

The Importance of Taxonomy Development for Service Operations Strategies

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The purpose of this study is to analyze the problem of service quality measurement from a standpoint that crosses traditional boundaries. The paper outlines the value of classifying a service firm's location in well known (operations oriented) classification schemes to allow for a meaningful test of the relationships of operating characteristics and quality. The importance of this study cannot be underestimated; as service firms will be able to gain strategic insights by comparing operating strategies to other firms with like measurements of the classification dimensions, even if they do not appear to be similar firms and could not otherwise be easily obtained. The organization's benefits as described by Hayes and Wheelwright (1979) still hold today: Help a company to conduct a diagnosis of its strategic evolution – Think creatively about possible future strategic directions – Explicitly involve both marketing and operations – Encourage a company's managers to think creatively about their strategies for process evolution. What is needed, therefore, are classification schemes that will allow the manager to make strategic decisions based on a detailed analysis of the service concept.

Service's Management, Service Classification, Quality, Strategy

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INTRODUCTION

Considering the predominant place of services in our economy, the area of service management has not received its fair share of research attention. It is likely that researchers have shied away from this area because of the complexities and qualitative issues involved in analyzing services. In contrast to manufacturing, which can often be analyzed by objective and precise measures, services are an abstract and elusive concept since services are performances rather than objects. Nevertheless, due to the competitive significance of providing a quality service in most industries, this topic warrants the same rigorous investigation generally applied to the manufacturing sector. Research that has been performed to date supports this claim since high service quality appears to result in measurable benefits, sometimes directly detectable as increases in profits and market share (Thompson, et al. 1985; Lin, 2013; Park, et al. 2013). The purpose of this study is to suggest a methodology for investigating operations-oriented classification schemes applicable to the service sector with the penultimate goal of developing a quantifiable means of classifying a service firm. To provide effective operations guidelines to firms in the service sector, a methodology must be developed that will allow quantitative placement of a firm within a meaningful (operational) classification scheme. A measurement method needs to be designed and tested to analytically determine a firm's exact placement in the taxonomy. Without some level of precision, it will be difficult to derive recommendations, implications, and conclusions regarding operations strategies.

CLASSIFICATION SCHEMES

Service organizations cover an extremely wide range of activities. The diversity among them is so great that any global, all-encompassing approach to service management is naive. The service sector must be segmented to facilitate managerial analysis.

The development of organizational classification schemes has been the subject of considerable research since the early 1900s. On the other hand, only a few of these have been directed at the operations strategist involved in managing the firm. For example, the most widely-known and researched taxonomy in the operations management field is that of Hayes and Wheelwright (1979). Their "product-process" matrix provides one means for managers to evaluate operations strategies in the manufacturing environment. See also Schmenner, 1986 & 2004; Chowdhary & Prakash, 2007; Olorunniwo et. al. 2006; Lee 2002; Mont 2002.

To gain strategic insights in service organizations, the same importance needs to be placed on identifying useful classification schemes. Until recently, service organizations have generally been classified according to the type of service they provide, e.g., as determined by designations such as SIC codes. Lovelock (1983) pointedly observes that the development of a classification scheme is not enough. For a taxonomy to be useful to management, it must offer operational insights that could not otherwise be obtained. Lovelock further contends that the development of a classification scheme grouping services that share unique characteristics should lead toward the cross-fertilization of concepts and strategies. Schmenner (1986 & 2004), Chowdhary and Prakash (2007), and Olorunniwo et al. (2006) reiterate this idea by

warning that if service organizations remain isolated and do not look to other sectors for operational guidance, they will increase their chances of failure. Haywood-Farmer (1987) and others (Spreng and Mackoy, 1996; Shemwell et.al. 1998; Seth et. al. 2005, and Hu et. al. 2009) also reveal that services that share operations and marketing characteristics, whether in the same industry or not, can often provide managers with more useful operations ideas than firms in the same business sector (i.e., within the same SIC code) with quite different characteristics. Chase (1981), Roth and Menor (2003) Brady et al. (2002), and Den et al. (2010) all claim that managers in service industries need a classification system that indicates the nature of and demands on their particular service system in terms of its operating requirements. Service operations, like manufacturing, have to be tailored to do certain things well at the expense of doing all things well.

