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서비스 특성의 최신 정의에 대한 조사

제조업체의 서비스와 그것의 정의, 차이, 그리고 전략적 장점에 중점을 두어

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A survey on contemporary definitions of service characteristics

emphasis on service in manufacturing and its definition, benefit, & competitive advantage

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This paper is an investigation of comparative and contrasting characteristics of service in manufacturing sector - especially quality aspects. A review of both service and manufacturing industries' systems literature revealed conflicting views on defining two different industries and its system assessment. While some researchers have documented the value of service IS implementations on both industries, there are others who feel that such implementations are not appropriate for all situations or all organizations. Because of IS implementations and IT improvement, defining service and manufacturing is blur than ever. There is a dearth of literature on the assessment of service systems in service and manufacturing industries due to blurred and controversial argument.

Keywords : Service characteristics, service in manufacturing, manufacturing organization

1. Introduction

Since the literature is not appropriate for all situations, the conceptual assessment model was based on generic characteristics and various models' taxonomy of service systems success from both industries.

Analysis of the literature revealed that the assessing service system in the complex study organization is neither solely planned, nor solely emergent. Both industries ensure that their focus of IS reflect their businesses and are aligned with their strategies and marketing policies. Different dimensions and sub-dimensions have different characteristics that define successes in quality service systems from both service and manufacturing industries.

From this research, service and manufacturing organizations can have benefit from (1) defining the new approach of service in complex service/manufacturing environment and (2) evaluating performance, (3) which commitments they should make to improve in terms of organizational commitment and employee empowerment, (4) consistence and effectiveness of process. Moreover, (5) this survey monitors situation of current industry and also, (6) it can be an excellent feedback of both industries.

2. Service Definition

Service is defined among many others. Zeithamal and Bitner (1996) defined that service are deeds, processes, and performances. Gronroos (1990) stated that a service is an ac-

tivity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between customer and service provider, which are provided as solutions to customer problems. Quinn, Baruch, and Paquette (1987) explained that most authorities consider the services sector to include all economic activities whose output is not a physical product or construction, is generally consumed at the time it is produced, and provides added value in forms (such as convenience, amusement, timeliness, comfort or health) that are essentially intangible concerns of its first purchaser. Sasser, Olsen, and Wyckoff (1978) stated that a precise definition of good and services should distinguish them on the basis of their attributes. A good is a tangible physical object or product that can be created and transferred; it has an existence over time and thus can be created and used later. A service is intangible and perishable. It is an occurrence or process that is created and used simultaneously or nearly simultaneously. While the customer cannot retain the actual service after it is produced, the effect of the service can be retained.

3. The need for revisit & new approach for service in manufacturing

More than 25 years ago, Levitt (1972) made an interesting assumption about everybody being in the business of service. More recently, Berry and Parasuraman (1991) suggested that manufacturing companies are also service companies and similarly, Bitner (1997) affirmed that all businesses are some kind of services. In this term, we cannot solely think about manufacturing without some form of service.

The inexorable movement of employment ad production into service sectors continues - more than 80% of both GNP and employment in US in the 1990s' and the potential drain this causes on overall productivity growth in economy is of concern to many economists. Productivity growth in service has averaged less than 1% a year in the 1980s' versus 4% in manufacturing. Many of the service textbooks emphasized the importance of service in manufacturing industries (Lovelock, 1996; Rust et al. 1996; Zeithaml and Bitner, 1996). Thus, we need to improve service systems to serve both service and manufacturing well.

Brentani (1989) stated that there is considerable evidence suggesting that these factors that make service different from manufactured goods, also affect the new product development activities of service companies. Yet studies that focus specifically on new service development in services have been very limited. Carman and Langeard (1980) and Lovelock (1983) identified these distinctive characteristics of services- Co-production, Heterogeneity, Intangibility, and Perishability or shortly CHIP (Thukral, 1995)

This research is predominantly focused on comparative and contrasting factors in service and manufacturing sectors. This is very important since service and manufacturing goods are very different (intangibility, simultaneous production, and consumption, and so on). Service may be more easily copied than manufactured goods and service may not be easily sustainable (Tufano, 1989; de Brentani, 1989; Terrill, 1992). In addition, service quality is less tangible and usually more difficult to quantify than with manufacturing products.

