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**The Role of Coordinated Marketing-Operations Strategy in Services:
Implications for Managerial Decisions and Execution**

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Abstract

Purpose

In this article, we discuss the importance of a coordinated marketing and operations strategy in goods and service producing business organizations. Customer engagement and co-production are imperative service delivery considerations, and therefore an aligned marketing and operations strategy is essential for the formulation, development, and effectiveness of managerial decisions especially for service sector firms.

Design/Methodology/Approach

We present arguments in support of this paper's primary objectives by reviewing past research that have introduced theoretical frameworks, empirical support and applications in support of the close coordination between marketing and operations strategy. We then describe how the inter-relationship between marketing and operations strategy impacts several managerial decisions.

Findings

We discuss several different types of managerial decisions within goods and service producing firms that require active interaction between marketing and operations. These decisions include aligning strategic priorities, new product development, service design, and experience design.

Research Limitations/Implications (if applicable)

This paper is primarily theoretical and therefore does not include any new empirical data.

Practical Implications (if applicable)

The inter-relationship between the marketing and operations functions is well known to practicing managers. However, they may not have a specific understanding of the academic

research described in this paper that shows how firm performance can be further improved by better managing these interactions for specific managerial decisions.

Originality/Value

This paper is theoretical and provides a comprehensive review of literature and a compelling argument for including marketing and operations strategy in the corporate executive suite. Therefore, this paper should be of interest to researchers and practitioners interested in the functional areas of marketing, operations, and strategy for service organizations.

Keywords: Service Marketing, Service Operations, Strategic Priorities, Product Development, Service Design

Article Classification: Viewpoint, Conceptual paper, General review

The Role of Coordinated Marketing-Operations Strategy in Services: Implications for Managerial Decisions and Execution

Introduction

Since the early days of the 20th century, the theories of neo-classical economics have been used to describe the structure of markets, determination of prices, demand and supply of goods and services, and even the flow of trade across national boundaries. At the same time, the definition of, and reason for existence of firms (or corporations) is a constant source of discussion within the economics, strategic management, and policy literature. A commonly used, although simplified, definition of a firm is that it is an organization that interacts with the market and, based on demand and prices, allocates necessary resources to produce goods and services to maximize profits.

During the last three decades, the theory of firms has evolved considerably, and scholars have provided different descriptions for its structure and existence. Some of the highly cited thought-articles about the strategic nature of firms include “transaction cost economics” (Coase, 1937; Williamson, 1981), the “core competence of corporation” (Prahalad and Hamel, 1990), and the “resource-based theory of the firm” (Barney, 1996). Although the definition and explanation of the existence of firms vary among the different theoretical traditions, it is not an exaggeration to state that all business organizations are subject to two basic types of constraints: the demand for their goods and services (i.e., marketing); and cost, capability, and expertise of their resources (i.e., operations management). Therefore, a close coordination between marketing and operations is an essential element of organizational success.

The inter-relationship between marketing and operations becomes even more pronounced within the service industry because customers are a vital input to the production process. According to Sampson and Freohle (2006) customers provide themselves, their possessions, their needs, or their actions to initiate a process. While in traditional manufacturing the inputs of a process can be sourced by a supplier upstream in the supply chain, in a service process the customer is the supplier. In manufacturing the supply of production can be very independent from actual demand, but this is not the case in service production. In order for a service process to take place, a customer must be sourced to provide their input.

The role of sourcing suppliers in manufacturing usually falls within the realms of production and operations; however, sourcing customers for a service process requires a much different skill set. There is no request for proposal asking for competitive bids from customers to be suppliers to a service process. In fact, almost the opposite is true; the service company must create a comprehensive invitation to solicit customer suppliers. The reason is fairly obvious; while suppliers in manufacturing processes are paid for their inputs, customer suppliers for a service process must pay to have their inputs processed. The act of pulling out their wallets makes customer much more careful about which service provider they might choose to supply. Marketing and operations must work closely to solicit and process customer inputs so that customers appreciate the value of the final output. Customers not only create demand and provide key inputs to the service process, but they also can participate in the creation of product and service bundles produced by the firm. Furthermore, the production and consumption of outputs created by a service firm often happens simultaneously, which strengthens the need for marketing to work with operations.

Although the importance of, and close interaction between, marketing and operations may seem obvious to some as a way to ensure a service firm's success, there is often undue attention paid on short-term financial measures that results in firms not allocating enough strategic oversight to align its marketing and operations strategy. The result of such a short-sighted approach often leads to the eventual collapse, or, at minimum, the significant erosion of firm competitiveness.

A simplified conceptual framework for the discussion presented in this paper is summarized in Figure 1. It shows that strategy formulation, execution, and performance outcomes of the firms are inter-related constructs. Strategy formulation includes setting of aligned competitive priorities of marketing and operations strategy. Execution of the strategy consists of effectively transforming inputs to outputs based on the needs and preferences of its customers and markets. For service firms, customers are often an important input and output of the production process. Managerial decisions embedded within the transformation process are primarily the domain of operations management but are also strongly related to marketing decisions. Finally, within the framework, a firm's outcomes are described as being based on its marketable outputs – commonly classified as goods and services. While the majority of products sold in the marketplace consists of bundles of goods and services (i.e., products), the services themselves are described as being different from goods in terms of their intangibility, simultaneity, and co-production characteristics.

