlines CEO Stephen Wolf threatened to stop accepting American Express cards unless its transaction fees were slashed. According to Adam Aaron, United Airlines head of marketing, "Ken [Chenault] told it him 'it will be interesting to watch you try to survive without American Express.'" (See Bianco, A. 1998. The Rise of A Star. *Business Week*, Dec 21, 1998(3609): 60-70.). United backed down and Chenault earned the respect of top Amex management as an aggressive and effective manager.

¹⁷ Membership Rewards is a loyalty program whereby Cardmembers earn points for dollars spent and can redeem points for travel services or merchandise.

¹⁸ While such success is not remarkable from a company with the prestige in presence of American Express, it is particularly noteworthy that the company rejected an offer from American Airlines in 1984 to create a co-branded card (see March, A., & Garvin, D. A. 1996. HBS CASE 9-396-212: Harvey Golub: Recharging American Express. Cambridge, MA: Harvard Business School Publishing.) Today, the Citibank American Airlines Co-branded MasterCard is one of the most popular and successful joint issued cards in circulation and a constant reminder to Amex management of its former aloofness. As Golub recounted, "Through our view of ourselves, we created Visa, the AT&T Universal Card, and the American [Citibank] Aadvantage Program" (March, A., & Garvin, D. A. 1996. HBS CASE 9-396-212: Harvey Golub: Recharging American Express. Cambridge, MA: Harvard Business School Publishing.)

Not surprisingly, when Golub decided to retire from American Express in late 2000, he passed the baton to Chenault. Today, American Express is struggling to maintain its growth rate and has focused on building flexible business models for its numerous businesses. In fact, the 2002 Annual Report notes the company's three foci: (a) improving business models to allow for margin improvement and diversified revenue bases, (b) improving the company's risk profile vis-à-vis the revolving credit lines, and (c) investing in business building activities through the introduction of new and enhanced rewards products, building the new OPEN brand, increased attention to international markets, development and exploitation of its prepaid products portfolio, and a conscious focus on leveraging the Amex brand to grow retail financial services.

Industry Overview: Fees, Fees, and More Fees...

Given the enormous complexity and breadth of the financial services industry, this section of the case will focus upon the industry segments in which Amex competes. Amex's TRS unit generates most of its income through network-related fees (discount fees, spreads, and floats), and travel-related fees (booking commissions, transaction fees, etc.). First, unlike Amex's main card network-related competitors (VISA and MasterCard), Amex has traditionally utilized a closed loop system in which they capture all the fees merchants and card holders pay. A 1996 Harvard Business School case about American Express describes the industry as follows:

Several parties were involved in a transaction between merchants and cardholders. Card issuers, usually banks or large companies, issued cards to individuals; networks, primarily MasterCard and VISA, connected the participants; merchant banks owned the relationship with merchants; and merchant processors increasingly performed point-of-sale authorizations and transaction processing and billing. When customers used a bank card, merchants paid a discount fee that was divided among the participating network, card issuing bank, and merchant processor. American Express, by contrast, did not share its fees and made money at every stage of the transaction process (March et al., 1996).

Despite benefits of running a closed-loop system such as extremely valuable (in terms of designing marketing campaigns) information regarding merchant and cardmember activity, Amex's growth increased pressure to open its network up to other issuers. Internationally, this proved easy and numerous financial institutions abroad signed up to issue Amex cards. Within the US, however, TRS remains the sole issuer of Amex cards. This is a direct result of (a) the company's position years ago to develop a proprietary network with proprietary cards, and (b) intense competition from VISA and MasterCard, both of which have agreements with their network members prohibiting members from joining the Amex network.¹⁹

The other portion of TRS revenues comes from travel-related fees. TRS consumer travel has faced stiff competition from online travel agencies the direct sales efforts of airlines, and the corporate travel business has faced competition from other travel agencies as well as in-house agents employed by customers. Further, the post-September 11th decision by airlines to stop paying commissions severely ate into Amex's travel-related revenues.

American Express Financial Advisors competes in the general financial services market. As such, it competes with traditional money management firms, mutual fund companies, financial advisory firms, and personal wealth management organizations. The market for the services offered by these companies is huge and represents an enormous opportunity for American Express to leverage its brand. Likewise, the market for the general banking services offered by American Express Bank is also large and is an excellent opportunity for the company to utilize its brand value for continued corporate growth.