Dick, G., Galumore, K., Brown, J. C., (2001) suggested that the perception of service and manufacturing sector managers of the link between quality dimensions and business performance are different. Madu, C. N., C. H. Kuei and R. A. Jacob (1996) and Gowen and Tallon (1999) found that manufacturing firms tend to perceive a positive correlation between quality improvement and business performance but service firms do not. This suggests that the correlation in quality emphasis will be greater in serve firms than in manufacturing industries.

Comparing IT in service and manufacturing is also a critical dimension to examine what benefits exist- performance measures and identifying differences between the two industries. Powell and Dent-Micallef (1997) emphasized the necessity of empirical study of IT, competitive advantage, developed a resource-based theoretical framework, and assessing IT's impact. Their research on retail industries showed that IT alone have not produced sustainable performance advantages in the retail industry, but that some firms have gained advantages in the retail industry, but that some firms have gained advantages by using Its to leverage intangible, complementary human and business resources such as flexible culture, strategic planning-IT integration and supplier relationships.

Ross et al. (1996) also developed long-term competitiveness through IT assets and argued that firms can use IT to enhance competitiveness by developing effective IT capabilities in relation to the development of new technologies and the ongoing implementation to affect business objectives.

In addition, Raymond et al. (1995) indicated manufacturing industries' IT usage in organizational performance. The results showed that the performance was more critical to those whom have complicated and sophisticated structure and management.

Because of IT, the distinction between service and manufacturing is even more blurred than previous years. Comparing and contrasting complicated characteristics of service and manufacturing can be evaluated and analyzed through some of the decision criteria listed below.

3.1 Time-perishable capacity planning

In service, capacity is time-perishable. A service is not used during some period of time and is lost forever. Unlike manufacturing capacity planning, capacity of service is changing depend on consumer demand. Capacity planning is more critical in service since it is a lot more inconsistent and the process that provide service carries the higher risk of losing a dissatisfied customer to a competitor. Thus, utilization of service capacity is critical. In addition, forecasting demand and operating according to demand is not an easy process in service.

3.2 Supporting equipment/ Service package

The service package is defined as a bundle of goods and services that is provided in some environment. The bundle consists of the following four features.

- Supporting facility : the physical resource that must be in place before a service can be offered.
- Facilitating goods : the material purchased or consumed by the buyer, or the items provided by the customer.
- Explicit services : the benefits that are readily observable by the senses and that consist of the essential or intrinsic features of the service.
- Implicit service : Psychological benefits that the customer may sense only vaguely, or the extrinsic features of the service.

3.3 Quality

Dimensions of quality for manufactured goods needs to be studied intensively. Garvin (1988) defined the following dimensions of good quality :

- Performance : the primary characteristics of the core product.
- Features : these are the characteristics of peripheral product.
- Reliability : the probability that a product will malfunction.
- Conformance : the match between performance and specifications
- Durability : the life expectancy of the product.
- Serviceability : the maintainability and reparability of the product.
- Aesthetics : the exterior characteristic of the product.
- Perceived quality : the customer's total perception of quality of the product.

Dimensions of quality for service are investigated intensively by many researchers such as Parasuraman, Zeithaml, and Berry (1988, 1990, 1991, and 1994). As a result of these studies, ten determinants of service quality were proposed.

- Tangibles : The appearance of equipment, physical facilities, communication materials, and personnel.
- Reliability : The ability to perform the promised service accurately and dependably.
- Responsiveness : The willingness to provide prompt service and help customers.
- Competence : Possession of the required knowledge and skills to perform the service.
- Courtesy : Respect, politeness, consideration, and friendliness of contact personnel.
- Credibility : Honesty, believability, and trustworthiness of the service provider.
- Security : the freedom of risk, danger, or doubt.
- Access : Ease of contact and approachability.
- Communication : Listening to customers and keeping them informed in language they can understand.
- Understanding the customer : Making an effort to truly understand customer, customer needs and wishes better.

