Setting research agendas for productivity management in services

Abstract:

This paper presents a novel perspective of service productivity management and proposes a number of research agendas in this still evolving area of study. The paper is based on the views of top senior managers in twelve service sectors. The interviews were analyzed using a number of methods, including within-case and cross-case tables, coding and mapping. This qualitative analysis resulted in three main findings. First, the 'organizational background' of a service sector proves to have significant effect on the approach to productivity management. Second, service sectors fall in different groups based on their operational features in the context of productivity with each group showing specific operational features. Finally, in some service operations there seems to be little or no trade-offs between productivity and quality. Each of the above topics brings their own insights into the area of service productivity which lead to a number of research agendas. The proposed research topics will provide a new framework for research into the difficult and often ignored subject of service productivity.

Keywords: Service, productivity, operations

Introduction

The aim of this research paper is to gain insights into the less explored area of service productivity by interviewing senior executives in a variety of service sectors to discuss their views on productivity management. The ethnographic approach of this project resulted in a number of interesting findings regarding service productivity. These include a) documenting the shift of management focus from quality to productivity in some service sectors and the reverse shift from productivity to quality in other sectors, b) identifying groups of service sectors with common operational and managerial features related to productivity, and finally exploring factors that affect the relationship between productivity and quality. Each of the above findings led to the development of new research agendas. The paper starts by reviewing the relevant academic literature on service productivity and by the description of the research methodology. The results of the work are then presented followed by an in- depth discussion and development of research topics for further investigation.

Research in Service Productivity

In this section the academic literature regarding productivity management in services is organized around six general observations. A brief report of the relevant literature is given for each observation.

Observation one: "Research in service industries was initiated by the Marketing discipline. The contributions of the Operations Management discipline started only later and focused mostly on customer perspectives."

It is evident that the first major contributions in the area of service industries research were provided by the Marketing discipline (Fisk et. al. 1993, 1995, Johnston 1999). In comparison, it appears that the Operations Management discipline had created less momentum for the service movement at this stage (Johnston 1999). Perhaps the earliest research works on service Operations Management are those of Johnson et al. (1972) and Buffa (1976). The very fact that the discipline of Operations Management in 1970 was known as Production Management reveals the lack of attention to services (Johnston, 1999). Between 1980 to 1985 significant attention to service research can be seen in the Marketing discipline (Fisk et.al. 1995). According to Johnston (1999), at this stage the attention of Operations Management continued to be on customer operations and service encounter:

> *"We (i.e. researchers in the area of operations management) seem to have been swept along on the tide of interest in service focused predominantly from a customer perspective"* (Johnston 1999: 113)

Observation two: "The notion of productivity, with its different definitions, literally and conceptually, is rooted in and originated from the old traditional manufacturing factories of the 18th century"

The first time the word p r o d u c t i v i t y was used was in an article by Quesnay in 1766 (Sumath, 1984 and Edosomwan, 1987). Only more than a century later in 1883, according to Sumanth, Littre defined productivity as the "faculty to produce". In 1950, the organization for European Economic Cooperation (OEEC) provided the following formal definition for productivity:

> *"Productivity is the quotient obtained by dividing output by one of the factors of production. ...." (Sumanth, 1984: 3)*

A number of gurus in the areas of economy, industrial management and socio-politics never considered service activity to be something that could contribute to wealth and be considered productive (Gronroos 1994, Jones 2005). Among them are Adam Smith, A. Marshall, Marx, and Lenin. Adam Smith states in his famous book "The Wealth of Nations":

> *"...Productive is all labour which fixes and realises itself in a particular subject or vendible commodity. [...] Unproductive is all labour which generally perish in the very instant of their performance."* (Smith, 1776)

Old-time views about service contributions have of course been modified with the passing of an industrial-based society, and it is now a generalized understanding that services do contribute to wealth and can be more or less productive (Van Looy *et al.*, 2003). In fact, in the past two decades, there have been major debates about whether productivity of the service sector is growing slowly, and that what might be the reasons behind this fact or perception (Gordon 1996, Wölfl 2003, Diewert 2005, Maroto-Sanchez A. 2010).