The majority of taxonomies that deal with services have been proposed in the marketing and management literature (Bowen, 1986; Lovelock, 1983; Blau and Scott, 1962; Katz and Kahn, 1966, etc.). Little taxonomy research in services has been conducted in operations management. Some of the more useful studies are those of Chase (1978 & 1981), Chase and Tancik (1983), Schmenner (1986 & 2004), Brady et al. (2002), and Brady and Cronin (2001). Chase segments by the extent of direct customer contact with the service facility (i.e., total contact time). Schmenner classifies services using two dimensions, a combination of degrees of interaction and customization on one axis and the degree of labor intensity on the other, as indicated in Figure 1 (Appendix).

Although these taxonomies provide a convenient starting point for evaluating a number of strategic issues, for this analysis we will use a classification scheme proposed by Haywood-Farmer (1987). Haywood-Farmer uses the same dimensions for classification as Schmenner but separates interaction and customization onto different axes, thereby suggesting a three-dimensional scheme, as indicated in Figure 2 (Appendix). The use of this particular taxonomy overcomes much of the criticism leveled at the Chase and Schmenner models and provides a useful means of analyzing services from an operations perspective. Observe, for example, that the three dimensions in Figure 2 correspond loosely to three distinct operations management concerns: labor content of the task, standardization of output, and standardization of the task.

It seems reasonable to believe that services could now be analyzed by determining how their location in the matrix corresponds to a number of strategic operations variables.

OPERATIONALIZING THE TAXONOMY

Engel, Kollet, and Blackwell (1973), among others, claim that a major deficiency in service research is the lack of a standardized classification system. Therefore, the primary objective of this study is to develop a methodology to investigate organizational taxonomies applicable to the service sector, with the goal of developing a quantifiable means of classifying a service firm within a scheme.

Each of the taxonomies previously mentioned attempts to locate a firm intuitively rather than analytically. Schmenner defines a measurement for one of his axes, labor intensity (ratio of the labor cost incurred to the value of the plant and equipment), but defines his other axis in general terms (i.e., where interaction is the ability for the customer to actively intervene in the service process at will to demand additional or different types of service, and customization is the ability to satisfy an individual's particular and full range of preferences). No means of precisely measuring these is given. Haywood-Farmer does not

attempt to define or measure any of the three dimensions either. Chase (1978) has developed a classification system based on customer contact. He describes (but does not measure) customer contact as the characteristic that operationally distinguishes one service system from another, regarding what can and cannot be achieved in the way of efficiency.

To provide effective strategy guidelines to firms in the service sector, a methodology will be needed to accurately place a firm within a given classification scheme. The specific classification variables that need to be investigated are: a) labor intensity, b) customization, and c) interaction, as proposed by Schmenner (1986) and later revised by Haywood-Farmer (1987). A measurement method needs to be developed and tested for each of the dimensions to achieve analytical determination of a firm's placement within a classification scheme. We believe that without some level of precision in locating a firm within a given classification scheme, it will be difficult to derive strategies, recommendations and implications of value to operations managers. (See for example the discussion in Rosen and Karwan (1988) where this is discussed in the context of providing a "quality" service).

The concept that strategies are dependent on the characteristics of the service (i.e., labor intensity, customization, and interaction) already has considerable support in the marketing literature (Langeard and Eiglier, 1983; Zeithaml, Parasuraman and Berry, 1985, and Lovelock, 1983).