[INSERT FIGURE 1 ABOUT HERE]

To facilitate the discussion based on the framework presented in Figure 1, the rest of the paper is organized in the following manner: We first provide a review of past literature that discusses the inter-relationships between marketing and operations strategy within an organization. We then describe various managerial decisions that require close coordination between marketing and operations. Many firms produce products that include a combination of goods and services, yet there are some unique characteristics of services that are distinct from goods. Therefore, we discuss the managerial decisions that are applicable to all types of products (both goods and services) followed by the managerial decisions that are unique to the production of services. We conclude by offering suggestions for effectively incorporating marketing and operations strategy within a firm's corporate strategy.

Literature Review

The creation of goods and services that satisfy the needs of the marketplace are one of the primary functions of a business organization. Scholars in the operations management discipline study the set of activities and processes that transform various inputs (e.g., raw materials, components, energy, labor, and managerial expertise) into value-added products (e.g., goods and services). The notion of "value creation," defined from the customers' point of view, is central to the framework of operations management, and it closely links both strategic and tactical operations decisions to firm objectives and to other business functions, such as marketing. Therefore over the course of the last few decades a series of conceptual papers have been developed that discuss the reasons for, constraints within, and coordination mechanisms between marketing and operations strategy. Furthermore, many papers have empirically tested the proposed hypotheses related to marketing-operations coordination. Finally, various studies have

applied the concepts related to marketing-operations coordination to specific industries or contexts. Therefore the review of past literature is sub-divided into three sections focusing on conceptual, empirical and applications-related research.

Conceptual Papers

Since the early 1960s, management researchers have emphasized the importance of effective operations management in improving the performance of a firm and have shown that production competence in both manufacturing and service organizations significantly affects business performance. Furthermore, it has also been shown that proper strategic positioning or aligning of operations capabilities with marketing needs can significantly impact competitive strength and business performance of an organization. Operations strategy has received much attention by both practitioners and academic researchers since the publication of Skinner's landmark article in 1974 (Skinner, 1974). He proposed the concept of a "focused factory" on the premise that a goods or service producing factory cannot perform well on every yardstick. Therefore, its operations must focus on one or two competitive dimensions that are consistent with market needs. Furthermore, he argued that professionals in different departments (e.g., marketing and operations) within an organization attempt to achieve goals that, although valid and traditional in their own fields, are often incompatible with the goals of other departments.

The 1970s and 1980s saw the rapid development of the marketing-driven operations strategy paradigm. In one of the oft-cited papers, Hayes and Wheelwright (1979) outlined that a collective pattern of inter-related decisions (e.g., capacity, quality, production planning) determines the strategic operational capabilities of a firm. They proposed a product and process

matrix that suggests how to choose operational processes to meet the market demand of products in different stages of the product life cycle. Similarly, Hill's (1989) approach to manufacturing strategy serves to link corporate objectives, marketing strategies, and manufacturing structure and infrastructure through the assessment of how different products win, qualify for, or lose orders in the marketplace. A detailed review of early research in operations strategy literature is presented by Anderson, Cleveland, and Schroeder (1989) and Swamidass (1986).

Given the nature of services, conceptual research on operations strategy within service producing firms has naturally evolved from cross-disciplinary considerations. For example, Lovelock (1983) suggested an integrated approach to service management by using a combination of marketing, operations, and human resources perspectives. Similarly, Heskett's (1987) conceptual model consisted of linking the following service elements: identification of a target market segment, development of a service concept to address targeted customer needs, codification of an operating strategy to support the service concept, and design of a service delivery system to support the operating strategy.

During the last decade, there has been a renewed interest in enhancing the conceptual understanding of service strategy within both the marketing and operations disciplines. For example, Sampson and Froehle (2006) proposed a "unified services theory" to demonstrate the role of customers and marketing within the service production process. In other related papers, Vargo and Lusch's (2004) service-dominant logic (S-D logic) argued that the customer is always a co-creator of value, and that goods are primarily distribution mechanisms for service provision. In addition to the papers discussed above, there are also a number of mathematical modeling-oriented conceptual papers that discussed the role of coordinated marketing and operations within the firm. Brief summaries of a selection of recent conceptual papers are presented in

Table 1.

[INSERT TABLE 1 ABOUT HERE]

Empirical Papers

In recent years, scholars in both marketing and operations management have begun to empirically test many of the theoretical constructs related to a marketing-operations coordinated strategy formulation for manufacturing and service organizations. For example, Roth and Van Der Velde (1991) empirically tested a service strategy framework drawing from both marketing and manufacturing strategy literatures. They identified critical success factors and demonstrated linkages between competitive priorities and performance. In another paper, Calantone, Dröge, and Vickery (2002) explored the marketing–manufacturing interface within the context of new product development (NPD). They found that the majority of the proposed relationships were positive except when there were cases of low uncertainty. Similarly Deane, McDougall, and Gargeya (1991) found that while operations or marketing decisions are not sufficient by themselves to predict success of new venture firms, together these decisions can moderately predict success. O’Leary-Kelly and Flores (2002) also found that the impact of the integration of manufacturing and marketing/sales decision on organizational performance is moderated by a firm’s business strategy and demand uncertainty. Interestingly, Nath, Nachiappan, and Ramanathan (2010), using the resource-based view of the firm as the theoretical framework, showed that a market-driven firm is likely to have better business performance than a firm focusing solely on operational capabilities. However, their results also show that firms are better off when they focus on a narrow portfolio of offerings and concentrate on a diverse geographical

market. These secondary results are consistent with the “factory focus” construct of operations strategy (Skinner, 1974).