Observation three: "The issue of productivity indices in the service sector is a controversial one: while there is a strong belief that productivity in the service sector is low, there is an opposing argument that the notion of 'low productivity in the service sector' is only a misunderstanding that is caused by the fundamental difference between services and goods."

There are many references to the notion that productivity in the service sector is lower than in the manufacturing sector (e.g., Lovelock and Young 1979, Millward 1990, Nachum 1999a and 199b, Sherwood 1994, Van Biema and Greenwald 1997, Sheehy and Schone 2003, Murray 1987). According to Gummesson (1993), this seems to be a commonly held opinion. However, a completely different argument continues to be raised by many service operations researchers that places a serious question mark on the commonly held opinion about low productivity in the service sector. For example, Nucham (1999) argues that at least part of the disparity in productivity between services and manufacturing is a statistical illusion resulting from the inadequacy of existing data and techniques of measurement (Nucham 1999, p. 922). Blois (1984) argues that productivity measurement itself has difficulties, and when it comes to service operations, these difficulties are be even more serious due to the complexity of inputs and outputs in services. Gummesson (1993)

blames traditional measures of productivity for being 'provider productivity' and 'internally oriented' and thus not adequate for services, which are essentially customer oriented. Nakajima (2007) looks at the retail service sector in Japan in detail and concludes that the conventional measures of productivity are not helpful in retail services.

Observation four: "The single feature of service sector productivity that almost all the researchers in the field agree upon, is its multi-dimensional and complex nature which makes it fundamentally different from the traditional concept of productivity."

The concerns about productivity in services among service operations researchers are so serious and profound that some authors have even suggested using another term (servicity) to describe this concept in services (Jones and Hall, 1995).   These authors single out Levitt's (1976) concept of industrialization of services (product-line approach) as the most typical example of looking at service productivity from a manufacturing point of view. Other authors suggest opening new paradigms in order to better understand the concepts of service quality and service productivity (Gronroos 2004, Spohrer *et al.* 2007).

Adam and Gravesen (1996) report that at the end of the first international conference on service productivity, Armistead characterized the field of service productivity as a mess. In summarizing their analysis of the 26 papers presented in this conference, Adam and Gravesen note that the common denominator in all these papers was the word 'difficulty'.

Observation five: "There are controversial discussions about the relationship between productivity and quality in services with different views on the nature and dynamics of this relationship. However, there seems to be a general agreement that a useful and relevant study of productivity in a service operation should also take the notion of quality into account."

In almost all cases where researchers discuss their concerns about productivity in services, the issue of the relationship between productivity and quality comes up. The range of discussions varies from those who merely debate the relationship between the two as the two separate concepts, to those who include the concept of quality (or some of the aspects of quality) in their definition of productivity.

A number of authors argue that productivity and quality cannot be dealt with separately in service organizations (Djellal and Gallouj 2009, 2010, Parasuraman 2010).Gummesson (1998) argues that productivity, quality and profitability are a triplet and separating them will make an unhappy family. He later introduces three perspectives in organizations (called three "tribes") that determine the relation between these three concepts. Gummesson then proposes a model in which both the customer's and the provider's contributions to productivity and quality are recognized as two sides of

one concept, interacting among each other and both contributing to the service delivered. Similarly, Gronroos asserts that productivity and perceived quality are inseparable phenomena, which he identifies as a dilemma in service processes. Based on Ojasalo's work in 1999, Gronroos presents a model in which the inputs to the service process comprise service provider and customer inputs, and the outputs consist of quantity and quality. (Ojasalo 1999; Gronroos 2000, Gronroos and Ojasalo 2002, Ojasalo 2003).

A similar argument to those of Gummesson and Gronroos is put forward by Martin *et al.* (2001), who discuss the notion of client (customer) productivity as an important part of the overall productivity of the system. They point out that in services; the client has the roles of both co-producer and customer. In a similar vein to Martin *et al.*, Parasuraman (2002) develops a model in which a company's perspective of productivity is linked to the customer's perspective of productivity.

Developing the Martin *et al.* notion of customer productivity, and based on Johnston and Clark's (2001) model of customer and operational perspectives, Johnston and Jones (2004) also identify two aspects of productivity: operational productivity (similar to what Parasuraman calls company's perspective) and customer productivity (similar to what Parasuraman introduces as customer's perspective). The authors then discuss the synergy as well as trade-offs between these two aspects of productivity.

