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INTRODUCTION

Traditional approaches to teaching introductory marketing courses have focused on analysis of the four P's of the marketing mix to explain the discipline. However, recent emphasis on integration of the functional areas of business for strategic planning indicates the need for development of a systems approach to marketing (B.W. 1984). The need for expanding the current educational approach to principles of marketing is two dimensional. First, it is increasingly important that marketing be viewed as a subsystem of a larger corporate system. Secondly, students need to understand that the marketing system itself is composed of interactive and symbiotic subsystems. While most principle's textbooks emphasize application of systems theory to the organizational whole, they fail to go one step further and apply the same approach to the marketing system itself. Doing so would not alter traditional methodologies of marketing education, but rather complement and enhance the student's understanding of the dynamic nature of marketing. Subdividing a marketing system into discrete parts can lead to a loss of essential characteristics. Therefore, a logical approach to study marketing is not by using the parts to define the whole but by using the desired system output to explain the role played by its individual parts. Such an approach to marketing would help students better understand the integrative nature of the elements of the marketing system.

The purpose of this paper is to provide a means of introducing students to the principles of marketing whereby the "activities" of marketing are viewed as subsystems of the marketing system. The approach focuses on the outputs (strategies), tasks, resources, and control of each subsystem. An attempt is made to move away from the 4 P's approach by viewing the marketing subsystems as contributing to each other as well as to the hierarchical marketing system. In addition, pedagogical implications are presented in an attempt to bridge the gap between theory and classroom presentation.

DEVELOPMENT OF A SYSTEMS APPROACH TO MARKETING

Advocacy of a systems approach to the basic study of marketing is not a new idea. Breyer (1949) felt that the extant body of marketing knowledge should be reoriented to analyze the pattern of systems in marketing as had been done with the analysis of channel systems. However, this approach was considered to be somewhat deviant when it came to basic texts. Subsequently, physical distribution and logistics emerged using a systems approach emphasizing the importance of the interactive nature of its

elements (Bartels 1976). Systems theory also contributed to the inclusion of marketing as a vital system in strategic planning. At the principles level, many authors have overlaid the traditional 4 P's approach with a systems approach to show that marketing was a system whereby the firm related to an environment (Cundiff and Still 1964, Kotler 1983, Stanton 1984). Reidenbach and Oliva (1981) recently examined marketing within Miller's General Living Systems Theory. They stressed the importance of viewing marketing as a specific set of subsystems and that the discipline must extend itself from its functional perspective to a systematic one. In doing so, they identified the organization as a system operating in an environment with subsystems that service and generate demand. The result is not a rejection of the functional approach, rather a broader perspective of the role of marketing activities as subsystems. Finally, Cook (1981) concluded that the whole broadening/deepening of the marketing concept controversy is really no more than a discussion of where to draw the system boundaries for marketing.

We believe agreement exists that marketing must be viewed as a system. All that remains is a simple means of taking the process one step further for it to be made operational for educational purposes. A closer examination of basic systems concepts and proposed marketing subsystems will permit a more detailed description of the integrative nature of marketing activities, a valued aim of many marketing educators (Kotler 1984).

SYSTEM CONSIDERATIONS IN MARKETING

A systems approach to marketing should act in a supplemental manner to an analytical approach. Analytic approaches take the elements and explore them (e.g., the 4 P's approach). System approaches take the elements and explore interactions or linkages between them. It would be incompetent to suggest that students should learn marketing without having a basic understanding of the elements or functions of marketing. In fact, the basis of systems analysis is somewhat analytic. In order to study a system, one must first define and isolate that system and its component elements (Pascal 1985). The pedagogical change is in focus, not in locus.

Churchman (1968) has provided five basic considerations which can be applied in an attempt to understand marketing as a system. While the list may not be considered all inclusive by some, it is a solid starting point for an understanding of how to view functional areas of businesses as systems (i.e., finance, marketing, production, personnel). Figure 1 helps conceptualize the following systemic considerations suggested by Churchman:

1. What are the objectives of the system and how is performance measured? Business goals may be growth, retrenchment, or survival. Goals are reached via a carefully developed corporate strategy. Thus, the output of a business system should be a profit or sales strategy which will move the organization toward its desired goal. All elements or subsystems of the business (e.g., marketing) have a goal of contributing to the implementation of the firm's strategy. Performance of both the prime system (business) and the subsystems is evaluated based on the effectiveness of the strategy. Thus, central to any system is the control and evaluation process.

