

The Unified Services Theory Approach to Service Operations Management

February 13, 2001

POM 2001 Meeting – Orlando, Florida
Service Operations Management Track

Abstract

Over the years, various authors have proposed frameworks for conceptualizing service operations management. One such framework is the “Unified Services Theory” (UST). While it is not the only framework, it is arguably the most useful. It unequivocally differentiates between service and manufacturing operations issues. It provides a perspective for analyzing any service process. All other operations management issues unique to service are derivatives of the UST. This presentation will discuss the various merits of the UST, implications of the UST for services management research, and how the UST can be used as the basis for Service Operations Management curriculum.

Scott E. Sampson
Marriott School of Management
Brigham Young University
Provo, UT 84602
scott_sampson@byu.edu

The Unified Services Theory Approach to Service Operations Management

Introduction

The United States of America has become a service economy, meaning that the majority of economic output (approximately three-fourths of GDP) comes from service businesses. Services are predominant in the economies of other developed nations as well. Robert F. Kelly, Managing Partner for Andersen Worldwide, has pointed out that, “In the most advanced economies of the world, services account for two-thirds or more of output.” (1997) Even countries known for their large manufacturing bases have much of their GDP output attributable to services. (e.g. Korea: 63 percent, Chinese Taipei: 56 percent, Thailand: 47 percent (Kelly 1997)).

Services dominate not only the *output* of developed nations, but also absorb much of the *inputs* of production, such as labor and capital. (United.Nations 1993). This is not at all to imply that developed nations are *good* at managing services. In fact, it appears that generally they are *not*. Much of the blame rests with the management approach taken to services and perpetuated by business schools. That approach views service operations as a crude manifestation of manufacturing operations.

A poignant article by Ronald Henkoff (1994) observes:

“Despite the steady expansion of the service economy, American management practices, accounting conventions, business school courses, and public policies continue to suffer from an acute Industrial Age hangover—‘Most people still view the world through manufacturing goggles,’ complains Fred Reichheld, leader of the customer-loyalty practice at Bain & Co.”

As an example of this mismanagement, Reichheld observes that the accounting systems currently in use were “designed to serve 19th-century textile and steel mills.” More from Henkoff:

“Service executives often behave much like belly dancers trying to march to a John Philip Sousa song, subjecting their companies to management theories—both traditional and trendy—that were invented in the factory. Says Leonard Schlesinger, a Harvard business school professor who has studied service companies for two decades: ‘Old legends die hard. Many service firms have aped the worst aspects of manufacturing management. They oversupervise; they overcontrol.’”

We have thus far failed to make the shift in management practice to correspond with the shift to a service economy. The purpose of this paper is to discuss a new (yet old) approach to service operations that can help rectify the problem.

Defining Services Management

A real challenge in developing the science of Services Management is that people have a hard time defining what services are, and identifying what makes service businesses different from any other business. *Fortune* magazine seems to have felt the effects of this difficulty in defining service business when, after many years of publishing the Fortune Industrial 500 and the Fortune

Service 500, they recently collapsed the two lists into one (Eiben and Davis 1995). It apparently became too difficult to sort the service firms from the manufacturers.

A serious problem occurs when the inability to understand services leads to treating them as a peculiar case of manufacturing. This naivety is illustrated by the practice of those who refer to services as “non-manufacturing” and/or who maintain that service businesses should be run by manufacturing paradigms. (Specific references available upon request. I deleted the references I had listed here to avoid making enemies.) Services are often treated by academics as a heterogeneous lump of leftovers. Since the unique aspects of Services Management are not understood, they are referred to simply by their relative proximity to what most people in academics do know: manufacturing management.

Authors Castells and Aoyama (Castells and Aoyama 1994) describe the prevalent confusion in defining services: (Citations listed in this quote are from their paper.)

“the notion of ‘services’ is often considered at best ambiguous, at worst misleading (Gershuny and Miles, 1983; Daniels, 1993). In employment statistics, it has been used as a residual notion embracing all that is not agriculture, mining, construction, utilities, or manufacturing. Thus, the category of services includes activities of all kinds, with roots in various social structures and productive systems. The only feature common to these service activities is what they are not (Castells, 1976; Stanback, 1979; Cohen and Zysman, 1987; Katz 1988; Daniels, 1993).”

This definition of services as a disjointed “residual”—left over when all other sectors is accounted for—is peculiar. That “residual” is larger than *all other sectors combined* in advanced economies. The “residual” view has been perpetuated by the way governments have classified economic activities (Schmenner 1995). Attempts have been made to correct this confusion, such as with the new North American Industrial Classification System (NAICS). Such attempts more accurately capture the shift to a service-based economy, but provide little to our understanding of how businesses should be managed in the new economy.