¹⁹ While Amex is currently altering condition (a), an attempt to expand the network in the US has proven difficult. This is a direct result of the VISA and MasterCard network member agreements. In October 1998, the US Department of Justice filed a lawsuit against VISA and MasterCard, alleging violations of antitrust laws. In 2001, a verdict was issued in favor of the Department of Justice claim. VISA and MasterCard are currently appealing the decision. (See Napoli, R. P., Kaster, L. E., & Elving, J. J. 2003. Meeting with Ken Chenault Shows High Confidence on AXP Position and LT Outlook. Chicago, IL: US Bancorp Piper Jaffray. and Schwartz, N. D. 2001. What's In The Cards For Amex? *Fortune*, 143(2): 58-68.)

Continual Innovation: The Dynamics of the Amex Business Model(s)

American Express management clearly understands the dynamics of service innovation. A simple perusal of the company's SEC filings illustrates the approach to managing growth and scalability through appropriate business model modifications. For instance, management notes (in the 2002 Form 10-K) the emphasis on "strengthening its business model so that it is more flexible and adaptable." Such activities improve profitability as well as lower business risk.

In particular, this section of the case discusses two main strategic innovation decisions through which American Express has demonstrated the power of service innovation: (a) the "opening up" of the American Express global network to independent card issuers, and (b) the increasing use of the internet as a means of providing customer service.

Open Sesame: Variabilizing the "Sales" Effort

The biggest growth opportunity American Express has today is the opening up of its proprietary closed-loop network. As mentioned above, Amex's historical approach was to provide an integrated offering in which it issued cards, developed and maintained the network, and handled all merchant relationships. Given merchant saturation, the cost of each incremental customer is likely to rise. Thus, a business model transformation to variabilize sales costs and only pay for successful efforts can make a previously unscalable operation scalable.

Internationally, as discussed above, the company has successfully formed relationships with 77 international card issuers.²⁰ Within the United States, Amex invited banks and other qualified institutions to begin issuing American Express Cards on the American Express

²⁰ In 2002, for instance, the company signed up Toyota Finance Company in Japan and Samsung Card Company in Korea. Together with the other 75 card issuers, these institutions introduced more than 40 new American Express cards and products during 2002. As noted in the 2002 Form 10-K, "these partnerships increase TRS' merchant network and significant increase the number of merchants accepting the American Express Card in selected markets."

Network in May 1996. No banks accepted this invitation, a response to the VISA and MasterCard rules and policies calling for member expulsion from these networks if they were to issue Amex cards. The US Department of Justice filed an antitrust suit in 1998, the court ruled against VISA and MasterCard in 2001, and the decision is currently being appealed.

For numerous reasons, Chenault believes that many banks will rapidly begin offering Amex cards if the Appeals Court confirms the lower court's decision: banks are running out of ways to grow their businesses (most portfolios of card relationships have been acquired), are under increased margin pressure as spreads are being eaten up by loss-leading below market initial interest rate offers, and are not generating much growth from their VISA and MasterCard portfolios. Even obtaining a small share of the existing MasterCard and VISA market would generate significant revenue increases for Amex (Napoli et al., 2003).

The benefit of this new business model is that it allows Amex to scale its business. No longer does the company need to spend money on acquiring card members to drive discount, spread, and/or float fees. Rather, in return for splitting membership fees with the new issuers, they generate additional network volume and network usage (and the corresponding discount fees). Further, Amex will not pay for unsuccessful issuance efforts; membership fees are shared, but cardmember acquisition costs are not—they are borne 100% by the card issuing partner. Just as the company has decided to open the cardmember side of the network, it has also decided to open up the merchant side of the network. By doing so, the company is willing to share a portion of the discount fees generated by a merchant with the entity that obtained the merchant.²¹

²¹ For instance, in 2002, Amex implemented an agreement with JCB Company, Ltd., the largest card issuer and merchant acquirer in Japan, through which JCB signed up more than 50,000 merchants onto the American Express network. As part of this relationship, American Express will share discount fees generated by these 50,000 merchant with JCB. Just as before, however, Amex incurred no costs to acquire these merchants.