Swink and Song (2007) explored the integration between marketing and manufacturing for different stages within new product development. They demonstrated that increasing the marketing and operations integration at each stage of product development is respectively associated with greater product competitive advantage, which in turn is associated with higher project return on investment (ROI). Pullman and Moore (1999) developed an optimal service design model combining market preferences with operations. Their results show that higher profitability is obtained by combining both functional perspectives within the optimization. Furthermore, Zomerdijk and Voss (2010, 2011) explored experiential services and demonstrated the implications on marketing and operations within a new product development context. Finally, Froehle, Roth, Voss, and Chase (2000) and Froehle and Roth (2004) developed scales for measuring new service development effectiveness within the context of strategic operations choices.

As discussed above, the empirical research related to a coordinated marketing-operations relationship is quite elaborate. Generally speaking, these papers provide positive support for the conceptual ideas presented earlier but also identifies conditions when some proposed relationships are moderated by other factors. A review of a sample of papers is presented within Table 2.

[INSERT TABLE 2 ABOUT HERE]

Industry/Applications Papers

In addition to the conceptual and empirical research papers, a series of articles have appeared in both marketing and operations management journals that explore the coordinated strategy formulation and execution constructs for specific industries or for a unique application. For example, in one of the seminal papers published in the *Journal of Marketing*, Cross (1961) presented a detailed example of the use of operations research techniques to solve marketing problems for the oil industry. Nie and Young (1997) examined the difficulties in achieving goal consensus in marketing and operations within a retail banking industry context. Verma, Thompson and Louviere (1999) demonstrated how discrete choice experiments can be designed and conducted in services to better match its operations with market preferences and presented an example from the pizza delivery industry. In follow-up research, Pullman, Verma and Goodale (2001) modeled the preferences of different cultural segments to determine the appropriate strategy for service firms. They reported an actual application of the proposed approach for a food service provider that showed significant revenue gain. Evangelist et al. (2002) described and provided details of a comprehensive multi-functional mathematical model developed and used by Blockbuster Inc. that combines operational process analysis, waiting line simulation, real versus perceived waiting times, a customer loyalty model, and a financial model to find the bottom-line impact from operational changes of new marketing programs. The above and many additional applications of marketing-operations cross functional strategy formulation and execution are summarized in Table 3.

[INSERT TABLE 3 ABOUT HERE]

The purpose of our discussing of a selection of conceptual, empirical and application based research articles is to demonstrate the need for a coordinated marketing and operations strategy formulation and execution. Although our review of the literature is clearly not exhaustive, we believe that the breadth and depth of the work we have cited and the wide range of scholars provides strong support for our primary argument that both marketing and operations have a critical effect on the success or failure of a business organization. Consequently, we contend that both these disciplines deserve significantly more attention than a casual glance by industry executives and academic scholars alike. The next section of the paper describes several specific and strategically important operations decisions that are closely coupled with marketing.

Coordinated Managerial Decisions

In this section, we expand our discussion to review inter-related marketing-operations decisions for the production of goods and services. In economics, a “service” is generally considered to be the non-material counterpart of a “good.” In practice, however, services are often defined as an economic act involving *co-production* by both the provider and the customer to create value. Other defining criteria that distinguish services from goods include the intangible nature of services and simultaneous production and consumption.

Due to the commonly cited unique characteristics of services (i.e., co-production, intangibility, and simultaneity), some of the managerial decisions related to coordinated marketing-operations strategy formulation are applicable only to services while others apply to both goods and services. Table 4 lists many common managerial decisions that are applicable to services alone and to both goods and services. In the next few sections, we discuss in more detail examples of decisions that span the domain for production of both goods and services (i.e.,

aligning competitive priorities; new product development) and review decisions that are primarily present in service production (i.e., service design and experience design).

[INSERT TABLE 4 ABOUT HERE]

Aligning Competitive Priorities

Within the classic marketing textbooks, there is often a discussion about the “4 Ps of marketing,” which refer to price, product, place, and promotion as four components of marketing strategy (Mullins, Walker and Boyd, 2008). Based on its corporate strategy, a firm is expected to prioritize and align its marketing focus along these four dimensions. Within the classic operations management literature, Hayes and Wheelwright (1984) described a group of four competitive priorities named as cost, quality, delivery, and flexibility. Since the early days of the evaluation of the operations strategy framework, it is also clear that firms cannot and should not try to excel on all four competitive priorities because of inherent tradeoffs. Hence, several operations strategy scholars, starting with Schroeder, Anderson, and Cleveland (1986), have recommended that operations strategy should be coherent with marketing strategy. Although the specific recommendations vary and depend on the context, most publications tend to agree that operational competitive priorities should be positioned and aligned with marketing’s priorities of price, product, place, and promotion.

