

Growth and Challenges in Service Sector: Literature Review, Classification and Directions for Future Research

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Abstract

Service sector constitutes more than 70 percent of the GDP in many developed economies. According to the 1999 Statistical Yearbook (United Nations, 1999) service sector employment is more than 80% in United States and more than 70 percent in Canada, Japan, France, Israel, and Australia. There is no such thing as a service industry. There are only industries whose service components are greater or less than those of other industries. Everybody is in service. Many of the jobs in manufacturing are actually disguised as service jobs. The largest component of internal lead-time for a manufacturer is often in a service department. With the increasing volume of service organizations and their important role in all major industrialized economies, it was imperative for Service Operations Management (SOM) to evolve as a separate field addressing productivity and quality issues in service organizations. Consequently, a considerable body of research was built in SOM within the past decade. This paper reviews and classifies the literature on growth and challenges in service operations management and identifies some research directions for future work.

Keywords

Service Sector, Manufacturing, JIT

I. Introduction

The service sector is expanding very rapidly. The extraordinary growth of the service sector has focused attention on challenges of effective management of service organization and operations vastly different from the challenges faced in manufacturing settings. Due to rapid developments in information technology, globalization, changing customer needs/preferences, and the changes in relative wealth between the developed and newly developing economies, the effective management of service systems addressing productivity and quality issues will become even more important in the coming years. The management and marketing systems in the services sector continue to suffer from lack of adequate systemization. The techniques for effective service operations management are not fully developed as in manufacturing. This paper reviews the literature addressing the issues/problems related to service sector, and literature is suitably classified and some research directions are identified.

II. Literature Review

Literature is suitably classified as (i) Issues/problems related to service sector (ii) Manufacturing like approach to service sector In this section, first the literature related to the issues/problems facing the service industry is reviewed. Next the literature suggesting the tools and techniques used in manufacturing industry that can be applied in service industry in addressing above issues is reviewed. A lot of papers have been reported in healthcare sector. Therefore, literature on how health sector can be benefited from such an approach is reviewed separately.

A. Issues Related to Services

Wright & Mechling [37], reported on the research to empirically determine which operations management problems are the most important to small service organizations. A survey was conducted to determine the relative importance of operations -related service problems. The authors asked managers of service organizations to rank a set of operations problems according to their relative importance using Q- methodology. In this article Q method is explained, significant factors are analyzed, and explanations are offered for the ranking of the operations problems. Fifty-four service organizations responded to the survey, three responses were not usable. The results indicated that ‘ determining how utilize resources most effectively’, ‘ monitoring and measuring quality of services’, ‘ predicting future events, conditions, customer demand, price/cost levels’, etc are important operational issues for service organizations. However, the results also indicated that facility location and layout, waiting line systems, and distribution requirements planning were for the most unimportant to the respondent service organizations.

Customer demands and reduced operating budgets are forcing governmental agencies at different levels and nonprofit organizations to seek ways to reduce operating costs and improve the responsiveness, quality and service aspects of their operations [2].

Singh & Deshmukh and Yassine stressed quality issues in growing service sector. It was recognized that service quality is multifaceted and that it is ultimately evaluated in the minds of the customer [22, 28, 33]. Service quality was defined as a measure of how well the service delivered matches the customer expectations Lewis [29]. Parasuraman et al. [33], developed a service quality model where the service quality was shown to be a discrepancy between the expected service and the perceived service. The various gaps or the reasons due to which this discrepancy takes place were explained. Effective measurement and analysis of service quality are an essential first step in its improvement. Parasuraman et al. [32], described the development of a 22-item instrument (called SERVQUAL) for assessing customer perceptions of service quality in service and retailing organizations. SERVQUAL is a concise multiple-item scale with good reliability and validity that service organizations can use to better understand the service expectations and perceptions of consumers and, as a result, improve service. Behara et al. [8], discussed the development of neural network models for service quality measurements. In this paper, it is demonstrated that neural networks have the potential to be a valuable approach to understanding customer evaluation of service quality and providing a promising approach to data mining in the domain of service quality.

B. Manufacturing Like Approach to Service Sector

This section reviews the literature in which it has been stressed to use the tools and techniques used in manufacturing that can help in addressing issues in service sector.

Researchers in SOM [6, 19, 30] realized that the challenges in service organizations are not necessary of the same nature as manufacturing organizations. Services cannot be treated as merely

goods with some odd characteristics. As a matter of fact, the characteristics of most service firms differ widely from those of manufacturing. The main features of a service, which distinguishes it from a product are; intangibility, heterogeneity, and inseparability of production and consumption [33]. However, some concepts and tools developed in the manufacturing domain can be altered to fit and benefit service organizations. Behara and Chase [7], have adapted the concept of quality function deployment (QFD) for service firms. Statistical process control [3], just in time [23], and quality circles [27] all originated in manufacturing and then were adopted by SOM researchers to fit service organizations [19].

Various researchers [19, 23, 27], are of the view that service industries can improve their operations by using techniques and tools similar to the ones used in manufacturing environments. Reichheld and Sasser conceptualized the concept of zero defections to services. According to them, service companies must understand what their manufacturing counterparts learned in the 1980s-that quality does not improve unless it is measured. Service companies have their own kind of scrap heap; customers who will not come back. That scrap heap too has a cost. So the concept of zero defections- keeping every customer the company can profitably serve, will increase the company's profits. Customers can tell you exactly what parts of the business you must improve. Zero defections culture can be developed by training the workforce and using defections as a primary performance measure. Everyone in the organization must understand that zero defections is the goal. It is important to make all employees understand the lifetime value of a customer. Managers should use defections as a vehicle for continuously improving the quality and value of the services. The winners will be those who lead the way in managing towards zero defections.