2. How is the system managed? The decision system of a marketing subsystem and managerial control of the business system is where coordination of components occurs. It is here that the total benefits concept can be put into practice. Though each subsystem has its own strategies which it considers to be optimal, an adjustment must often be made to optimize the output of the total organization. It is management's task to avoid suboptimization by evaluating, coordinating, and controlling the components of the system.

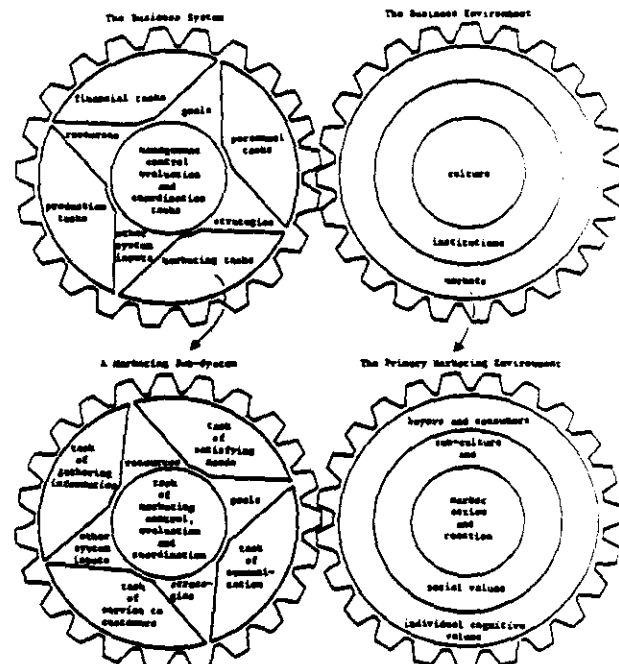
3. What are the components of the system? System components or tasks are the activities which are managed as described above. Each of the functional areas of business shown in Figure 1 (finance, production, personnel, and marketing) represents a task or subsystem of the business. In turn each subsystem (e.g., marketing) has tasks which can also be subsumed to further systemic analysis. For purposes of brevity, further division has been omitted. Tasks, at all levels, are accomplished by the application of system resources.

4. What are the resources or inputs for the system? Resources are inside the realm of the system's control and allocated by management. Essential for accomplishment of strategies and goals is the complete and proper allocation of resources (e.g., manpower, equipment, budgets, inputs from other systems, etc.). The strategic output is affected, if not controlled, by this allocation and it is this output which is used to evaluate the effectiveness and efficiency of the system. While allocation of resources is controllable, the system operates in a generally uncontrollable environment.

5. What is the system environment? Systems do not exist in a void. It is not necessary for the purposes of this paper to give complete descriptors of the environment of a business system. However, note that the marketing subsystem depicted in Figure 1 has an external environment which can be called the Market Environment which is a specific portion of the larger business environment. Since the environment consists of anything beyond the control of the system, the marketing subsystem environments consist of the organization, market environment, and total environment.

FIGURE 1

BASIC CONSIDERATIONS OF A SYSTEM FOR BUSINESS AND MARKETING



In summary, for purposes of this analysis, the marketing system is defined as a set of tasks which collectively culminates in strategic output of the system aimed at achieving a specified goal or objective. Effectiveness is evaluated and measured by the outputs and is subject to management control. The system functions in a given yet evolving environment. Conceptually, marketing is an important task and hence a subsystem of the overall corporate system. The output of any subsystem may become an input to other subsystems and their collective output, input to the higher system. It should be noted that this discussion of systems theory is in no way exhaustive, rather it is intended to be sufficient for application in a basic course in marketing.

THE MARKETING SYSTEM

Once an understanding of systems is accomplished, marketing may be defined as a set of subsystems organized to facilitate mutually beneficial exchange relationships. Effective application of marketing provides the economic utilities of time, place, and ownership and thereby is an integral part or input to corporate strategy. In doing so, marketing strategy contributes to the accomplishment of the overall goal of the firm (e.g., growth). How a marketing system operates to facilitate exchange can be explained by an analysis of the tasks or subsystems of marketing. Figure 2 depicts the critical aspects of the marketing system. The output of the system is a strategic marketing plan. Application of resources to the tasks of the system contribute to this strategy. Finally, the effectiveness of the system is evaluated relative to its contribution to the stated goal of the firm.