Beyond the academic literature, there are several examples of successful firms that seem to have made decisions that are based on integrated marketing-operations strategy decisions. For example, a recent entrant to the highly competitive movie rental industry in the United States is

Redbox. This company rents movies via automated kiosks placed at various shopping centers, supermarkets, and other high-traffic areas within different parts of a town or a city.

From the customers' perspective, the design of Redbox's service is very simple and convenient. They can go to one of the thousands of Redbox locations and rent a movie directly from the kiosk. The movies are very competitively priced (approximately \$1/night of rental), and they can be returned at any Redbox location. Customers can also search for a specific movie from their computer and reserve it at any specific location. On the other hand, Redbox does not have as wide a selection as Blockbuster or Netflix, and their promotion is predominantly based on word-of-mouth (customers can also sign up for text messages, but there is no widespread advertising). As such, Redbox focused on a low price & convenient placement, while putting lower emphasis on product and promotion.

At the same time, Redbox cannot be successful if its operations priorities are not well aligned with this marketing strategy. For example, Redbox's cost structure has to be consistent with its relatively low pricing strategy. At the same time, for Redbox to continue to be successful, it is crucial that it continuously monitor the assortment of movies at each of its locations. For example, since customers can bring back their movies to any Redbox, it is possible for one box to hold several copies of one movie while missing several others. Also, customers can scratch DVDs and Blu-rays such that they can no longer be watched by future customers. Redbox's business model therefore requires a very regular replenishment (variety & delivery) and servicing (quality) of each kiosk several times each week. This example, while simplistic, demonstrates how a winning strategy can be developed by carefully thinking about marketing and operations priorities in an integrated manner.

New Product Development

“New product” is a loosely used term that can be defined as a good, a service, or a good/service bundle that was previously not available to customers. However, from the perspective of a specific firm, a new product can also be defined as an offering that the firm has not produced before. One can quickly see the multi-functional perspective required in new product development when considering the typical reasons for the failure of new products (both goods and services) because most are due to a lack of coordination between marketing and operations. Research about how to optimize product design and market the positioning of products (goods and services) to increase the likelihood of the product’s success is not new, and an extensive array of articles on this topic has been published in marketing and management journals (e.g., Green, Carroll and Goldberg, 1981; Green and Krieger, 1989; Shocker and Srinivasan, 1979).

Although the origins of optimal product design approaches have been within the marketing domain, similar market-utility–based approaches such as conjoint and discrete choice analyses [DCA] have started appearing in operations management–focused product/service design articles. For example, Moore, Louviere, and Verma (1999) demonstrated how results from a series of conjoint experiments could be combined to make effective product platform decisions, which are consistent with market needs and at the same time also take into account operating constraints, such as production/development costs, and components sharing among products. Goodale et al. (2003) developed an integrated design of mass services by combining preferences of customers of multiple market segments with waiting times and labor scheduling decisions. Using conjoint data, Raman and Chhajed (1995) developed an approach for simultaneously determining product attributes, prices, and production processes.

Recent publications, such as Clark and Fujimoto (1990); Fitzsimmons, Kouvelis and Mallick (1991); Karmarkar (1996); Meyer and Lehnerd (1997); Nevins and Whitney (1989); Pine (1993); and Srinivasan, Lovejoy and Beach (1997), continue to emphasize that product/service design decisions should be based on both marketing and production capabilities and constraints. Additionally, a number of publications have attempted to directly link market-based product/service design with various operations management decisions, such as cost, demand, and production capability. For example, Meyer, Tertzakian and Utterbeck (1997) proposed various methods for measuring the performance of research and development in the new product development process considering, among other parameters, product platforms/families, costs, and performance in a multi-time period framework.

Consider, for example, the company Republic Wireless that offers a Motorola smartphone (i.e., the product) combined with a \$19 a month everything (i.e., unlimited calling, text, and data) plan (i.e., the service). The product is not manufactured by Republic Wireless, but it did work in close collaboration with Motorola to ensure that the service could be offered for such a low price: The phone has a built in Wi-Fi connector that allows the user to use any Wi-Fi network the phone comes in contact with (note that this is “free” access). If no Wi-Fi networks are available, it automatically switches to the Sprint network. Reviews of the service are not 100% positive (e.g., calls drop sometimes when switching from a Wi-Fi network to Sprint’s network) but customers keep coming back for the low price: \$19 a month for everything. Clearly, Republic Wireless has designed and developed its service in close collaboration with the manufacturer to deliver this new good/service bundle.

Service Design

Service design can refer to many different operational considerations that require customer understanding to be effective. We focus our discussion of service design on the design of service encounters. The service encounter is the interaction that takes place between the service (typically the front-line employee) and a customer (Shostack, 1985; Solomon, Surprenant, Czepiel and Gutman 1985) and, therefore successfully designed encounters inherently depend on a well aligned marketing and operations strategy. Since a service encounter typically involves human interaction, behavioral principles are increasingly being used to execute firms' strategies. For example Chase and Dasu (2001) in their influential *Harvard Business Review* article, identified five service design principles based on behavioral science theory and related to both marketing and operations strategy (commonly known as "sequence effects"). The premise of sequence effects is that satisfaction and dis-satisfaction with each interaction between provider and customer has a distinct impact on overall satisfaction/loyalty based on the timing of the interaction. For example, a pleasant interaction early within service delivery may have a different overall effect compared to a similar interaction later during the encounter.

