PRODUCTION AND OPERATIONS MANAGEMENT

POMS

Vol. 20, No. 4, July–August 2011, pp. vii–ix
ISSN 1059-1478 | EISSN 1937-5956 | 11 | 2004 | 0vii

DOI 10.1111/j.1937-5956.2011.01182.x

Management Insights

Reducing Customer Dissatisfaction: How Important is Learning to Reduce Service Failure?
Michael A. Lapré

Service failures are common. Consequently, firms must be prepared to recover and learn from service failures. Yet, the majority of customers are still dissatisfied with the way firms resolve their complaints. This is quite remarkable for several reasons. First, successful service recovery can turn angry, frustrated customers into loyal customers. Second, it costs more to recruit a new customer than to retain one. Third, dissatisfied customers can provide negative word-of-mouth, which can significantly hurt sales and profitability. Lapré analyzes service failure and customer dissatisfaction in the context of airlines' failure to properly handle baggage. He splits up customer dissatisfaction into service failure and customers' propensity to complain given the occurrence of service failure. He finds that airlines have similar learning curves to reduce service failure, but airlines differ significantly from each other in their learning curves to reduce customers' propensity to complain. Airlines converged to the industry benchmark for service failure rates, while the propensity to complain provided much more opportunity for a firm to distinguish itself from competition. While reducing service failures is important to keep up with competition, it is not sufficient to reduce customer dissatisfaction. What is really needed to reduce customer dissatisfaction is successful service recovery.

Managing Outsourced Software Projects: An Analysis of Project Performance and Customer Satisfaction
Sriram Narayanan, Sridhar Balasubramanian, Jayashankar M. Swaminathan

The authors examine how key project capabilities (planning, team stability, and communication effectiveness) drive project performance and customer (client) satisfaction in outsourced software-related projects. Their analysis suggests that managers must broaden their focus from achieving excellence in one or a couple of competencies related to project planning, effective communications, and human resource management at the team level. Rather, because these competencies interact to drive project performance and customer satisfaction, managers should view them as elements of a portfolio of capabilities that must be jointly strengthened. Their findings also suggest that, when it comes to the allocation of resources and attention towards building capabilities related to a project, managers must pay careful attention to the specific characteristics of that project. These characteristics can determine which areas can yield the highest returns to such allocation. For example, their findings suggest that managers may benefit from increased flexibility, rather than rigorous planning, when project-related uncertainty is high. Their insights can help the managers at outsourced software service providers enhance project performance and customer (client) satisfaction.

Regulatory Trade Risk and Supply Chain Strategy
Yimin Wang, Wendell Gilland, Brian Tomlin

Trade barriers and frictions present significant supply chain challenges for firms that produce or source globally. Evolving and uncertain trade regulations create a business environment in which managers face difficulty in predicting the availability and total landed cost of goods sourced from foreign countries. Wang, Gilland and Tomlin explore a number of supply chain strategies that have emerged to cope with this regulatory trade risk, e.g., splitting procurement across countries and availing of outward processing arrangements (OPA). They show that it is important to tailor the supply chain strategy to the firm's operating environment. The split procurement strategy is valuable in a more volatile trade environment but the OPA strategy is beneficial when demand is volatile or foreign lead times are long.

Managing Technology Selection and Development Risk in Competitive Environments
Sreekumar R. Bhaskaran, Karthik Ramachandran

Managing development decisions for new products based on dynamically evolving technologies is a complex task, especially in highly competitive industries. In many industries, this decision is influenced by periodic improvements in a product's underlying technology and a firm's ability to exploit them. Bhaskaran and Ramachandran consider whether a firm

should be a market pioneer that launches an incrementally improved early version, or take the risk to develop a delayed, but advanced version in order to become a technology leader. Their results explain why simultaneous new product launches by competitors is a rare phenomenon. Their work also leads to two kinds of managerial insights: First, in highly competitive industries, firms can adopt different technologies and effectively use introduction timing to mitigate the effects of price competition. More importantly, the firm could strategically invest in the advanced product to influence its rival's technology choice.