Garvin (1984) also suggested five categories : (1)transcendent, (2)product-based, (3)user-based, (4)manufacturing-based and (5)value-based. Moreover, it is argued that the need for industries to adopt different approaches to defining quality as their products move from design to market.

3.4 Location

In general, Products are shipped from the manufacturer to the wholesaler to the retailer in manufacturing but the customer and provider must physically meet for a service to be performed in services. There are some exceptions such as buying stock by phone or modem and taking university courses via teleconferencing. Again, definition for service and manufacturing is blurred because of advanced information technology and

internet.

For services in which physical travel by customer is necessary, the immediate geographic market area limits the effective size of operations and removes the opportunity to gain economies of scale.

3.5 Service process/ manufacturing process

The top motive for manufacturing industries is consolidation of operations and integration of processes and systems. In service industries, the top motive is to meet the demand for high quality service from customers. In manufacturing, the customer does not interact directly with the production process. However, in services, the customer is directly involved with the production process. In general, manufacturing operations have a process or internal focus where process efficiency is of paramount importance. Service operations have a customer or external focus where production and marketing are inseparable.

3.6 CHIP(Co-production, Heterogeneity, Intangibility, Perishability)

<Table 1> CHIP with Service vs Manufacturing

Service	Manufacturing
Service production and consumption are usually simultaneous.	Manufacturing and use of a product are separated by time and distance.
Service is usually transient or perishable	A product can be stored
The production of the service is part of the Market mix	In manufacturing a function divide is present : marketing, markets and manufacturing, manufacturers.)
People are part of the production system as customers or clients	Customers are remote, even unknown, in the manufacturing production system.

3.7 Logistics (Method of Service delivery)

The distribution chain - there is an established literature and tradition which examines service in physical distribution management. For example, Christopher and Yallop propose a number of dimensions of service from the distribution function, including order cycle time, order completeness, documentation quality, delivery reliability, and technical support.

Service Delivery system involves issues such as location, facility design and layout for effective customer and work flow, procedures ad job definitions for service providers, measures to ensure quality, extent of customer involvement, equipment selection, and adequate service capacity.

3.8 Service Operation

In field service operations, the majority of manufacturing companies have a well-established after-sales service operation. Voss describes four roles for field service : competitiveness, profit, sales support, and user-based support. He argues that its performance can be measured in terms of cost, of hard measures such as mean time between failure, response time and repair times, and of soft measures such as the attitudes and appearance of the service representative, the quality of the service documentation, perceived completeness of repair and perceived efficiency of the company and its representatives

3.9 Factory

Service from the factory has traditionally been seen in terms of delivery performance. A much wider view has been taken by chase, who argues that a factory serves both internal and external customers and that leading-edge companies already operate factories that reflect the new role of service in manufacturing. He has proposed four service roles of a factory. He argues that each these roles show a distinctive approach to factory service and that they also show how services overlap.

4. Contribution and Future work

This paper carefully examined two twisted and controversial idea of evaluating different aspects of service in manufacturing. Due to extensive IS implementation and IT improvement, all functions and characteristics have become more productivity-conscious. This meta-analysis of literature can initiate, reach, and sustain a competitive position by promoting a culture of service oriented manufacturing firms in productivity and quality assessment.

From this research, service and manufacturing organizations can have benefit from (1) defining the new approach of service in complex service/manufacturing environment and (2) developing new design of process, product, and production cycle, and evaluating performance, (3) which commitments they

should make to improve in terms of organizational commitment and employee empowerment, (4) consistence and effectiveness of process. Moreover, (5) this survey monitors situation of current industry and also, (6) it can be an excellent feedback of both industries.

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