Observation six: Despite the interest in service productivity and the apparent need to improve productivity in services, very little work has been done to improve our understanding and measurement of productivity in this area, especially when one considers the vastness and variety of service operations.

As presented above the area of service productivity has enjoyed a number of interesting and thought-provoking contributions by many established and well-regarded researchers. This has not stopped others from pointing out how little it has been done in the field in order to reach a consensus or at least to provide an accepted framework for further research. Vuorinen *et al.* (1998) assert that the current debate on service productivity is in its infancy and it is therefore essential to start from basics. Martin et al. (2001) report that the attention to service productivity mainly concerns internal aspects of productivity and has ignored the client's role, as similar concerns have been raised by Parasuraman (2002). Johnston and Jones (2004) introduce the area as one that has much potential for development and assert that one of their motivations in writing their assessment of state of affairs in this field paper is to encourage more research.

Methodology

The aim of the present research project was to gain some insight into productivity management in services and to propose a number of research agenda based on the findings. This was done by

studying common trends and possible differences among different service sectors, in terms of productivity management. It was necessary to carry out the research project in a way that it could remain open ended and willing take into account new ideas and responses that were not necessarily expected. Based on the above, an inductive approach based on in-depth interviews with senior managers in a number of different service sectors was deemed to be the appropriate approach to explore the problem in all its richness and in reasonable detail (Baumard and Ibert, 2001, Creswell, 2007). To be able to compare a reasonably wide range of services, twelve different service sectors were selected. Particular attention was given to the selection of service sectors so that the clusters in some of the most cited service classification models in academic literature would be covered (Chase1978, Silvestro *et al.* 1992, Schmenner 2003). The selected service sectors were airlines (excluding no-frills a n d low-cost airlines), banks (retail operations only), management consultancy services, department stores, fast-food restaurants, hotels (4-star rating only), life insurance services, legal services (small firms only), power utilities (excluding electricity generating businesses), auto-repair services (highly-standardized operations only), telecommunications businesses, and universities. Specification of some of the above service sectors (as in brackets) was done upon the advice of senior managers in these services. This was done to reduce the degree of variety within each sector, making it easier for senior managers to focus their comments.

Two senior managers were contacted from each service sector with extensive experience of working in more than one organization within that sector. The criteria were strictly applied in choosing senior managers to ensure information-rich cases and managers from whom one could learn a great deal about issues of central importance to the purpose of the inquiry (Patton 2002).

The interviews were carried out on a semi-structured basis (Johns and Lee-Ross, 1988). A wide range of aspects of productivity management in services were raised with each senior manager only to serve as starting topics to keep the discussion on a consistent track across different interviews. These included a) possible trade-offs between productivity and quality, b) obstacles in the way of productivity improvement, c) factors that enhance productivity, and d) measurement problems. The senior managers were asked to discuss each of the above topics and were given opportunity within the time constraints to bring up any other important issues related to productivity in their respective service sector. The interviews were all carried out face to face and on average each senior manager was interviewed for about 3 hours. The interviews were recorded to make sure that no important information was missed during the interview and that, if needed, the content of the interviews could be effectively revisited.

The framework proposed by Miles and Huberman (1994) was used as the basis for the analysis of the interviews. In this framework, qualitative analysis consists of three related stages, namely data reduction, data display, and conclusions and verification. In this framework, data reduction refers to

the process of selecting, focusing, simplifying, abstracting and transforming the data collected. The coding process is the major part of data reduction. Data display consists of within-case displays and cross-case displays. The general term 'display' refers to an organized, compressed assembly of information that permits conclusion-drawing and action (Miles and Huberman, 1994). Within-case display presents data based on each of the studied cases, whilst cross-case display integrates the relevant parts of data across the different cases and puts them into a single display unit. Conclusions and verification is the final stage of analysis in which the results are summarized, structured, and verified. The first two stages of data analysis are briefly described in this section and the third stage (conclusion and verification) is discussed in the next section.

Data Reduction

The process of data reduction in this research consisted of four stages:

1. Transferring the data to hand written transcripts in the form of texts and using arrows to illustrate logical relationships like 'consists of', 'causes', 'comes after', etc. At this stage the aim is to capture all that was said by senior managers and to eliminate any 'noise' from data (Kvale and Brinkmann 2008).

