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Service productivity and service quality: A necessary trade-off?

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ABSTRACT

This paper is about service productivity and perceived service quality. Both a high service productivity and a high customer perceived quality are two main drivers of good performances in service companies and they simultaneously occur as a consequence of a synergy of several drivers such as employees' competences and motivation, organizational efficiency, technical devices availability, information technologies employment, etc. In scientific literature a trade-off between productivity and perceived service quality is asserted and several cases derived both by market observations and academic research could bear such trade-off out. But, is it possible to state that, under some circumstances, such a trade-off between productivity and perceived service quality could be avoided? And if yes, why such certified substitution should not work?

In this paper, in order to trace some theoretical answer to the above questions, a managerial model based both on service science and production economics will be proposed. The model aims to find out some key causes that allow to explain the foundations of the mentioned trade-off and the potential conditions for its overcoming; moreover, such model will be employed in order to integrate services' productivity function with new variables and to provide some managerial guidelines for improving service management.

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1. Introduction

In manufacturing literature, productivity can be defined as the ratio between outputs, produced through a production process, and inputs used for producing such outputs. According to the above definition, outputs increase, equal inputs – or inputs decrease, equal outputs – is a proxy indicator of a technical efficiency improvement; the underlining assumption for effectiveness of such indicator, as a productivity measurement, is the postulation of constant quality of outputs (Gronroos and Ojasalo, 2004). It is possible to assume that a change in production productivity measured by outputs that increase equal inputs – or inputs that decrease equal outputs – represents an effective improvement only if quality of outputs is unvaried with respect to the situation before the change. In manufacturing field both technological innovations and learning curves dynamics could cause and probate such an assumption of constant quality of outputs.

For services an optimal balance between service productivity and perceived service quality – in a service company customer perceived quality is equivalent to output quality – is gained when a company is able to provide the highest perceived service quality (HPSQ) to its customers under a condition of technical efficiency (TE) (Gronroos and Ojasalo, 2004). A service provider characterized

by such parameters – both the HPSQ and TE – could be defined as an efficient service provider (ESP) and for it an increase in its productivity could cause a reduction in its perceived service quality: for example, an efficient medical center, characterized by technical efficiency, can improve its productivity only reducing the time devoted to each medical but it, at the same time, could reduce quality perceived by its patients about its medical accuracy, thus impacting, in the long run, on the economic results of the center. Actually, assuming that none of the technological, organizational and business model innovations will occur, an increase in medical center productivity should be gained only by reducing time devoted to its medicals (service units) and, consequently, impacting on customers' perceived quality.

According to the most recent literature, productivity represents a more complex construct in service industries than in manufacturing. For an ESP a productivity improvement, expressed in traditional manufacturing fashion, can even involve a reduction in its perceived service quality, as the above example of medical center shows. Thus, considering the specificity of service firms, a new productivity concept has been developed for them: service productivity (SP) depends jointly on technical efficiency (*internal efficiency*) and on perceived service quality (*external efficiency*); moreover since a company aptitude to dimension its internal resources (human and organizational) to its market demand (*capacity efficiency*) impacts on its internal efficiency and consequently on customers' perceived service quality, the right dimensioning of

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internal resources to market demand is another key variable of a service productivity function (Gronroos and Ojasalo, 2004). Thus

$$SP = f(\text{internal efficiency}, \text{external efficiency}, \text{capacity efficiency}), \quad (1)$$

where, in the short run:

- *internal efficiency* * *external efficiency* = *k*,
- and *capacity efficiency* is considered as given (1).

According to service productivity function (1), and as the medical center example shows, a trade-off between internal efficiency and external efficiency exists for service sector: an improvement in internal efficiency could determine a reduction in external efficiency that is on its perceived service quality (Gronroos and Ojasalo, 2004).

The aim of this paper is to analyze such trade-off between service productivity and perceived service quality and to understand both the conditions under which it works and if it is possible try to solve it, in order to present a more complete productivity function with regard to (1), and to provide some managerial guidelines for improving both perceived service quality and productivity.

Since the paper's aim is, primarily, to highlight the settings triggering service productivity and service quality trade-off, and to test its overcoming sustainability or, more specifically, the conditions under which it is outwit, in order to get such goal an explorative research approach has been selected. Our research has been founded on an in-depth examination of scientific literature in the field of service management, production economics and human resource efficiency; then interviews and discussions with a non-probabilistic sample, determined through a convenience sampling approach, and a case study will provide some empirical evidences and supports for the findings proposed in the paper. The convenience sample is composed by 197 MBAs' (Master Business Administration) students; they are managers and employees in the service sector, aged between 25 to 55 years, and were interviewed during the time period 2004–2010. The case study has been employed in two branches of an international bank.