Finally, it is worth noting that Amex management appears to think in terms of “variabilizing” expenses in all of their volatile business units. Gary Crittenden, Executive Vice President and Chief Financial Officer of Amex, noted that among Amex’s top priorities is “making aspects of our expense base more variable and creating a dynamic engineering capability” (Crittenden, 2003).

Productization: Improving the “Margin” on Customer Service

Amex has been known for excellent customer service. However, maintaining high quality customer service is not cheap and requires capable representatives: a fairly direct and coupled relationship exists between the number of customers seeking assistance from call center representatives and the number of representatives needed to service those customers.

If customer service is conceptualized as a benefit (i.e. something akin to “revenue”) with the corresponding cost to deliver that benefit (i.e. “cost of revenue”) the expense of customer service representation, then the “margin” associated with the customer service function is fairly static—meaning that to deliver more service requires more representatives. However, Amex’s use of the internet and the creation of a “Manage My Card” offering have turned the traditional low margin service into a highly “profitable” function with decreasing unit costs (cost per service interaction) and product-like leverage (i.e. increasing % margin as volume increases).²²

CFO Crittenden notes that “each online transaction saves us anywhere from 5% and 90% of our comparable offline unit cost, [and] savings continue to build” (Crittenden, 2003). Given the cost structure of maintaining an online customer service function is relatively fixed, productizing the customer service function creates leverage in a previously unscalable function.

²² CEO Ken Chenault, during a June 2003 presentation at the Sanford C. Bernstein Strategic Decisions Conference, specifically highlighted these efforts as a key success of Amex’s recent strategic initiatives: “we significantly expanded our internet service capabilities to reduce our unit costs...”

At the end of 2002, the company had converted more than 8.9 million cardmembers from using telephone support to using online services as their predominant form of customer service; online services were also being used for internal services such as procurement. The 2002 Annual Report noted that

online servicing can dramatically reduce unit costs. We realized substantial benefits in 2002, while improving the flexibility of our overall business models and delivering service in a manner that many of our customers prefer. As part of our shift to online servicing, we also continued to move more internal processes, such as the procurement of goods and services, to the company's intranet. While we have made good progress in shifting volumes online, there remains a great deal of opportunity across our transaction base. With the majority of our online servicing capabilities already built and paid for, we expect the Internet to generate continued margin improvement for us over the near to moderate term.

“Already built and paid for” is evidence of a business model conversion from a low fixed cost, high variable cost model (call center support that requires more representatives to support more customers) to a relatively high fixed cost, low variable cost model (internet servicing).

TOWARDS A SERVICE INNOVATION THEORY

The three case studies highlight seven unique innovation decisions/events: (1) the implementation of common carrier services at UPS, (2) the building of an airline at UPS, (3) the introduction of non-package services at UPS, (4) the development of a standardized teaching model at the Apollo Group, (5) the expansion in offerings at the Apollo Group, (6) American Express's opening of its network, and (7) the productization of customer service at Amex. This section of the paper attempts to compare and contrast these innovation decisions with the explicit aim of developing a testable theory of service innovation. In particular, I hope to create a common language of service innovation by categorizing the seven decisions.

I begin with an evaluation of the seven innovation decisions to determine the extent to which they faced unique issues distinct from product innovation issues. The table below summarizes how the seven innovation decisions differ from product innovations vis-à-vis the six characteristics noted in the section above on the uniqueness of services. Each cell of the table indicates whether the characteristic of the service before and after the innovation; the capital intensity characteristic is self-explanatory. Two decisions involve the introduction of de novo services and therefore do not have "before" information.