2. Integrating the relevant informative comments to form one 'unit of data' (Kvale and Brinkmann, 2008). 'Integrating' here means merely grouping a series of comments together, while 'unit of data' refers to 'a string of phrases that are linked together by the interviewee and are about one subject.

3. Allocating 'descriptive' and 'paternal' codes to the units of data. 'Descriptive codes' are the codes that can be designed at the early stage of data collection and their function is to separate the data into category, subject, source, condition and/or other descriptive information applicable to data (Miles and Huberman, 1994). There is no element of interpretation in a descriptive code. Unlike 'descriptive codes, 'paternal codes' have elements of interpretation. These codes can only be identified and designed at the later stages of data collection and analysis when general trends of data are starting to emerge (Miles and Huberman, 1994). At this point a browse through the comments in units of data revealed that it was possible to categorize all comments into certain number of groups in terms of the 'plot', or the overall story, given for the subjects under discussion. Based on this observation, a more specific review of the data was made, and as a result specific codes were used to refer to these different 'plots' in each unit of data.

To explain the coding process further, an example of the code for a comment made by a respondent in the hotel industry is explained below. The data unit (comment) is:

There is a culture of being afraid to admit the mistakes, thus reporting and communication are not good and failures and mistakes could be hidden.

The assigned code is: *643-HT-PRB-Cl-Pp-NGODT-2*.

In the above code, NGODT is a paternal code pointing to the 'plot' and the rest of the code is descriptive. This code reveals that this is a comment about 'Hotels' (indicated by HT) under the top heading of 'Productivity Improvement Problems' (indicated by PRB). The main subject is about 'Organizational Climate' (indicated by cl) and within this subject it relates to People (indicated as Pp). The comment was made by the second expert in the hotel industry (indicated by 2). The paternal code (NGODT) indicates a 'plot', in particular that the hotel industry is 'not being good at' a certain aspect of the work which influences productivity.

4. Transferring the units of data to a software database. The units of data and their associated codes were transferred to Microsoft Access to facilitate sorting, searching, and responding to enquiries from the data.

Data Display

Within-case and cross-case displays were used to organize, compress and assemble the information in a way that enabled conclusions to be drawn (Miles and Huberman, 1994, Silverman, 2000). Within-case display was used to organize information about one service sector and general trends across the studied service sectors were studied using cross-case displays. For within-case displays, tables were used to summarize data for each broad subject within the eight productivity management aspects. Causal maps were developed to demonstrate the links between concepts and issues, as described by the senior managers. Appendices 1 and 2 provide a sample of a within-case table and a causal map for the data related to airlines.

For developing cross-case displays, entries for identical subjects in the within-case tables were compared and contrasted. Causal maps (Bryson et al, 2004) were used to explore reasons behind differences and similarities. In parallel, the inquiries function in Microsoft Access was used to collect all statements that included certain keywords in an attempt to derive themes or relationships. These were keywords that had been used prominently by most of the senior managers and were regarded as particularly influential (e.g., cost, standardization, customer, people, culture, change).

Analysis, Results and Findings

This section covers the last stage of the Miles and Huberman (1994) analysis framework, namely Conclusion and Verification. The outcomes of this qualitative analysis have been verified by continuous double-checking of the analysis process to make sure information was located correctly and relevantly, and also by revisiting the recorded tapes and notes throughout the analysis as well as referring back to the sources of data for clarification. Three of the most interesting outcomes from the data analysis are reported.

Productivity and organizational background

An interesting observation about productivity and quality was made by reviewing the reasons that managers put an emphasis on either productivity or quality. A cross comparison of the within-case tables and the causal maps related to this issue revealed an interesting trend among six of the studied services. It seems that among these cases the organizations that were traditionally-built based on one of these concepts have now begun to face challenges that force them to shift part of their focus to the other concept. This is basically because of the new competition, regulations and economic conditions. For example, senior managers in the insurance industry pointed out that "the industry is built on productivity". The pressure of regulations and competition mean that a significant focus is now being put on quality, which requires changing the process-oriented mentality of the system and developing a quality culture within those organizations. Similar comments were made by senior managers in the banking and fast-food industries. On the other hand, senior managers in consultancy services referred to the fact that their sector was traditionally based on quality and that in recent years, because of high competition and economic pressure, the industry has started to put more focus on productivity, requiring a better balance between front and back office. Similar comments were made by senior managers in the hotel and higher education sectors. These findings are summarized in Figure 1.

