Outline

Chapter 16: Marketing/Operations Interfaces
Wallace J. Hopp
September 10, 2000

Overview

The American Marketing Association defines marketing as “the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational goals.” Operations management can be defined as “management of an organization’s production system, which converts inputs into products and services.” Clearly the two are closely related, since the marketing process is strongly premised on the production system.

The rise of the internet has had at least three profound effects on the process through which firms interact with customers, and hence on the interface between marketing and operations:

- **Speed:** steps in the process can be completed much more quickly
- **Communication:** greater information sharing between customer and firm has been made possible
- **Data Collection:** profiling of customers in new ways is now possible

Each of these changes presents potential research challenges, such as:

- **Speed:** How much do customers value faster response? How will firms compete on the basis of time? What kind of production system is required to underpin a quick response marketing system?
- **Communication:** How much information should a firm reveal to customers? What is cost to firm value to customers of being able to change order specifications at different points in the process? What does it cost the firm to have customers able to make such changes?
- **Data Collection:** How can customer profiles be extracted from transactional data? How can demand curves be estimated?

While a comprehensive analysis of the research opportunities related to the marketing/operations interface is not feasible, we can identify some promising areas by examining the customer contact chain, shown in Figure 1. This simplified chain breaks the contact process down into:

1. **Product Development:** including long-term evolution of goods and services to meet customer needs (i.e., what to introduce and when to introduce it), as well as short-term configuration of products, such as a customer might do by designing his/her own purchase on-line.
2. **Sales:** in which the actual purchase transaction occurs. This presents the firm with decisions about positioning of products (what to offer and how to display them), pricing, and lead time (where both pricing and lead time could be dynamic, based on work backlog, inventory, competitor behavior, forecasts of customer demand, etc.)
3. **Delivery:** where the product is produced and shipped to the customer. The internet raises the possibility of giving the customer visibility to this process and the option of making changes in his/her order. Such changes could, of course, come at a cost, which would then present the problems of valuation and pricing.
4. **Service:** includes the post-sale contact with the customer. A long-term contract, in which updates or repair service is offered, is one option. User groups in which customers can get information from the firm or each other is another. Information sharing (including promotional contacts) is a third.

All of these present opportunities to enhance the overall customer experience, as well as to gain additional insight into customer wants and needs. Learning what information to collect at each stage and how to make use of it is an important research subject.
Figure 1: Customer Contact Chain

Outline

We propose to structure this paper according to the process diagram. So, after laying out the general structure, we will present sections that discuss each function, the decisions involved in each, the impact of the internet on these decisions, and some modeling challenges presented by new technology. In each section, we will attempt to give an overview of the existing literature, as well as an identification of research needs.

1. The Marketing/Operations Interface
   - Definitions of marketing and operations management
   - Description of the customer contact chain
   - Discussion of general impacts of the internet

2. Product Development
   - Long-term: identification of customer needs from transactional data, timing of new product launch
   - Short-term: customer created products, modular structures needed to support them, inventory/supply chain strategies needed to support them

3. Sales
   - Pricing – dynamic methods based on backlog and other information
   - Lead-time quoting – dynamic methods based on backlog and other information
   - Interactions – how much to charge for faster delivery, models for understanding relationship of lead-time to price and other factors, such as capacity, inventory, anticipated demand, etc.

4. Delivery
   - Systems for tracking orders
   - Impact on customers of being able to track orders and, possibly, change them
   - Implications for firm of providing customers with visibility and opportunity for input during production
process

5. Service

- Impact on sales of offering on-going support
- Competitive implications of various types of post-sale support
- Product leasing versus product purchase (e.g., Window XP subscription instead of outright purchase) – how to understand economics to firm of each option

6. Data Collection

- What customer information is desirable?
- How can it be gleaned from transactional data?
- Opportunities for improving steps in customer contact chain via use of customer data (e.g., better product design, pricing/lead-time decisions, delivery monitoring options, post-sale service offerings)