The Roles of Worker Expertise, Information Sharing Quality, and Psychological Safety in Manufacturing Process Innovation: An Intellectual Capital Perspective
Jung Young Lee, Morgan Swink, Temyos Pandejpong

In order to adapt to competitive environments, manufacturing plants continuously engage in manufacturing process innovation (MPI). While the success drivers of product development projects have received a wealth of research attention, less is known regarding the factors affecting MPI project success. The authors propose a model to examine how three elements of intellectual capital, worker expertise, information sharing quality, and psychological safety, work together to influence the technical success of MPI projects. They show that establishing worker expertise is necessary to ensure effective intra-team information sharing. Information sharing and psychological safety work together as generative means for applying worker expertise in the project context. The authors further show that worker expertise directly affects performance on radical MPI projects, but exerts insignificant direct impact on performance of incremental projects. Overall, their research provides valuable insights on how managers can influence effective knowledge development through project team selection and information sharing facilitation in an MPI project environment.

Threshold Incentives and Sales Variance
Milind G. Sohoni, Sunil Chopra, Usha Mohan, Nuri Sendil

Firms offering incentive schemes typically do so to achieve certain objectives, for example, increase expected profits or sales. However, sometimes such incentives result in undesirable and unforeseen effects that could hurt the operational efficiency of the firm. In this paper, the authors analyze the impact of two forms of commonly used threshold-based incentive schemes on the observed sales variability. The first form of the incentive comprises an additional marginal payment on crossing a specified sales threshold and the second form of the incentive scheme comprises a lump sum bonus payment on crossing the predetermined sales threshold. The authors model the effect of such incentives under two specific scenarios: an exclusive dealership selling a single product and a non-exclusive dealer selling two competing products. For an exclusive dealer, the authors show that a bonus contract not only increases the expected sales, but, more importantly, decreases the sales (order) variance. Consequently, the bonus-based scheme allows the manufacturer to regulate sales variance better. With a non-exclusive dealer, the sales variance increases substantially with an additional marginal payment contract. However, bonus contract continues to perform better in this case, too, if the threshold level is set appropriately using the underlying demand distribution.

Joint Mail-In Rebate Decisions in Supply Chains under Demand Uncertainty
Qin Geng, Suman Mallik

Many retailers and manufacturers offer mail-in rebates (MIR) as a promotional tool for selling consumer products. Geng and Mallik analyze a one-manufacturer-one-retailer supply chain and characterize under what condition each party should offer an MIR. The authors show that the expected profits of both the retailer and the manufacturer are higher when both offer MIR compared to the case when only the retailer offers MIR. Further, the average post-purchase price of the product paid by a consumer in presence of MIR is not only higher than the perceived pre-purchase price; it is also higher than the optimal price without an MIR. This implies that an MIR makes a product look cheaper while the consumers pay more on an average.

The Effect of Liability and Patch Release on Software Security: The Monopoly Case
Byung Cho Kim, Pei-yu Chen, Tridas Mukhopadhyay

Flawed software has been identified as the main cause of network insecurity since vulnerabilities of such software are often exploited by the writers of malicious code. As a possible economic incentive for security enhancement, imposing liability on software vendors has been discussed among computer scientists, jurists and policy maker for years. Grounded on economic theory, the authors compare software liability with patch release, which is an alternative approach to software security management, widely adopted in practice. They examine the effectiveness of these two different ways of mitigating risk of customers in terms of improving security quality of software and increasing the benefit to the entire society. They show that liability is effective only when not all the customers incur the same level of loss due to the same

software flaw. On the other hand, patch release leads to improved software security and enhanced social benefit regardless of the nature of loss as long as patch development cost is reasonable and patch application is easy. Their research further indicates that liability may give a software vendor to enhance security quality when the customers are not able to correctly evaluate outcomes of having vulnerable software.

Distribution Planning to Optimize Profits in the Motion Picture Industry
Barbara Somlo, Kumar Rajaram, Reza Ahmadi

Distribution planning of motion pictures is conducted by movie distributors who forecast theater-level box office revenues for a given movie and using these forecasts to choose the best locations to screen this movie. This problem is challenging due to the complexity in forecasting theater level box office revenues (as they depend on movie attributes and theater characteristics) and the abundance in potential theater locations. The authors develop an analytical framework to effectively address this problem. They develop a method to estimate theater level forecasts and use these forecasts in a specialized optimization model to pick the best locations to screen a new movie. Application of these methods on real industry data show the potential to decrease average forecast errors by 75% and increase distributor profits on average by about 12%. The main insights that can be drawn from this work are that one needs to develop a detailed understanding of location specific characteristics at the theater such as amenities and demographics and movie attributes in order to accurately forecast theater-level box office revenues. In addition, due to abundance of potential theater locations and constraints faced by the distributor, the location selection problem is best addressed by a structured optimization model rather than ad-hoc rules of thumb.