In follow-up research Dixon and Verma (2013) found empirical evidence that supports these sequence effects in the context of scheduling concerts at a performing arts venue. They found that customers who purchased subscription bundles that had higher utility events at the beginning or the end of the season were more likely to repurchase the same service bundle again (Dixon and Verma, 2013). In related work, Dixon and Thompson (2013) developed an optimization model for a complex scheduling problem for a set of service bundles to determine a solution that maximizes the sequence effects. These results clearly show the strong inter-relationship between marketing (e.g., pricing of service bundles) and operations decisions (e.g.,

scheduling and sequencing of events).

Design of the service encounter also often includes the formalization of a “service script.” A service script provides guidelines to employees for the tasks that must be completed and the way that customers should be treated (Victorino and Bolinger, 2012). While scripting is primarily an operational tool, recent research shows that it has a significant relationship with customer perceptions of the encounter (Victorino, Verma and Wardell, 2013; Victorino, Verma, Bonner and Wardell, 2012) and, thus reinforces the need for alignment between marketing and operations when designing service scripts.

An excellent example from practice of successfully coordinating marketing with operations comes from the two-time Malcolm Baldrige National Quality Award Winner, the Ritz Carlton (Boyer and Verma, 2010). In 2006, the Ritz Carlton made a drastic change in their service strategy. Recognizing the evolving needs of their customer base, the Ritz Carlton traded their “20 basic rules” for “12 service values” (Sanders, 2006). The previously used “20 basic rules” were specific guidelines for service that supported the hotel’s strategy of serving ladies and gentlemen. The rules included such information as the hotel’s motto, what words/phrases employees should and should not use when speaking with guests, as well as instructions to escort guests to the bathroom rather than point directions. These more specific rules were replaced by a set of 12 value statements that provide a broader form of guidance to employees. Examples of the “12 service values” include a statement that encourages employees to build relationships with customers and another that states that employees should own and resolve guest issues immediately. (Boyer and Verma, 2010; Sanders, 2006). Ritz’s change in service strategy showed their ability to incorporate customer understanding into their service strategy and design execution.

Experience Design

The linkage between marketing and operations is perhaps even more important when considering the design of experience-centric service offerings. According to Pullman and Gross (2004), experiences “occur when a customer has any sensation or knowledge acquisition resulting from some level of interaction with different elements of a context created by a service provider” (p. 553). Pine and Gilmore (1999), who coined the term *experience economy*, claimed that as services become more and more efficient and effective, they become commoditized and indistinguishable in the eyes of consumers. They stated that in order to stay competitive, companies have to shift their strategy from cost saving and efficient delivery of a service to providing a significant, memorable, and unique customer experience. By providing experiences, firms create loyal customers that are eager to share their experience with others.

Pine and Gilmore (1999) and others such as Grove and Fisk (2001) compared these experience-centric operations to theater productions comparing front-line servers to actors, physical surroundings to stages, and customers to audience members. Voss, Roth and Chase (2008) concluded that operations management takes on the role of a choreographer, carefully planning and supervising service delivery in order to evoke in the customer a specific emotional state at a specific time. At the same time, Voss and Zomerdijk, (2010) and Zomerdijk and Voss (2011) found that firms often spent much of their innovation effort on improving process or journey attributes rather than on tangible product/service attributes, (i.e., service innovation came not from having a new service product but from creating a new journey to experience). At the same time, a recent report by the Marketing Science Institute clearly documents the value of customer engagement as the driving mechanism for continued revenue growth (Calder, Mathew and Malthouse, 2013). These results collectively suggest a potential mis-match between the most

effective role of marketing and operations strategies within the context of experience design.

Take, for example, the Audi European Delivery experience. Instead of buying an Audi at the local dealer, a customer is handed the keys to his new Audi at the factory in Ingolstadt, Germany. This is after the customer has picked out the exact configuration that he wants at the local U.S. dealer, has flown to Germany, is picked up from the airport and chauffeured to a five star hotel, and has taken the guided factory tour. After arriving at the customer center, a personal customer advisor provides detailed information about the purchased vehicle. When the customer is ready to head back home (after a scenic countryside drive), he or she can drop off the Audi at one of 16 European drop-off points, after which it is shipped to the United States. Everything (including the hotel and local car insurance) is covered during the trip. Clearly, this is a much more enjoyable experience than buying a car off the lot.

Discussion and Concluding Remarks

This paper has presented several arguments supported by a review of past literature in service marketing and operations management. The guiding theme behind the paper is that a close coordination between marketing and operations is essential for the success of a business enterprise. We discussed the evaluation of the integrated role of marketing and operations in strategy formulation and in several managerial decision-making situations, such as aligning competitive priorities, design and development of new products (i.e., goods and services), service design, and experience design. Due to space limitations, we discussed the relationships between marketing and operations for only the above decisions. However, similar strong links between the two functional areas can be found for other strategic managerial decisions in

services such as pricing, demand and yield management, capacity and labor resource planning, service quality management, and lean thinking application.