THE UNIQUENESS OF THE SEVEN INNOVATION DECISIONS

<i>Innovation Decision</i> →	UPS			Apollo		Amex	
	Common Carrier	UPS Airline	Non-Package	Teaching Model	Add-On Offerings	Opening Network	Customer Service
Intangibility?	Yes→Yes	Yes→Yes	→ Yes	Yes→Yes	→ Yes	Yes→Yes	Yes→Yes
Perishability?	Yes→Yes	Yes→Yes	→ Yes	Yes→Yes	→No	Yes→Yes	Yes→No
Heterogeneity?	Yes→ No	Yes→No	→Yes	Yes→No	→No	Yes→No	Yes→No

Simultaneity?	Yes→No	Yes→Yes	→Yes	Yes→No	→No	Yes→No	Yes→No
Transferability?	No→Yes	No→Yes	→Yes	Yes→Yes	→Yes	Yes→Yes	Yes→Yes
Cultural Specificity?	Yes→No	No→No	→Yes	Yes→Yes	→No	Yes→No	Yes→No
Capital Intensity?	High→Low	Low→High	→Low	Low→Low	→Low	High→Low	Low→High

NOTE: "Yes" indicates that the innovation exhibits the characteristic listed while "No" indicates the characteristic is not exhibited; information provided before the arrows above indicates the pre-innovation state of the offering while information after the arrows indicates post-innovation status. In those cases in which the service innovation was a new offering, no before information is provided.

The table above generates several interesting propositions about service innovation and its uniqueness vis-à-vis product innovations. I analyze the table first horizontally (i.e. looking across the seven innovation decisions) and then vertically (i.e. looking at each innovation versus the service characteristics). Looking across the innovations yields the following insights:

- Intangibility is a constant among services innovation in this sample. Changing this quality necessarily converts an innovation into a product innovation.
- Transferability is a consistent factor for managers to consider when undertaking service innovation. Managing reputation and the expectations of both customers and producers of services is an important task.
- Heterogeneity of customer and producer experiences is a factor that often changes during a service innovation. It appears that many service innovations result in a reduction of heterogeneity.
- Cultural specificity is also a factor that seems to be reduced during service innovation. The innovations tend to produce more "standard" offerings that are not subject to cultural and/or social whims.

Looking vertically at the table suggests that many innovations result in a change to some of the essential characteristics of services. The Common Carrier and UPS Airline cases respectively changed four and three of the service qualities during the innovation. The Non-Package Services innovation appears to simply be a new service and does not create any non-service qualities to the offering. The Apollo examples represent some interesting changes as well. The Teaching Model example changed two qualities and the Add-On Offerings changed four characteristics of the services. Finally, Amex's two innovations resulted in nine separate changes to the qualities of the offerings. Noteworthy summary points include the following:

- Most service innovations in this small sample change at least two of the unique characteristics of services.
- New offerings (i.e. innovations through the introduction of a new service) may not change any of the characteristics (like the UPS Non-Package example illustrates) or they may alter several of the characteristics (i.e. Apollo's Add-On Offerings).

In aggregate, these points motivate the following testable propositions.

PROPOSITION #1: Service innovations are business model transformations that alter more than one unique service characteristic.

PROPOSITION #2: Service innovations that are not focused on the introduction of a new service involve a standardization of the offering so that both consumers and producers of the service develop similar expectations about its quality and characteristics (“THE FIXIZATION PROPOSITION”).

PROPOSITION #3: In saturated or volatile demand environments, service innovations involve the conversion of fixed/high capital cost infrastructures into variable/low capital cost models (“THE VARIABILIZATION PROPOSITION”).

DISCUSSION AND NEXT STEPS

Service innovation remains an immature field with much work to be done. In many ways, the topic is in the midst of its own “era of ferment” and has yet to settle on any dominant or accepted frameworks. Typical of any field that has not yet developed shared understandings or common languages, the field needs focus. As noted by Kuhn in his discussion regarding the evolution of understanding and paradigms, “In the absence of a paradigm...all of the facts...are likely to seem relevant” (Kuhn, 1962). Although much recent work is beginning to address the subject of service innovation, there remains no shared understanding with common concepts. Scholars rightly believe that all areas of research related to service innovation merit attention. Focus and attention will help narrow the field and allow for advanced theory building.

This paper has argued that service innovation fits existing models of innovation theory. Specifically, concepts such as incremental innovation, the era of ferment, disruptive innovation, dominant designs, architectural innovation, and process innovation seem relevant. Just because service innovations are describable in terms of product innovation concepts, however, does not suggest that we do not need additional work on the subject. On the contrary, this paper suggests further efforts should focus on the unique elements of services and their impact on innovation strategies; such work may have the added benefit of informing and clarifying the product development and innovation literature. A detailed look at three innovation strategies discussed among the seven innovation decisions studied yields an insight worthy of highlighting: service innovations are inherently business model transformations. One successful tactic of innovating in the services world is to fix formerly variable costs in an effort to generate economies of scale (see Proposition #2 above). Fixization is a change to the business model. Another successful

service innovation tactic is variabilizing formerly fixed costs (see Proposition #3 above). Once again, this is inherently a business model change.

