Strategic Utilization of Choice-Board Technology: A Conceptual Framework

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INTRODUCTION

The advent of the new millennium has witnessed an increasing skepticism about the powers of information technologies (IT) to create business value, leading to sluggish investment in new IT. Generating business value using IT is a challenge in this environment. A critical element in this environment is the necessity to create a satisfied and an empowered customer. This paper describes an emerging technology, choice-boards, that allows customers to design their own product and services. More specifically, choice-boards are interactive, online systems that permit individual customers to custom design their own products by choosing from a menu of attributes, components, prices and delivery options [4]. Dell provides a popular instance of choice-board at its site, *Dell.com*. It is an important part of the firm's web-based direct ordering system. Customers start with a basic configuration defined by a processor model and speed, and then go on to specify the full configuration of a personal computer with their choice of hard-drive size, memory, and add-ons such as CD-ROMs, multi-media, monitors and printers.

1) This paper provides a framework called choice-board pyramid that businesses can use to acquire competitive advantages in the market by successfully using the technology of choice-boards as a differentiating factor. The framework relates four factors: company strategy, consumer characteristics, systems and the service that is offered.

The remainder of the paper will focus on choice-board systems, our framework and the hypotheses.

UNDERSTANDING CHOICE-BOARDS

Choice-boards are becoming popular in a wide variety of industries. They are being used in industries as varied as toys, recruitment, finance, wireless phones, travel, apparel and telecommunication gear. While choice-boards are all designed to help users customize their choices, they do so using differing focuses such as providing product information, advising customers, and even letting users have a vicarious experience with the product they have customized.

On *VermontTeddyBears.com*, for example, children are offered many options from which they can select various add-ons to the teddy-bears, e.g., in terms of shoes, glasses, and color. At travel sites such as *Travelocity.com*, customers are provided with information for choosing not only their flights, but also hotels and rentals cars. Choice-boards systems are used in learning and training of individuals in which users make choices and are provided with feedback as to the consequences of their choices. Similar sites are available at GEFinancialLearning.com and in *Cisco.com*. The Cisco site employs a tool, Product Advisor, which assists users in network design and installation using Cisco products and solutions.

While choice-board systems such as *Dell.com* began with providing information to customers, some systems have graduated to providing advice as to the most appropriate choice to make. Point.com uses a choice-board system to help customers buy service plans and wireless phones based on their budget and service profile. Vicarious experience of the product is another option that these systems are beginning to embody. At *landsend.com*, customers spend a few minutes answering questions on weight, height and body-shape. They can select colors, styles and pocket options for the apparel they desire to purchase. The system then generates a picture of the person wearing the apparel. The firm is gearing up its choice-board system to help customers order custom-made jeans in a few-months time, with slacks, shirts and swimsuits following

thereafter. Similarly, at *lanebryant.com*, customers can generate 3-D models of themselves using a virtual model technology called *3D@LB*, which can then be used for trying out, in a virtual sense, tops, jeans and career-wear available at the site.

Benefits of Choice-Boards

Choice-boards offer many advantages to customers and businesses. For businesses, the technology is becoming a significant mode for differentiation in the crowded market place [4]. In product markets, customers are product-takers, i.e., they are offered a fixed set of products from which they are constrained to choose. Customers are typically allowed some variation as to add-ons and features. Buying cars is a good example of a market where customers are product-takers. Choice-boards allow customers to migrate from being product-takers to becoming product-makers. They are able to interact with the system to precisely describe what they want so that suppliers can deliver the product with minimum delay. They cease to be passive recipients and become active designer; in other words, they are product-makers.

For businesses, choice-boards are becoming a source of accurate and real-time data on consumer preferences. Since the configurator records every customer's preferences, Dell, for example, is able to capture buying patterns in real time. The basis of decision-making at Dell moves away from speculating to actually knowing what the customer wants. The choice-board system allows the firm to manufacture against an actual order, vis-à-vis other PC suppliers who manufacture to forecasts, which are apt to be inaccurate. Dell has a pull-based system where customers "pull" their orders in contrast to other PC makers who have a push-based delivery system. In push-based systems, companies make the best guess as to what might appeal to their customers, and plan on delivering the merchandise months ahead of the actual sale to its distributors and retailers. Forecasting is an inaccurate process leading to a huge inventory of goods that buyers often refuse to purchase. This leads to firms engaging in sales and offering rebates, dealer incentives and give-aways to get rid of unsold goods. The pull-based system has allowed Dell to integrate its production line with those of its suppliers. The cross-firm integration has shifted away from silos to a system where information in real time is collected and distributed across the process-chain, and services are delivered to customers in the shortest possible time [5].