Some authors and researchers have defined services in ways that are not “residual” per se, but still based on their distinction from manufactured goods. The following are a few examples.

- Gonçalves (1998, p. 1) sets forth the following definition: “a service business is one in which the perceived value of the offering to they buyer is determined more by the service rendered than the product offered.”
- Ammer and Ammer (1984, p. 421) defined a service industry as “An industry that produces services rather than goods” (quoted in Riddle 1985, p. 9).

Such definitions can be less than fulfilling, and provide little insight into what services are. Other definitions can provide insights into important issues of services. However, we might question whether a business is a service because it possesses such characteristics, or if it has those characteristics because it is a service. For example, software *manufacturing* produces a product that is very intangible (computer code) and the production process is very labor-intensive (computer programmers). Therefore, intangibility and labor intensity must not *define* a business as a service. We might conclude that if a business is a service it would tend to be

Proceedings of the Twelfth Annual Conference of the Production and Operations Management Society, POM-2001, March 30-April 2, 2001, Orlando Fl.

intangible and labor-intensive, but not the other way around. This is a major problem with defining services by their characteristics. (Many characteristics of services will be discussed in (Sampson 1999). The false idea of service intangibility is rebuffed there.)

Other definitions of services focus on the service production process.

- **A service is a personal performance.** Levitt describes a service as being “invariably and undeviatingly personal, as something performed by individuals for other individuals” (Levitt 1972). Thomas disagrees with that conceptualization, since it denies automated services, particularly those acting on inanimate objects, such as an automated car wash service (Thomas 1978).
- **Service is to change a person or their belongings.** Hill (1977) defined a service as “a change in the condition of a person, or of a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit....”
- **A service is a product which is a process.** (Henkoff 1994; Shostack 1987)
- **Services are processes involving customer contact.** Chase (1978) introduced a classification system in which “pure service” involves high requirements for customer contact and manufacturing involves low contact. He defines “customer contact” as the physical presence of the customer in the system.
- **Services are “economic activities that produce time, place, form, or psychological utilities.”** (Murdick et al. 1990) Riddle (1985, p. 12) adds to this idea, “while bringing about a change in or for the recipient of the service.”

There is a lot of truth in these conceptualizations. However, we still need to answer the fundamental question about why we are justified in studying disparate service industries under a single heading of “Services Management.” For example, how are we justified in teaching a course on Services which encompasses health care and garbage collection, consulting and ski resorts, airlines and pawn shops, pet grooming and law firms, universities and butcher shops? They all seem to fit the conceptualizations above to one degree or another—but if we ran our university like a butcher shop, where would we be?

A major purpose of this paper is to define Services Management in such a way that the commonality of all service businesses will be captured, and important managerial implications will be revealed. The approach to accomplish this purpose is called the “Unified Services Theory.”

The Unified Services Theory

Some time ago I studied and pondered the dilemma of defining services. I thought: “Would it be possible to define service businesses in a way that (a) justifies studying such a wide range of industries under one heading, and (b) will lead us to numerous managerial implications?” This question is similar to one Albert Einstein pondered for the last twenty years of his life. He felt driven to identify a “Unified Field Theory” which would describe how magnetism, gravity, radiation, light, and other energy fields were all part of a unified phenomenon. The implications of a Unified Field Theory were tremendous, for it would not only show what the various energy

Proceedings of the Twelfth Annual Conference of the Production and Operations Management Society, POM-2001, March 30-April 2, 2001, Orlando Fl.

fields had in common, but led to insights about how each individual field type operates.

In like manner I concluded that what we need to hasten the development of the Services Management discipline was a “Unified *Services Theory*.” After much study on the topic, I present **The Unified Services Theory as follows: “With services, the customer provides significant inputs into the production process. With manufacturing, groups of customers may contribute ideas to the design of the product, however, individual customers' only part in the actual process is to select and consume the output. Nearly all other managerial themes unique to services are founded in this distinction.”**

With manufacturing, suppliers provide inputs and customers consume the production outputs. Individual customers provide no inputs, but simply select and pay for the outputs. It is important to note in the Unified Services Theory that with manufacturing, “...groups of customers may contribute ideas to the design of the product,...” such as through market research studies. That information from groups of customers is not about a specific unit of production, but is about production in general. Therefore, we consider such general information to be an input in the design of the overall service or the overall service process, not an input into the process itself. Throughout this paper, when we refer to “customer inputs” we are referring to inputs to be used in the specific customer's unit of production, not to general customer sentiment about the overall process or general product.

The Unified Services Theory clearly justifies the common consideration of various industries called “services.” The Unified Services Theory also unifies the distinctive characteristics of services by showing that they originate from a common cause. The various characteristics of services are generally described in the literature separately, even though the characteristics do not occur in isolation from one another. Fitzsimmons and Fitzsimmons (1998, p. 27) share the insight that, “many of the unique characteristics of services, such as customer participation and perishability, are interrelated.” From this we may suppose that some characteristics are caused by other characteristics. That is an extremely reasonable assumption.