The paper is organized as follows. In the next sections an analysis of economic literature about service quality and service productivity will be provided in order to build a service performance matrix (SPM) able to analyze the trade-off to study (Section 2). Motivational approaches in human resource management (Section 3) and the relationships between human resources' motivation and operation management will be discussed (Section 4). In order to understand how it is possible to overcome the trade-off between productivity and service quality, a model will be proposed (Section 5) and its pertinence to different service typologies will be analyzed (Section 6). A case study will provide some empirical evidences about trade-off overcoming sustainability (Section 7), and case study limitations and managerial implications of SPM will be discussed (Section 8) before concluding (Section 9) the paper.

2. The service performance matrix (SPM)

Services science and services innovation are both emerging disciplines that are calling for a development of researches on such topics. Service science, management and engineering (SSME) has its roots in some IBM research programs (Maglio et al., 2006) and it aims to advance service knowledge in order to develop a more efficient approach toward management and innovation in service industries. SSME is an interdisciplinary research approach in order to study technological, organizational and human assets on which innovation, efficiency and efficacy in service sector

depend. This paper focus on productivity and customer perceived quality, thus the main research areas on which it is based are service management, production economics and human resource management researches.

In order to provide a picture of services' complexity and to understand the importance of an interdisciplinary research approach in studying them, some service definitions will be presented, according to both a chronological and a relevance criterion.

In scientific literature a service can be defined as a human activity employed in order to benefit someone, fitness for use, zero defects and variability reduction (Juran, 1964); requisite conformity (Crosby, 1979); an intangible economic activity that it is impossible to organize in any kind of hardware (Ishikawa, 1976); an economic activity aimed to customer satisfaction (Feigenbaum, 1983); a cluster of customer benefits both tangible/intangible and explicit/implicit (Normann, 1984); a human activity characterized by processes and results, aimed to customer satisfaction (Rosander, 1989); a desired result obtained by engaging in an interactive process both service providers and customers (Harvey, 1998); a configuration of processes and performances provided to customers by employing a relationship with service providers (Zeithaml et al., 2006); an economic activity or a benefit that one person can exchange with another one and for which nature is essentially intangible (Bitner and Brown, 2008). Scientific literature provides lot more service definitions and their full review exceed the purpose of this paper; however, it is possible to underline that in the whole service researches the theoretical concepts of *service* and *quality* are considered as synonymous and that an ESP, once defined its capacity efficiency, depends for its performances both on the highest perceived service quality (HPSQ) and on the highest service productivity (HSP):

$$\text{ESP Performance} = f(\text{HPSQ}; \text{HSP}), \quad \text{where in the short run :} \\ \text{HPSQ} * \text{HSP} = k \text{ and } \text{capacity efficiency} \text{ is considered as given.} \quad (2)$$

More generically, a performance of a service provider (SP) depends both on perceived service quality (PSQ) and on service productivity (SP):

$$\text{SP Performance} = f(\text{PSQ}; \text{SP}), \text{ given its } \text{capacity}. \quad (3)$$

But, which are the assets able to generate both HPSQ and HSP? According to a review of service management literature two main clusters of assets can be identified and isolated for performing both service quality and productivity: human resources (HR) and organizational resources (OR). Human resources encompass abilities, competences and motivations of both organization workforce and customers (since customers share with front line employees service provisioning processes); organizational resources refer to all technical, organizational, technological and efficiency drivers, such as technical devices, organizational climate, information technologies, business process re-engineering, business models innovations, etc. Consequently, an ESP depends for its performance both on human resources' performance (HRP*) and organizational resources' performance (ORP*), where the stars (*) stand for a compatibility condition with organizational and human resource efficiency, thus (2) becomes

$$\text{ESP Performance} = f(\text{HPSQ}; \text{HSP}) = f(\text{HRP}^*; \text{ORP}^*). \quad (2a)$$

And more generically, a performance of a service provider (SPP) (3) becomes

$$\text{SP Performance} = f(\text{PSQ}; \text{SP}) = f(\text{HRP}; \text{ORP}) \quad (3a)$$

Thus, according to (2), (3), (2a) and (3a) different performances of service providers can be classified through the following service performance matrix (SPM)(Fig. 1):

According to the classification criterion of SPM, a failing service provider is inefficient and it is perceived by its customers as a low quality service, and it has to act both on HR and OR in order to improve service performances; a high productivity service provider

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