Some conceptual article and case studies [1, 9, 11], have shown that JIT is eminently suited to non-manufacturing situations as well as, such as in service and administrative work situations. JIT concepts and tools, originally developed in the manufacturing domain, can be identified, analyzed and altered to fit and benefit service organizations. In the literature, JIT has found applications in healthcare, maintenance, administration, warehousing, mail-order, restaurant, finance, accounting operations. JIT elements of Inventory reduction, JIT purchasing, waste reduction, work cell concept, flexible workforce, and quality were the most common elements that were used. Other elements were lot size reduction, layout, standardization, Kanban, Kaizen, TPM, reduced setup time, flexibility, automation and autonomation etc.

Chase and Gravin [14], has given importance to service part of manufacturing. The factory of the future is not a place where computers, robots, and flexible machines do the drudgework. The manufacturers that thrive into the next generation will have to compete by bundling services with products, anticipating and responding to a truly comprehensive range of customer needs. To compete, it requires connection between factories and customers. It is the strategy not technology that connects. The managers of service factories have to work in an open system. They need connections to design, marketing, planning, and customers. Computer and telecommunications can help here to speed communication and breakdown functional barriers.

Healthcare sector is the most important service industry among growing collection of service industries. A lot of research papers have been reported on health sector. So this section reviews the literature on healthcare sector with emphasis on applications of tools and techniques used in manufacturing industries and that can be used in healthcare industry.

Various researchers (10, 16, 21, 26, 31, and 36) suggested the use of JIT in healthcare operations. The JIT elements of inventory reduction, multifunctional workforce, layout, autonomation, zero defects etc. can be very useful in improving hospital services.

De Vries et al. [18], suggested to apply production line approach to hospital system but at the same time mentioned some differences between manufacturing operations and hospital operations.

Delesite [17] and Royston [35], said that health care is confronted with the similar challenges as manufacturing systems i.e. efficient utilization of resources, cost, quality, waiting time and in process time for patients, use of new technology and specialization, work load on staff etc. and can improve quality of service by using tools and techniques used in manufacturing operations.

Kakati [25], suggested dynamic personnel scheduling as a key to improve hospital performance as in hospital services like in some other services for example restaurants, mass transit industries, repair shops etc. there is problem of demand fluctuations. According to a survey conducted, waiting time was the third most important factor which patients look for next to the doctor's competence and cost of service. Through a case study, it was shown that dynamic personnel scheduling can help in controlling demand fluctuations.

Jolhe [24], studied some aspects of hospital capacity planning through a case study of a public hospital. Hospital capacity planning included such requirements as number of doctors, nurses, operation theatres, clinical laboratories, etc.

Chadha and Singh [13], stressed the capacity control over lumpy pattern of patients in hospitals. The issue again is long waiting time for patients. For this, queuing methodology and shift rescheduling and layout changes is suggested. The study supported the use of Industrial engineering techniques in non-conventional and non-industrial areas like health care organizations.

Bahauddin [4], presented an outline of some applications of industrial engineering techniques at hospitals in USA. The issues again were productivity improvement, identification and cutting of unnecessary costs, improvement of utilization of resources, and enhancement of efficiency and effectiveness. Industrial engineering techniques, which had been employed in manufacturing industries since quite long time are yet to be utilized effectively by service industries in India. Applications of queuing theory in radiology scheduling and work-study in nurse staffing have been explained. It has been suggested to apply the similar thinking to other departments of the hospitals. Use of computer simulation in some complex situations can be helpful.

Cote and Daugherty [15], described the use of project management tools like PERT/CPM to improve the month end reporting process which in turn will help in the better management of hospital's financial and operational resources

According to Giokas [20], the improvement in productivity, the reductions in operating costs, the better quality of services, and the modernization of treatment are the issues facing Greek public hospitals in a constantly changing socio-economic environment. The results also indicated that at least 4.1% of health care costs in the gross domestic product were due to inefficiencies created by hospitals.

Ramani suggested a Decision Support System (DSS)-enabled materials management process at some hospital. Cost and quality were the issues facing the hospital. The study focussed on reducing the operating expenses without compromising the quality of service. A DSS-enabled materials management process was recommended to achieve the objectives. The hospital reported savings of 12% to 15% in the cost of hospital supplies due to savings in material purchase cost, savings in the clerical cost of placing purchase

orders, and rationalization of inventory holdings.

III. Concluding Remarks and Directions for Future Research

Service sector is growing and gaining importance day by day. Newer services are entering into market place. Customer is becoming more and more dependent on services. Service organizations are looking for some innovative ways to improve their services. The techniques for effective service operations management are not fully developed as in manufacturing. It is because the characteristics of most service firms differ widely from those of manufacturing. The main features of a service, which distinguishes it from a product are; intangibility, heterogeneity, and inseparability of production and consumption. It therefore becomes an area of future research to apply concepts and tools developed in manufacturing domain to fit and benefit service organizations. A lot of research papers have been reported from healthcare sector. This sector seems to be a potential area where such tools can find great applications.

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