What if we went a step further? What if we assumed that there was a major factor that caused *almost every other characteristic of services to occur*? Proposing that factor is a fundamental purpose of the Unified Services Theory. The more complete write-up of this theory describes dozens of service characteristics and Service Business Principles that are a direct result of that unifying factor. (Sampson 1999) There is not a single Service Business Principle described in that lengthy document that is not a direct consequence of the Unified Services Theory.

Implications of the Unified Services Theory

“The keys to successful management of Service businesses will be ours if we can learn and apply just two things: (1) the Unified Services Theory, and (2) its implications.”

In one sense, the Unified Services Theory is a descriptive model, and arguably so. However, perhaps in a larger sense it is a *prescriptive* model. I propose a standard of understanding that can help bring together the many diverse views of those who study Service industries. In this final section, I will present just a few of the implications of the Unified Services Theory pertaining to research and teaching. This is a dramatic understatement of the far-reaching implications of this theory.

Research Implications of the UST

The UST both simplifies and complicates the task of services research. On one hand, it gives us a clue about where any new discoveries about services management are likely to be found—in analyzing customer inputs. If we want to build research streams focused on services, then we will of necessity need to study the implications of customer inputs. This will imply a greater need for cross-functional research, since “customer inputs” implies linkages between marketing, operations, and other disciplines.

The study of customer inputs in service processes further serves to complicate the research task. Researchers like clean but complex deterministic models of system behavior. However, those models are rarely adequate for systems involving customer inputs. Many of the traditional operations models are far from meeting assumptions of realistic service situations. Customer inputs often requires designing stochastic models which are not as “clean” as manufacturing counterparts.

Curricular Implications of the UST

The UST originally evolved out of topics I covered in my Services Management course. A few years ago I felt that I was teaching interesting and important Services Management topics, but that the material was somewhat disjointed. I attribute part of this to the relative newness of Services Management as a discipline. Academic fields that have evolved over many decades tend to develop staples and structure. The *staples* are the fundamental concepts every student of that discipline should know. (For example, net present value analysis is a staple of finance.) The *structure* of an academic field categorizes the major issues of the field and defines a logical ordering of the topics. Services Management as an academic field is so new that the staples and structure were still somewhat undefined, at least as I saw it. So, of course, I wanted to do something about it. That is why I developed the UST.

One interesting thing about the Services Management discipline is that *of necessity* it integrates operations, human resources, and marketing. This is different from manufacturing management, wherein Manufacturing Operations Management, Product Marketing, and Human Resource Management are commonly taught as distinct disciplines (which is not ideal, but the result of traditional functional specialization).

With Services Management it is *impossible* to adequately talk about Operations Management without addressing major human resource issues. Further, it is *impossible* to do justice to services marketing without discussing operations design and execution.

The UST in a Traditional Operations Management Context

The tradition of Operations Management is surely rooted in manufacturing. In fact, “operations management” is assumed by many to be synonymous with “manufacturing management.” This unjustified assumption ignores the fact that *most* business operations in the developed world are *not* manufacturing processes, but are service processes.

Despite the service operations predominance, most Operations Management courses and texts are founded in manufacturing perspectives and principles. Well-intended authors and instructors have sought to recognize the shift to a service economy by sprinkling service examples among the manufacturing material. Such action implies a bold assumption that service operations

principles are simply an extension of manufacturing operations principles. The study of services is thus viewed as secondary to the study of the manufacturing contexts that are most familiar.

This treatment of service operations as subservient to manufacturing has led to a false perception by many that the study of operations issues in service contexts is shallow and unscientific. This is illustrated by the way services topics are introduced.

For example, a major topic in many Operations Management texts and courses is product layouts, which are assembly lines. Significant attention is paid to discussing assembly line balancing, which involves identifying and relieving bottlenecks in the process to increase overall throughput (i.e. the amount of production per time period). After discussing these ideas in manufacturing contexts, well-meaning authors and instructors attempt to tie this in to services with an example. The example we give is generally something like the food serving line in a cafeteria. We make all kinds of dramatic assumptions about the process times at each station (salad, entree, dessert, drinks, etc.) so that the manufacturing management techniques can be applied. To the student, such an example can easily come across as contrived and of little relevant value. Students may think “talking about managing cafeteria lines is of little value to me, since it is unlikely I will ever manage a cafeteria with significant throughput problems.” Indeed, few business school graduates go to work in cafeterias, and it is unlikely that those who do will spend much time concerned about food-line throughput.