Finally, the service model has now shifted from supplier-provided service to self-service. Customers make their own designs and express their customized choices without any other human intervention. Firms save on labor and in processing the entire transaction. Customers feel empowered and firms save on costs.

The choice-board pyramid framework is related to Karl Albrecht's Service Triangle [1] and Parasuraman's Service Marketing Triangle [2]. It is composed of four factors (1) Strategy (2) Customers (3) Service (4) Systems (Figure 1):

Strategy. Strategy is a distinct formula for delivering a unique service that helps a firm differentiate itself in the market [3]. It is built around asking such basic business questions as: (1) In what business is the firm engaged in? (2) Am I selling PCs or am I selling business solutions that use computer software and hardware? (3) Am I selling apparel or am I trying to make my customers feel good about themselves in the context of dresses? The differentiation is achieved in the context of some particular customer segment.

Customers. A strategic conception in the context of choice-boards leads to questions such as: (1) Who are my customers? (2) How sophisticated are

Figure 1. The Choice-Board Pyramid
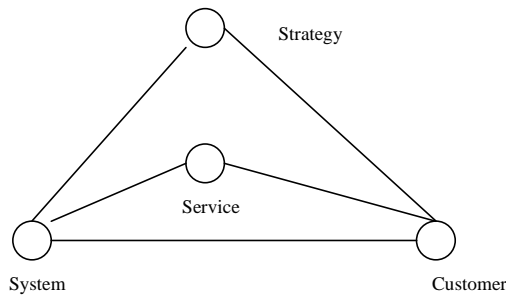
they in using computerized tools? (3) What are their needs, e.g., are they children buying toys using PCs from homes or are they engineering professionals considering networking gear using high-speed connection from their offices? (4) What makes them come to my business? (5) What makes them go to my competitors? (6) What value elements are important to my customer? The most important selection in strategy building is deciding what markets to serve with what products. The first step in market selection is the division of the market according to some scheme that is relevant to the industry. A market segment is set of customers who are alike in the way they perceive and value a product. The segmentation can be done along several dimensions: demography (e.g., income, age, education, tastes and consumption pattern), geography (e.g., location and culture specificity), lifestyle (e.g., career-oriented women versus at-home moms) and product-use patterns.

Service. A strategic conception defines not only a market segment, but also the nature of service that needs to be delivered. The uniqueness and the differentiation power reside in providing a value element that the particular customer segment values highly and considers superior to that delivered by other firms. The service delivered by a choice-board is of self-service type and the benefits are intangible. The experience needs to be positive so that the firm stands from its competition.

Systems. The system delivers a particular service to a specific customer segment. The system consists of an information processing and manufactur-

ing component that produces products customized for each customer. The discussion of this system is beyond the scope of this paper.

RESEARCH IN PROGRESS

Choice-boards provide the foundation for a new business model that is characterized by a user selecting product and service features from a computerized menu of choices. Firms employing this technology are offering a new value – proposition in which the customer is empowered to become a product-maker instead of being a product-taker. Not only can customers implement their choices, but, depending on the application, can experience how that choice would work. Firms that do not offer these systems are at a competitive disadvantage.

This paper described choice-board systems and their diverse applications. It provided a framework that managers can use to target the technology to create business value. The framework has four elements: strategy, customer, service and systems. This research is currently in progress. Hypotheses are being developed to test this framework using a survey and/or experimental method. Constructive feedback from fellow researchers would benefit in further strengthening this framework.

REFERENCES
1. Albrecht, Steve, "Service, Service, Service," Adams Media Corporation, Holbrook, MA, 1994.
2. Bitner, Mary Jo and Matthew L. Meuter, "Technology Infusion in Service Encounters," Journal of Academy of Marketing Science, vol. 28, no. 1, pp. 138-149.
3. Henderson, Bruce, "Nature of Business Strategy," in Perspective on Strategy from the Boston Consulting Group, edited by Carl W. Stern and George Stalk Jr., John Wiley and Sons, New York, 1998.
4. Slywotzky, Adrian J., Clayton M. Christensen, Richard S. Tedlow, and Nicholas G. Carr, "The Future of Commerce," Harvard Business Review, January–February 2000.
5. Slywotzky, Adrian J. and David J. Morrison, "How Digital is your Business?" Crown Business, New York, 2000.

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