Next Steps

The next step in developing a theory of services innovation would involve empirically testing the propositions presented in this paper. In particular, field research involving surveys and interviews of service company managers are a necessary next step. A survey can be designed to measure each of the variables discussed above with interviews supplementing the more qualitative of the issues (such as motivation). However, measures for most variables should be fairly straightforward.

A sample plan of research may entail the following methods to acquire the appropriate data. First, interview managers and allow them to discuss their service innovation efforts. Transcripts can then be coded to extract relevant information about the innovation decision's motivation, strategy, type, and/or impact. Next, survey managers about the innovation decision with an eye to understanding the environment, customer characteristics, strategy, and impact of the effort. Multiple questions can be utilized to assure managerial consistency. Finally, independent archival data can be gathered to evaluate the more objective of the variables. For instance, market size growth rates and/or customer concentration rates can be evaluated to determine environmental and customer characteristics. Further, financial statements can be analyzed to determine the impact of these innovation decisions through a look at the relative levels of fixed and/or variable costs. As a final step, results could then be independently coded and empirically analyzed to test for the proposed relationships.

The field of services innovation is undeveloped enough to accommodate both quantitative and qualitative researchers. Quantitative research opportunities abound in evaluation of service innovation strategies and their impacts. As is typical of any young topic, qualitative researchers likewise will find an abundance of opportunity in studying service innovation.

REFERENCES

- Abernathy, W. J. 1978. *The Productivity Dilemma: Roadblock to Innovation in the Automobile Industry*. Baltimore: Johns Hopkins University Press.
- Abernathy, W. J., & Utterback, J. M. 1978. Patterns of Industrial Innovation, *Technology Review*: 40-47. Cambridge.
- Anderson, P., & Tushman, M. L. 1990. Technological Discontinuities and Dominant Designs: A Cyclical Model of Technological Change. *Administrative Science Quarterly*, 35(4): 604-633.
- Barras, R. 1986. Towards a Theory of Innovation in Services. *Research Policy*, 15: 161-173.
- Barras, R. 1990. Interactive Innovation in Financial and Business Services: The Vanguard of the Service Revolution. *Research Policy*, 19: 215-238.
- Baumol, W. J. 2002. Services as Leaders and the Leader of the Services. In J. Gadrey, & F. Gallouj (Eds.), *Productivity, Innovation, and Knowledge in Services*. Cheltenham, UK: Edward Elgar.
- Benner, M. J., & Tushman, M. L. 2003. Exploitation, Exploration, and Process Management: The Productivity Dilemma Revisited. *Academy of Management Review*, 28(2): 238-256.
- Bianco, A. 1998. The Rise of A Star. *Business Week*, Dec 21, 1998(3609): 60-70.
- Bitran, G., & Mondschein, S. 1997. Managing the Tug-of-War Between Supply and Demand in the Service Industries. *European Management Journal*: 523-536.
- Bitran, G., & Pedrosa, L. 1998. A Structured Product Development Perspective for Service Corporations, *European Management Journal*: 169-189. London.
- Bitran, G. R., & Hoeh, J. 1990. The Humanization of Service: Respect at the Moment of Truth. *Sloan Management Review*: 89.
- Bitran, G. R., & Logo, M. 1993. A Framework for Analyzing Service Operations. *European Management Journal*, 11(3): 271-282.
- Breen, B. 2003. The Hard Life and Restless Mind of America's Education Billionaire. *Fast Company*(68): 80.
- Cappelli, G. W., & Sledgister, E. 2003. Apollo Group: Outlook Calls for Another Solid Year. Chicago, IL: Credit Suisse First Boston.
- Childe, J., & Newell, A. 2003. Apollo Group: Five Reasons to Revisit This Story. New York, NY: Bear Stearns.
- Christensen, C. M. 1997. *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*. Boston: Harvard Business School Press.
- Christensen, C. M., & Bower, J. L. 1996. Customer Power, Strategic Investment, and the Failure of Leading Firms. *Strategic Management Journal*, 17(3): 197-218.
- Crittenden, G. 2003. AMEX. Paper presented at the Lehman Brothers Financial Services Conference, New York, NY.
- Cusumano, M. 2004. *The Business of Software: What Every Manager, Programmer, and Entrepreneur Must Know, in Good Times and Bad*. New York: The Free Press.
- Cusumano, M. A. 1991. *Japan's Software Factories: A Challenge to U.S. Management*. New York: Oxford University Press.
- Cusumano, M. A., & Yoffie, D. B. 1998. *Competing on Internet Time: Lessons from Netscape and Its Battle with Microsoft*. New York, NY: Free Press.