1. What are the objectives of the system and how is performance measured? Business goals may be growth, retrenchment, or survival. Goals are reached via a carefully developed corporate strategy. Thus, the output of a business system should be a profit or sales strategy which will move the organization toward its desired goal. All elements or subsystems of the business (e.g., marketing) have a goal of contributing to the implementation of the firm's strategy. Performance of both the prime system (business) and the subsystems is evaluated based on the effectiveness of the strategy. Thus, central to any system is the control and evaluation process.

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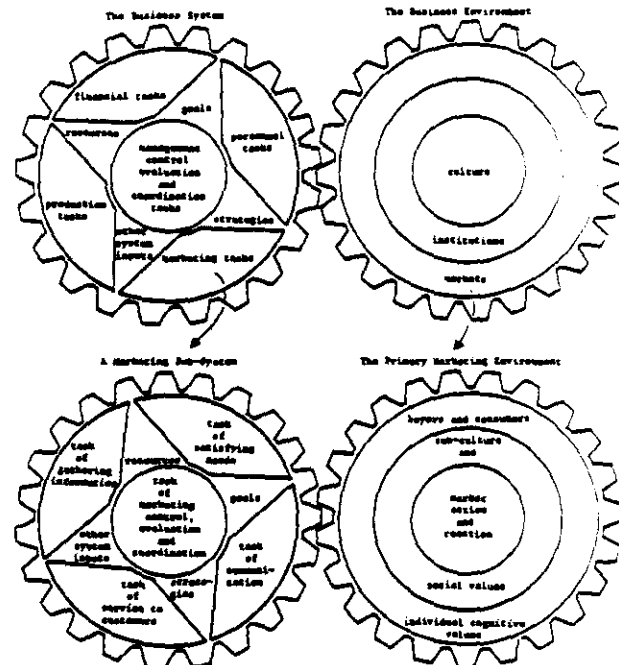
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The marketing system cannot function if any of the tasks are left unperformed. Therefore, tasks are performed to accomplish a desired output which contributes to the output of a larger system. Each task (e.g., analysis on consumer needs) can be further examined as a subsystem created to accomplish the goal of the system (strategic marketing plan). Finally, each system has a task of coordinating internal efforts (decision making subsystem) and the means for evaluation and control for performance monitoring.

FIGURE 2

MARKETING SYSTEM

Goal of the System is to produce an OUTPUT (Strategic Marketing Plan) which will support the Goal of the SBU or Corporate System.

TASKS - Create Subsystems to:

- (1) Communicate to various publics.
- (2) Gather information to analyze needs of consumers.
- (3) Develop a means of satisfying consumer needs.
- (4) Service consumers by delivering need satisfiers in a timely manner.
- (5) Coordinate all subordinate subsystems to facilitate effective exchange relationships.

- RESOURCES - Manpower
 - Technical expertise
 - Equipment
 - Budget

- CONTROL AND EVALUATION
- Market share
 - Profit contribution
 - Customer loyalty
 - Least total system costs
 - Outputs from other systems

Traditional approaches to marketing using the 4 P's may begin with a view of a business system and may even mention that marketing is a system. However, most fall short of full explanation or elaboration. Students may wonder how the product, promotion, price, and distribution "mixes" are blended into a full marketing mix. They may also wonder which "mix" comes first. A systems approach will help them understand that events are virtually simultaneous, that the "mix master" is a process inherent in the system, and that while subsystems may act to their own best interests, the decider controls the best interests of the larger system to which they belong. The discreteness of the 4 P's is now replaced with a process or flow approach familiar to educators of consumer behavior, channels, logistics, and communications.

MARKETING SUBSYSTEMS

The marketing system, as depicted in Figure 2, is composed of five tasks (subsystems) each with their own output, tasks, resources, and means of being controlled or evaluated. A more complete analysis of each of these subsystems is provided

in Figure 3. The individual lists are not meant to be exhaustive but illustrative of possible factors to be included. Note how each subsystem has a unique output which contributes to the marketing system. In addition, these parallel subsystems contribute to each other and thereby become resources for other subsystems. This is where the integration in marketing occurs.