(FIGURE 1 TO APPEAR ABOUT HERE)

Identifying the shift of focus from quality to productivity or from productivity to quality will help researchers to investigate which factors are leading particular firms in some service industries to shift their focus in order to better compete. Although a shift in management focus was only prominently reported in six of the twelve sectors, this is a significant trend that should inform future research.

Grouping the studied service sectors

Many classification models have been proposed for service operations (Cook 1999, Shafti et al. 2010). Although, the objective of this research project was not about developing a classification model, the qualitative analysis data suggests a clear distinction between groups of service sectors that may be used as a basis for future classification of service operations. After developing the within-case tables for each service sector, it was evident that different service sectors could be grouped into distinct clusters based on their managerial and operational features related to productivity. These features were collected and put into different groups by analyzing the within-case tables and using the inquiry facility in Microsoft Access database. The proposed title for each group represents the main operational environment within which most of these services are operating. These distinct groups are as follows:

- Services in Factory Environment (Fast-Food)

- Services in Professional Environment (Legal and Consultancies)

- Services in Rapidly Changing Environment (Telecommunications, Utilities, Banks, Insurance)

The rest of the services in this study seemed to have a mixture of features associated with two or the three of the above. For example,

University: Professional × Rapidly Changing Environments
Department Stores: Factory × Rapidly Changing Environments
Auto-Repair and Hotels: Factory × Professional Environments
Airlines: Factory × Professional × Rapidly Changing Environments

A summary of the features of each group is given in Table 1. These features are taken from the within-case tables and causal maps and are organized into two categories: Advantages and Challenges. According to the senior managers, all these features are key factors that directly affect productivity management in their respective service sectors. It should be noted that these are the dominant factors in each group but that they may not apply equally in all service sectors, sub-sectors, or firms in the group.

(TABLE 1 TO APPEAR ABOUT HERE)

Productivity and Quality trade-off

Understanding the trade-off between productivity and quality depends to a great extent on how one defines productivity. Gronroos (2000) argues that productivity improvement, by definition, requires quality to remain constant. If one appreciate this, then as Hope (2007, p.3) puts it, "the statement, 'productivity increases affect the quality of service delivery", is an oxymoron". Parasuraman (2010) concurs that a narrow definition of productivity is the main reason behind the perception of the conflict between productivity and quality.

The productivity-quality trade-off (the title of this section) refers to whether, in the experience of the managers interviewed, it is possible to keep service quality constant and increase productivity, or increase both quality levels and productivity indices at the same time. "At the same time" here, implies that this work is not looking at the long term relationship of quality and productivity strategies (Kontoghiorghes 2003); rather it is investigating the approaches to and the operational effects of trying to improve both concepts at the same time. This was one of the main topics that were brought in the interviews and the senior managers were asked to explain whether the above was possible in their respective service sectors, and if yes, how and how easy it was to implement. The analysis of the statements collected revealed a number of interesting insights.

Most of the senior managers suggested that in normal circumstances, it is very difficult to keep quality constant and increase productivity. Thus, the productivity-quality trade-off in services seems to be a real issue in the minds of experience senior managers. While this was the general conclusion, in a number of services some aspects of operations involved either a small or a negligible trade-off between productivity and quality. This means that in these operational areas there are aspects of quality that can easily be kept constant while increasing productivity. Moreover, respondents even asserted that in particular operational areas it is possible to increase both quality and productivity at the same time. The factors behind such small or negligible trade-off in these operations were discussed at length with the interviewees. These fall under one of the following three factors (see Figure 2):

(FIGURE 2 TO APPEAR ABOUT HERE)

A. The focus on "common elements"

In some of the studied services, both productivity and quality affairs are partially or wholly focused on a common element of the service offered. In such cases the trade-off between productivity and quality is either small or zero. Examples of common elements in the studied services are:
- Speed (mainly for fast-food and partially for telecommunications in terms of processing information)
- Standards (mainly for auto-repair and partially for power utility in terms of obtaining quality accreditations)
- Defect-free product (partially for insurance and legal services)

'Speed' is seen as one of the aspects of quality in fast-food industry, nevertheless 'speed' is also normally considered as a productivity-friendly concept and a target that can be met by improving productivity. Senior managers in the fast food industry considered this common element to be applicable to both productivity and quality with almost no trade-off. Similar arguments were made for other common elements such as "Standards" and "Defect-free Products" by the senior managers in various industries.