So why don't authors and instructors give more realistic service examples of assembly line balancing—examples from industries many students are interested in such as financial planning, accounting, marketing, consulting, etc.? The answer is that assembly line balancing, dare I say, is *virtually irrelevant in most service contexts!!!* How can it be that such a time-tested manufacturing topic could find weak application in service contexts? The answer is that, believe it or not, **SERVICES ARE FUNDAMENTALLY DIFFERENT FROM MANUFACTURING.**

The problems occur when we study services with an assumption that they are simply an extension of manufacturing, which they are not. For example, one inherent assumption of assembly line balancing is that there is relatively homogenous production. If every item in production had unique and random processing times, it would be difficult to characterize the capacity of various workstations, thus confounding the bottleneck identification issues. The occurrence of bottlenecks could be almost random, depending on the random nature of each product's requirements. Well, frankly, that is the case in most service processes. That is why we have to pick an isolated example like cafeteria lines when studying assembly line balancing.

I am afraid that such dramatic stretching to apply manufacturing principles to services contexts has led some to wrongly conclude that there is little place for Operations Management in services. For example, years ago I sat across the desk from a department chairman of what, at one point, had been a well-respected university department. I was interviewing for an Operations Management faculty position, and had expressed my interests in Service Operations Management teaching and research. After a little discussion, the department chairman made a statement to the effect of, “Come now, both you and I know that if there is anything interesting to study in Operations Management, it will be in manufacturing.” At the time I thought he was just ignorant. Since then I have realized that his misconceptions may have been caused by the way services Operations Management had been forced into manufacturing molds.

If we falsely equate “operations management” with “manufacturing management,” and observe that manufacturing principles do not drive most service business, then we may conclude that “operations management does not apply to service businesses.” That is like saying “boxing is the sport of true athletes,” and observe that “women are generally not good at boxing,” then concluding that “women are generally not good athletes.” Only a naive buffoon would make such a statement. Many women are great athletes, just not by the measure of boxing fanatics. Likewise, services processes are rich with Operations Management principles, just not by the context of traditional manufacturing management.

I do not mean to imply that there is nothing about service operations to be learned from manufacturing operations. In fact, many manufacturing concepts can benefit service operations managers. However, what I propose is that we study Service Operations Management from the context and realities of service operations, in other words, the Unified Services Theory.

References

- Ammer, C., and Ammer, D. S., 1984. *Dictionary of Business and Economics* Ed., The Free Press, New York.
- Castells, M., and Aoyama, Y., 1994. “Paths towards the informational society: Employment structure in G-7 countries, 1920-90.” *International Labour Review*, vol. 133, no. 1.
- Chase, R. B., 1978. “Where Does the Customer Fit in a Service Operation?” *Harvard Business Review*, vol. 56, no. 6(November-December): 137-142.
- Eiben, T., and Davis, J. E., 1995. “The New 500 For the New Economy.” *Fortune*(May 15): 166.
- Fitzsimmons, J. A., and Fitzsimmons, M. J., 1998. *Service Management: Operations, Strategy, and Information Technology*, Second Ed., Irwin / McGraw-Hill, New York, pp. 613.
- Gonçalves, K. P., 1998. *Services Marketing: A Strategic Approach* Ed., Prentice Hall, Upper Saddle River, New Jersey, pp. 225.
- Henkoff, R., 1994. “Service is everybody's business.” *Fortune*, vol. 129, no. 13(June 27): 48.
- Hill, T. P., 1977. “On Goods and Services.” *The Review of Income and Wealth*, vol. 23, no. 4(December): 314-339.
- Kelly, R. F., 1997. “A New Perspective of Trade Policy for Services: Interdependence and Relationships (speech given September 13, 1996).” *Vital Speeches of the Day*, vol. 63, no. 6(January 1): 175-178.
- Levitt, T., 1972. “Production-Line Approach to Services.” *Harvard Business Review*(September-October): 43.
- Murdick, R. G., Render, B., and Russell, R. S., 1990. *Service Operations Management* Ed., Allyn and Bacon, Boston, pp. 596.
- Riddle, D., 1985. *Service-Lead Growth* Ed., Praeger Publishing, New York, pp. 289.
- Sampson, S. E., 1999. *Understanding Service Businesses: Applying Principles of the Unified Services Theory*, Second Ed., BYU, Provo, Utah, pp. 512.
- Schmenner, R. W., 1995. *Service Operations Management* Ed., Prentice Hall, Englewood Cliffs, New Jersey, pp. 406.
- Shostack, G. L., 1987. “Service Positioning through Structural Change.” *Journal of Marketing*, vol. 51, no. 1(January 1987): 34-43.
- Thomas, D. R. E., 1978. “Strategy is Different in Service Businesses.” *Harvard Business Review*(July-August): 159.
- United.Nations, 1993. *Statistical Yearbook* Ed., Department of International Economic and Social Affairs Statistical Office, New York.