FIGURE 3

MAJOR MARKETING SUBSYSTEMS

COMMUNICATIONS SYSTEM		
OUTPUT - COMMUNICATION STRATEGY		
TASKS	RESOURCES	EVALUATION & CONTROL
Promotion Advertising Sales/Training Sales Promotions Public Relations	Promotion Budget Technology & Equipment Human Talent Ad Agencies Inputs From Other Systems Research Reports Product Strategies Service Strategies Mix Strategy	Reaction Reach Reaction Awareness Understanding Message Fit to Market Cost Effectiveness
DATA COLLECTION SYSTEM		
OUTPUT - MARKETING INFORMATION STRATEGY		
TASKS	RESOURCES	EVALUATION & CONTROL
Define Problems Collect Data Business Data Display Data Presenting	Human Talent Research Budget Technology & Equipment Inputs From Other Systems Sales Data Responses to Promotions Reactions to Service Mix Strategy Product Strategy	Accuracy Timeliness Clarity of Analysis Cost Effectiveness
NEED SATISFYING SYSTEM		
OUTPUT - PRODUCT STRATEGY		
TASKS	RESOURCES	EVALUATION & CONTROL
Product Development Product Removal Product Improvement Product Positioning Product Assessment Branding Packaging Pricing Warranties After Sale Service	Human Talent Product Budget Consumer Behavior Analysis Inputs From Other Systems Research Reports Communication Strategy Mix Strategy Service Strategy	Consumer Demand Product Line Depth/Width Clarity of Position Length Complaints Brand Loyalty
SERVICE SYSTEM		
OUTPUT - CUSTOMER SERVICE STRATEGY		
TASKS	RESOURCES	EVALUATION & CONTROL
Outbound Movement Inbound Movement Storage (Warehousing) Inventory Control Materials Handling Industrial Packaging Scheduling Order Processing Distribution Channels Management	Human Talent Technology & Equipment FD Budget Inputs From Other Systems Research Reports Product Strategy Mix Strategy Communication Strategy	Damaged Goods Returns Usefulness as a Demand Cracking Variable Inventory Reliability Cost Effectiveness
MARKETING COORDINATION SYSTEM		
OUTPUT - MARKETING MIX STRATEGY		
TASKS	RESOURCES	EVALUATION & CONTROL
Opportunity Analysis Analysis of Threats Determine Target Market and Segments Determine Marketing Mix	Human Talent Technology & Equipment Inputs From Other Systems Research Reports Communication Strategy Product Strategy Service Strategy	Sales Market Share Return on Investment Cost Effectiveness of Marketing Effort

Absence of input and coordination from other subsystems results in suboptimization, system output is reduced, and synergistic benefits lost.

As each subsystem operates, it generates an output which is filtered back through a decision subsystem. The "mix" which best meets the needs

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of the marketing system is determined and becomes part of the marketing plan. Similarly, the other four subsystems blend their individual tasks to accomplish the subsystem's goal. The first issue may be that which is best for the subsystem. If this does not fit the needs of the higher system, a "remixing" occurs to better fit these needs. Internally, this may be accomplished by a reallocation of resources, redirection of effort, or reprioritization of target markets.

CONCLUSION AND PEDAGOGICAL IMPLICATIONS

If students are to understand the true nature of how marketing works, not just the tasks associated with the discipline, beginning marketing courses should start with an introduction to the concepts of systems. However, showing students the business system without further application to functional areas results in an incomplete picture. Once the aspects of systems are understood, including the impact of environments on the systems, one can move to the identification of system outputs, tasks, resources, and evaluative procedures. Much of the content of current marketing texts could remain the same. However, analysis of marketing activities based on systems and subsystems helps students appreciate the interactive nature of marketing. Perhaps of greater value is an understanding of why and how they interact.

Once marketing is viewed as a subsystem, it is easier to understand how marketing interacts with other subsystems. Time must be spent introducing some of these interactions. If other basic courses were taught in this manner, a student would be better prepared for business strategy and policy classes. They would be cognizant of problem solving from a systems approach rather than a purely analytical approach. Understanding basic marketing systems also will better prepare students for advanced courses. As students progress to specific areas of marketing (e.g., promotion), relationships to other tasks will be readily identified.

Finally, a systems application extends the four P's concept to fit today's expanded marketing discipline. If students understand marketing as a system, they can overlay the concept to fit any special application of marketing. This will make the student's adjustment to service, international, or not-for-profit marketing easier. A realization takes place that the system output is a strategy necessary to accomplish a goal. Goals and strategies change, not the tasks associated with marketing. In the modern strategic planning mode of business, subsystem strategies are combined to develop a synergistic strategy that would

be impossible if marketing departments were actually organized along the rudiments of the 4 P's (Reidenbach and Oliva 1981). Thus, use of systems concepts in training marketing students will expand the traditional elements of marketing such that students will realize that the systems concept fits all aspects of marketing.

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