Each of the managerial decisions described above are of extreme strategic importance to the success for a service enterprise. Therefore, we recommend that the role of service marketing and operations be highly emphasized within the organization and that they be addressed by the highest level of leadership within the company. Furthermore, the discussion and review of past research allows us to find new opportunities for scholarly work and also has implications for education. This section of the paper discusses implications for each of the three avenues.

Implications for Research

This paper has presented a series of conceptual and empirical papers that support the notion that a higher collaboration between marketing and operations strategy formulation and execution is positively related to the success of a business enterprise regardless of whether it produces goods or services. While desirable, in practice often corporate structure within large firms are organized according to functional boundaries. In our literature review we found only a handful of articles that discuss the reasons why functional silos still exist within many organizations. We also were able to identify only a handful of articles that propose or empirically test the collaboration/coordination mechanisms and approaches that can assist organizations in better aligning the competitive priorities within marketing and operations.

We also need a deeper understanding of the un-intended consequences of too much collaboration and coordination within two related but distinct functional areas. Will too much collaboration lead to a lack of focus and expertise? Will it lead to additional distractions and time pressures for employees and managers thereby decreasing productivity? Furthermore, due to

globalization and expansion of free market economies around the globe, often marketing and operations functions are scattered in different parts of the world. Therefore, a real-time collaboration and coordination might not be the most efficient course of action for some organizations. Future research should explore options for facilitating strategic dialogues within such real-world constraints and situations. In summary, while the higher-level conclusion about coordinated marketing-operations strategy formulation is well established, significant additional research is needed to explore the finer details around these types of managerial decision-making.

Implications for Education, Curriculum and Academia

The discussion presented in this paper clearly demonstrates that a coordinated marketing-operations strategy formulation and execution beneficial for the success of business organizations. Yet a vast majority of business curricula at both the undergraduate and graduate levels is taught by faculty members who are located in different academic “silos”. For example, marketing and operations management faculty are rarely located within the same departments and they seldom collaborate actively in course development, curriculum planning and/or co-teach courses. The journals they publish in, the conferences they attend, and their industry interactions are also very different from each other.

Therefore, if academia hopes to make a meaningful contribution to practice, then it is essential that as teachers, scholars, and administrators within academic institutions, we also create opportunities for better collaboration between marketing and operations. Such collaborations may include the development of courses that are jointly designed and taught by faculty members of different functional areas such as marketing and operations. Furthermore, it means that universities need to develop a more collaborative environment and promotion/reward

system that encourage faculty members to engage in more cross-disciplinary research. At the same time, given that many business organizations are still organized in functional silos, we believe that much of the contemporary academic research is not being received within the business community. Therefore it is also our responsibility to engage more with industry executives and write practitioner-oriented articles that explain scholarly work clearly.

Implications for Industry Executives

We believe that this paper convincingly argues that industry executives should make a strong effort to foster better collaboration between the marketing and operations functions within their organizations. Such efforts lead to a better aligned strategy and a more effective execution of the transformation process in the production of goods and services. Furthermore, we recommend that industry executives also make a sincere effort to engage with the academic community in marketing and operations management so that they can get fast access to the latest scholarly work. Examples of active collaboration between industry and academia can be found within the Marketing Science Institute (<http://www.msi.org>), Cornell Center for Hospitality Research (<http://chr.cornell.edu>), and Cambridge Service Alliance (<http://www.cambridgeservicealliance.org/>). Finally, our recommendation to corporate executives is that they should ensure that the marketing and operations functions are represented at the highest level of the organization to take full advantage of the collaborative strategy formulation and execution.

Figure 1: Inter-related Marketing – Operations Strategy Formulation, Execution and Outcomes