RECOMMENDED METHODOLOGY

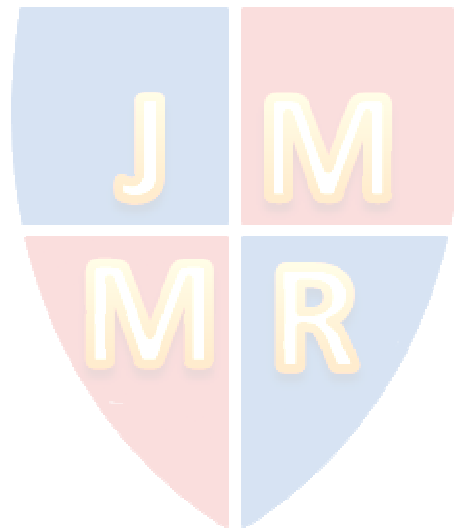
A reasonable approach to attaining the study objective (deterministic placement of an organization in the classification scheme) would incorporate two steps. The first would entail development of measurement scales for labor intensity, customization, and interaction. The second step would involve interviews and surveys of a significant number of service providers to measure their basic operating characteristics (as determined by the three taxonomy dimensions). The respondents in this phase of the study should be randomly chosen from enterprises that fit Standard Industrial Classification codes, to assess the cross-industry implications of research findings and to determine if SIC codes are, in fact, a useful means of classifying services to assess strategic quality guidelines.

The results from the two phases of this type of study would then need to be analyzed in terms of the Schmenner and Haywood-Farmer classification schemes. In both of these, the authors use intuition to locate various types of services within their scheme rather than some explicit quantitative methodology. Survey results would also allow a narrower segmentation within an industry to gain strategic insights (e.g., all restaurants may not belong in the same cell.)

CONCLUDING REMARKS

From our past research, we have shown how the dimensions that influence quality in services will vary very according to the service setting. The research question now before us is how to determine actual service settings and how various firms will fall into a particular classification. Classifying services is important because it provides a general set of principles for explaining the behavior and operations of a particular firm. By combining many variables and considerations in a simple construct, classification facilitates dealing with the complexities of these organizations and predicting future behaviors and patterns

of relationships. This paper has outlined the need to accurately classify services with the intent of gaining strategic insights.



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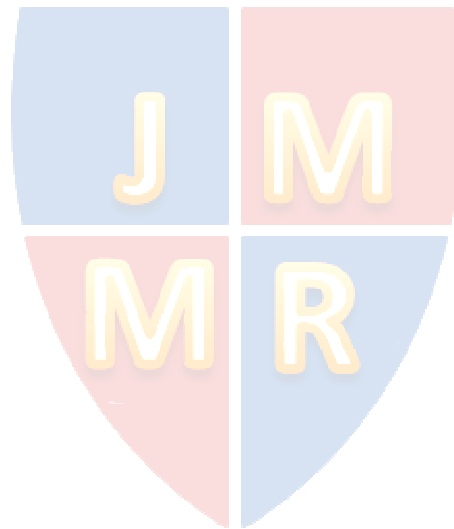
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APPENDIX

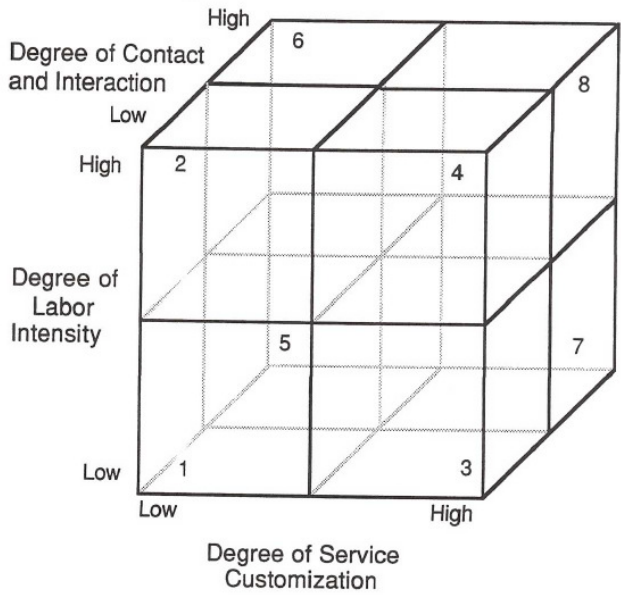
Figure 1

Service Process Matrix

		Degree of Interaction and Customization	
		Low	High
Degree of Labor Intensity	Low	Service Factory •Airlines •Trucking •Hotels	Service Shop •Hospitals •Auto Repair •Other Repair Services
	High	Mass Service •Retailing •Wholesaling •Schools •Retail Aspects of Commercial Banking	Professional Service •Doctors •Lawyers •Accountants •Architects

Schmenner's Taxonomy

Figure 2



Haywood-Farmer's Classification Scheme