- Feeley, F. G., Foden, H. G., & Warren, L. A. 1986. Technological Innovation in Service Industries: Effects and Response. *Economic Development Review*(Summer 1986): 7-10.
- Gallouj, F. 2002. *Innovation in the Service Economy: The New Wealth of Nations*. Northampton: Edward Elgar Publishing.
- Gallouj, F., & Weinstein, O. 1997. Innovation in Services. *Research Policy*, 26: 537-556.
- Glaser, B. G., & Strauss, A. L. 1967. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago, IL: Aldine Publishing Company.
- Guile, B. R., & Quinn, J. B. 1988a. *Managing Innovation: Cases from the Services Industries*. Washington, D.C.: National Academy Press.
- Guile, B. R., & Quinn, J. B. 1988b. *Technology in Services: Policies for Growth, Trade, and Employment*. Washington, D.C.: National Academy Press.
- Gwynne, P. 1998. As R&D Penetrates the Service Sector, Researchers Must Fashion New Methods of Innovation Management. *Research Technology Management*(September-October): 2-4.
- Henderson, R. M., & Clark, K. B. 1990. Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms. *Administrative Science Quarterly*, 35(1): 9-30.
- Heskett, J. L. 1987. Lessons in the Service Sector. *Harvard Business Review*, 65(2): 118-126.
- Heskett, J. L., Sasser, W. E., & Hart, C. W. L. 1990. *Service Breakthroughs: Changing the Rules of the Game*. New York; Toronto: Free Press; Collier Macmillan.
- Heskett, J. L., Sasser, W. E., & Schlesinger, L. A. 1997. *The Service Profit Chain: How Leading Companies Link Profit and Growth to Loyalty, Satisfaction, and Value*. New York: Free Press.
- Hilsenrath, J. E. 2003. The Economy: Service Sector Enjoys Growth, But Pace Slows, *Wall Street Journal*: A.2. New York, N.Y.
- Hochstim, D., & Gokhale, S. 2003. American Express: The Power of the Brand. New York, NY: Bear Stearns.
- Kelly, J. 2000. Mind of the CEO: Reinventing UPS. *Management Review*(March 2000): 9.
- Kirby, J. 2001. Reinventing With Respect: An Interview with Jim Kelly of UPS. *Harvard Business Review*(November 2001): 116-123.
- Kuhn, T. S. 1962. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Lorsch, J. W., & Tierney, T. J. 2002. *Aligning the Stars: How to Succeed When Professionals Drive Results*. Boston: Harvard Business School Publishing.
- Maister, D. H. 1993. *Managing the Professional Service Firm*. New York: Free Press.
- March, A., & Garvin, D. A. 1996. HBS CASE 9-396-212: Harvey Golub: Recharging American Express. Cambridge, MA: Harvard Business School Publishing.
- Martin, C. R., & Horne, D. A. 1993. Services innovation: Successful versus unsuccessful firms. *International Journal of Service Industry Management*, 4(1): 49-65.
- McKinley, D. F. D. 2001. United Parcel Service, Inc.: Initiating Coverage with a BUY Rating: McDonald Investments.
- Miles, I. 1993. Services in the new industrial economy. *Futures*: 653.
- Miles, I. 2000. Services Innovation: Coming of Age in the Knowledge Based Economy. *International Journal of Innovation Management*, 4(4): 371-389.
- Miles, I., & Boden, M. 2000. Introduction: Are Services Special? In M. Boden, & I. Miles (Eds.), *Services and the Knowledge Based Economy*. London: Continuum.