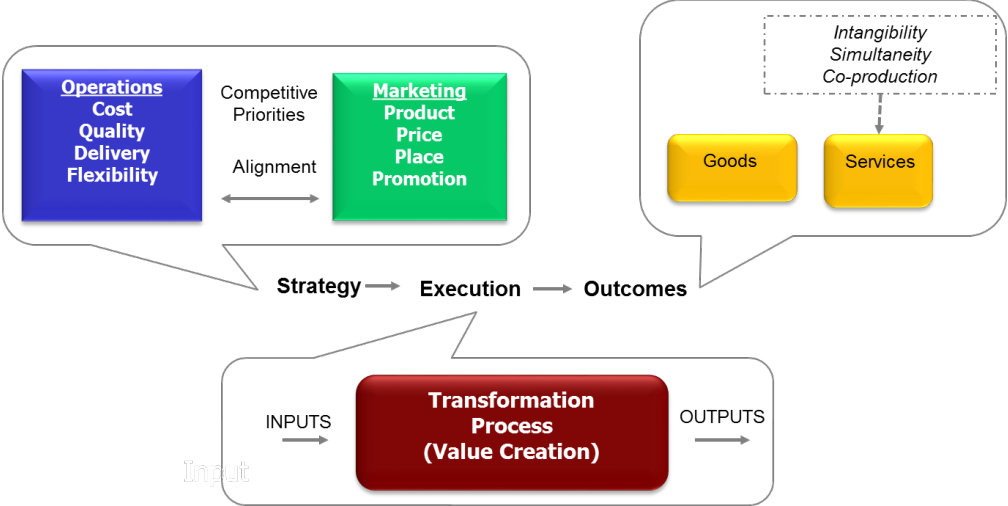


Table 1: Conceptual Papers

Article	Key Insights / Themes
Skinner (1974)	Proposed the concept of “focused factory” approach as a means of gaining competitiveness in the marketplace.
Hayes and Wheelwright (1979)	Proposed linking the operational processes and product offerings with market requirements using a product-process matrix.
Lovelock (1983)	Suggested an integrated approach to service management by using a combination of marketing, operations, and human resources perspectives
Heskett (1987)	Developed a conceptual model by linking the following elements: identification of a target market segment, development of a service concept to address targeted customer needs, codification of an operating strategy to support the service concept, and design of a service delivery system to support the operating strategy.
Anderson, Cleveland and Schroeder (1989)	Presented a review of past research in operations strategy.
Fitzsimmons, Kouvelis and Mallick (1991)	Presented a conceptual multi-disciplinary framework for Product Design using two constructs: Complexity and Innovation. Extended Hill (1989)’s framework of order winners and qualifiers and various quality management concepts to their proposed product design framework.
Hill (1989)	Provided an approach to operations strategy that emphasizes the essential requirement of linking marketing and manufacturing perspectives in order to determine the best strategies for the business as a whole.
St. John and Young (1995)	Presented a framework for predicting conflicts within different functions (marketing, operations, product development) when a firm uses one of the internationalization strategies proposed earlier by Bartlett and Ghoshal (1989). The authors then discussed and proposed techniques for improving coordination within the organization.
Tatikonda and Montoya-Weiss (2001)	Presented a conceptual framework for new product development by integrating operations management and marketing perspectives and built on the resource-based view of the firm.
Klassen and Rohleder (2001)	Presented a summary of past research in demand and capacity management within marketing and operations management disciplines.
Chatterjee, Slotnick and Sobel (2002)	Presented a mathematical model for setting up delivery guaranties by considering both marketing and operational perspectives.
Ho and Zheng (2004)	Presented a game-theoretic model for setting customer expectation based on both marketing and operational perspectives.
Ray, Gerchak and Jewkes (2005)	Presented an operations and marketing based integrated mathematical model for jointly making pricing and inventory management decisions.
Ray (2005)	Presented an integrated operations – marketing constructs based on a mathematical model for a firm trying to maximize profits for innovative goods and services.
Vargo and Lusch (2004)	Proposed the concept of “service-dominant logic” and suggested that goods are primarily distribution mechanisms for services.
Sampson and Froehle (2006)	Proposed a “unified services” theory to demonstrate the role of the customer and marketing in various stages of the production process within services.

Juttner, Christopher and Baker (2007)	Proposed a framework for demand chain management by combining the strengths of marketing and supply chain management. Also introduce propositions for the role of marketing within demand chain management and offer suggestions for future research.
Tang (2010)	A comprehensive review paper that presented a unified framework for classifying various marketing–operations interface mathematical models that explore collaboration/coordination between the two functional areas.
Erickson (2011)	Presented a game theoretic model of differing objectives and conflicts within marketing and operations and derives a Nash equilibrium.
Wong and Evers (2011)	Presented a mathematical model for evaluating the value of enhanced customization using joint marketing and operational perspectives.
Erickson (2012)	Proposed a transfer pricing mechanism for better coordination of marketing and operations strategies.

Table 2: Empirical Papers

Article	Key Insights / Themes
Roth and Van der Valde (1991)	Proposed and empirically tested a service strategy framework drawing from both marketing and manufacturing strategy literatures. Identify critical success factors and demonstrated linkages between competitive priorities and performance.
Deane, McDougall and Gargeya (1991)	Demonstrated that operations or marketing decisions by themselves are not sufficient to predict success of new venture firms. Together these decisions can moderately predict success but the authors recommended development of an even more comprehensive framework.
Mahajan, Vakharia, Paul and Chase (1994)	Proposed and empirically tested hypotheses related to similarities and differences in marketing and operations activities within a service firm.
O’Leary-Kelly and Flores (2002)	Suggested that the impact of the integration of manufacturing and marketing/sales decision on organizational performance is moderated by a firm’s business strategy and demand uncertainty.
Calantone, Dröge and Vickery (2002)	Explored the nature of the relationships characterizing the marketing–manufacturing interface in new product development (NPD). They examined (1) marketing’s <i>knowledge</i> of manufacturing; (2) manufacturing’s evaluation of marketing <i>communication</i> ; (3) marketing–manufacturing <i>integration</i> ; and (4) <i>relationship quality</i> . Found the majority of structural paths to be positive in all cases except during <i>low uncertainty</i> .
Hausman, Montgomery and Roth (2002)	Proposed a path model for assessing the mediating impact of the operations – marketing interface harmony (the functions’ ability to work together) on morale and business performance. This exploratory study provided empirical evidence that the interface harmony matters significantly to business outcomes directly and indirectly.
Swink and Song (2007)	Explored the integration between marketing and manufacturing (MMI) for different stages within the new product development. A path analysis of data collected from 467 completed NPD projects indicates that increased MMI in each stage of product development is respectively associated with greater product competitive advantage, which in turn is associated with higher project return on investment (ROI).
Pullman and Moore (1999)	Developed an optimal service design model by combining a conjoint analysis based optimal product design model from marketing with capacity and demand management strategies from operations management. The results showed that higher profitability is obtained by combining both functional perspectives within the optimization.
Froehle and Roth (2004) and Froehle, Roth, Voss and Chase (2000)	Developed scales for measuring new service development effectiveness within the context of strategic operations choices.
Nath, Nachiappan and Ramanathan (2010)	Using the resource-based view of the firm as the theoretical framework, they showed that a market-driven firm is likely to have better business performance than a firm focusing solely on operational capabilities. They also showed that firms are better off when they focus on a narrow portfolio of offerings and concentrate on a diverse geographical market. These secondary results are consistent with the “factory focus” construct