- Nambisan, S. 2001. Why Service Businesses Are Not Product Businesses. *MIT Sloan Management Review*, 42(4): 72-80.
- Napoli, R. P., Kaster, L. E., & Elving, J. J. 2003. Meeting with Ken Chenault Shows High Confidence on AXP Position and LT Outlook. Chicago, IL: US Bancorp Piper Jaffray.
- Quinn, J. B. 1988. Technology in Services: Past Myths and Future Challenges. In B. R. Guile, & J. B. Quinn (Eds.), *Technology in Services: Policies for Growth, Trade and Employment*, Vol. 16-47. Washington, DC: National Academy Press.
- Quinn, J. B. 1992. *Intelligent Enterprise: A Knowledge and Service Based Paradigm for Industry*. New York, NY: Free Press.
- Quinn, J. B., Baruch, J. J., & Paquette, P. C. 1988. Exploiting The Manufacturing-Services Interface. *Sloan Management Review*, Summer 1988: 45-56.
- Quinn, J. B., & Paquette, P. C. 1990. Technology in Services: Creating Organizational Revolutions. *Sloan Management Review*: 67.
- Reichheld, F. F., & Sasser, W. E. 1990. Zero Defections: Quality Comes to Services. *Harvard Business Review*, 68(5): 105.
- Ryan, W., & Parechianian, S. 1999. American Express Company: Don't Invest Without It. New York, NY: Salomon Smith Barney.
- Sanderlin, G., Gittings, D., Sapra, R., Jenkins, R., Matthews, E., Meuhring, M., Bain, N., Schiller, M., Vars, S., Campana, R., & Lynn, L. 2003. Interviews with Senior UPS Executives. In V. Mansharamani (Ed.). Atlanta, GA.
- Sasser, W. E., Hart, C. W. L., & Heskett, J. L. 1991. *The Service Management Course: Cases and Readings*. New York: Free Press.
- Sasser, W. E., Olsen, R. P., & Wyckoff, D. D. 1978. *Management of Service Operations: Text, Cases, and Readings*. Boston: Allyn and Bacon.
- Schwartz, N. D. 2001. What's In The Cards For Amex? *Fortune*, 143(2): 58-68.
- Sperling, J. 2000. *Rebel with a Cause : The Entrepreneur Who Created the University of Phoenix and the For-Profit Revolution in Higher Education*. New York, NY: John Wiley & Sons.
- Sundbo, J. 1997. Management of Innovation in Services. *The Service Industries Journal*, 17(3): 432-455.
- Sundbo, J. 2000. Organization and Innovation Strategy in Services. In M. Boden, & I. Miles (Eds.), *Services and the Knowledge Based Economy*. London: Continuum.
- Symonds, W. C. 2003. Cash-Cow Universities. *Business Week*, Nov 17, 2003(3858): 70-75.
- Tether, B. S. 2003. The Sources and Aims of Innovation in Services: Variety Between and Within Sectors. *Economics of Innovation and New Technology*, 12(6): 481-505.
- Thomke, S. 2003. R & D Comes to Services: Bank of America's Pathbreaking Experiments. *Harvard Business Review*, 81(4): 70-79.
- Tushman, M., & Murmann, J. P. 1998. Dominant Designs, Technology Cycles, and Organizational Outcomes, *Research in Organizational Behavior*, Vol. 20: 231-266.
- Tushman, M. L., & Anderson, P. 1986. Technological Discontinuities and Organizational Environments. *Administrative Science Quarterly*, 31(3): 439-465.
- UPS. 2003. Company History, Vol. 2003: United Parcel Service Corporate Website.
- UPS. 2004. UPS Website, Vol. 2003: United Parcel Services, Inc.
- Utterback, J. M. 1994. *Mastering the Dynamics of Innovation*. Boston, MA: Harvard Business School Press.

Utterback, J. M., & Abernathy, W. J. 1975. A Dynamic Model of Process and Product Innovation. *OMEGA: The International Journal of Management Science*, 3(6): 639-656.

Weidemeyer, T. H. 2002. Anatomy of A Value Creator: Interview with UPS COO and President, UPS Airlines, October 16, 2002 ed., Vol. 2003: UPS, Inc.