	of operations strategy.
Zomerdijk and Voss (2010, 2011)	Explored experiential services and demonstrated the implications for marketing and operations within a new product development context.
Paiva (2010)	Suggested that manufacturing and marketing integration and managerial priorities positively influence business performance.
Zanon, Filho, Jabbour and Jabbour (2013)	Identified factors that can help managers to overcome barriers to alignment of operations strategy at the interface with marketing.

Table 3: Applications/Industry Examples Papers

Article	Key Insights / Themes
Cross (1961)	Presented an example of the use of operations research techniques in solving a marketing problem within the oil industry.
Berry, Bozarth, Hill and Klompmaker (1991)	Presented an approach for developing market-segmentation schemes using operations variables and capabilities. Proposed that this approach will lead to better factory focus.
Nie and Young (1997)	Identified the types of co-ordination mechanisms that help achieve goal consensus within marketing and operations functions. Presented results and examples from the retail banking industry.
Verma, Thompson and Louviere (1999)	Demonstrated how discrete choice experiments can be design and conducted in services to better match its operations with market preferences and present an example from the pizza delivery industry.
Pullman, Verma and Goodale (2001)	Presented an approach for modeling the preferences of different cultural segments and determining the appropriate strategy for service firms. Reported an actual application of the proposed approach for a food service provider that shows significant revenue gain.
Sawhney and Piper (2002)	Demonstrated the enhanced value creation due to enriched relationship between marketing and operations within the printed circuit boards industry.
Pullman and Thompson (2003)	Outlined various strategies for managing capacity and demand in services. Presented a detailed example using conjoint analysis (from marketing) and process simulation (from operations management) for the downhill ski industry.
Evangelist, Godwin, Johnson, Conzola, Kizer, Young-Helou and Metters (2002)	Described and provided details of a model from Blockbuster Inc. that combined operational process analysis, waiting line simulation, real versus perceived waiting times, a customer loyalty model, and a financial model to find the bottom-line impact from operational changes of new marketing programs.
Boyer and Hult (2005)	Reported results from case studies of four Internet-ordering and home-delivery grocers and approx. 2500 customers. The survey data from customers were used to assess the degree of integration between marketing and operations and the relationship with customer behavioral intentions.
Swami (2006)	Reviewed the operations – marketing interface issues for the motion picture industry.
Rhee and Mehta (2006)	Demonstrated how integration of marketing and operational decisions effect business performance within the context of retail banking organizations.
Kwortnik and Thompson (2009)	Analyzed the challenges firms face when services are developed and managed from functional perspectives (e.g., marketing or operations – only). Presented a detailed example from the leisure cruise industry.
Piercy (2010)	Presented five case studies of organizations that display positive marketing and operations relationships.
Mollenkopf, Frankel and Russo (2011)	Presented results that suggest that functional integration at the marketing–operations interface for “returns management” can lead to better alignment of corporate resources and thus create higher levels of

	customer value.
Thompson (2013)	Demonstrated that when considering operational factors, sometime it may be useful for service firms to decline taking some customers. Presented examples from the restaurant industry and shows that firms may increase profits by not accepting certain party-size customers.

Table 4: Examples of inter-related marketing-operations strategic managerial decisions and concepts

For both goods and service production	Primarily service production
<ul style="list-style-type: none"> • Setting competitive priorities • Economy of scale (i.e., volume) • Economy of scope (i.e., variety) • Product development • Inventory, supply chain and logistics management • Lean thinking • Time based competition • Waiting line management • Standardization and process control • Mass customization and co-creation • Sustainability and corporate social responsibility • ... 	<ul style="list-style-type: none"> • Service quality and customer experience management • Customer psychology and behavioral issues (e.g., sequence effects) • Location planning based on customer convenience versus cost only considerations • Layout planning (e.g., front-office and back-office considerations) • Training, task requirements and scripting of service encounters. • Task improvisation and empowerment of service employees. • Integrated pricing, demand, and capacity management (yield/revenue management) • ...

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