The notion of common element between productivity and quality is very much in line with what is referred in research on service productivity as "customer's perspective of productivity" (Gummesson, 1998; Parasuraman 2002; Johnston and Jones 2004; Martin et al. 2001). Based on the insights gained from the collected data, common elements between productivity and quality appear to be the most effective factor in reducing or eliminating the productivity-quality trade-off in service operations. Aside from this, two more factors were found in the analysis of the qualitative data:

11

B. Where customer is a co-producer at a self-service point

Based on the responses from the interviewees, the service productivity-quality trade-off is reduced when customers are co-producers at self-service point of the service delivery system (e.g., department stores, fast-food restaurants). A department store customer serves him/herself in the store by browsing through the products and trying them on. Here the customer is contributing to a h i g h e r quality of service without productivity being significantly affected. The same is true for customers in fast-food restaurants. Actually, and according to the senior managers interviewed, self-service in fast-food outlets increases productivity. This is clearly what is discussed by Lovelock and Young (1979).

C. Where productivity and quality efforts are isolated from each other

In some of the service sectors studied, each of quality and productivity are concerns of two completely different parts of the system that provides the services, and these results in little or no productivity-quality trade-off. Examples collected were in telecommunications (quality of the signal in the field and productivity of the staff in the back office are separate), department stores (in which productivity is more of a concern in the back office, like inventory or accounting systems, while quality is very much related to delivery, like courtesy and responsiveness of the sales people) and universities where (quality is more important for research activities while productivity is more important for teaching activities). In all the above examples, skills and energies can be divided and allocated appropriately to achieve quality targets and productivity targets in different parts of the operations.

It is worth mentioning that in the most professional services the question of what is productivity, the issue of productivity-quality trade-off, and how quality and productivity should be managed are not very clear, and no practical insights were gained from the study. In the words of one of the senior managers in consultancy services industry: *"It's difficult to understand the concept of productivity in this business. ... Our mission is to deliver a high quality work; this is while we (i.e. the consultants of the company) are merely interested in productivity"*. The issue of productivity-quality trade-off certainly needs special attention in the professional services sectors.

Future Research Agendas
Qualitative data was collected through in-depth interviews with twenty four senior managers in twelve diverse service sectors. The explorative approach to the data resulted in a number of interesting observations in different areas related to productivity management in services, namely the relationship between the background of service sector and its current shift of focus between productivity and quality; grouping the studied service sectors in terms of their managerial features in areas related to productivity; and factors that can reduce trade-off between productivity and quality.

Viitamo (2008) argues that despite much discussion on service productivity, this area of research is lacking adequate theoretical basis. When discussing the contribution of academia to research on service productivity, Johnston and Jones refer to only a few recent works in their brief review of literature in this area. Johnston and Jones point out how little empirical research has been done on the topic and encourage more empirical research on the area by labelling it an area that is "ripe for development" (Johnston and Jones, 2004; 201).

The research project described in this paper is an attempt to answer the above call by gaining some insight into the complex area of service productivity management. The outcomes of this work raise a number of interesting and important issues in service productivity, each worthy of further study. Three main research agendas are described below.

1. The research outcomes show how a number of service sectors are shifting their focus between productivity and quality. A number of factors were identified as the main forces behind the changes, namely competition, regulation and economic pressure. It would be informative to investigate whether these are the only main factors that are influential in the shift of focus and whether these are universal factors. It would also be interesting to see if it is possible to forecast where each service sector will stand in the short- and long-term. The results of such research can give managers insights into the fundamental forces behind the challenges they are facing when managing productivity issues in their respective service organizations.

2. A number of the service sectors that were studied in this research project were divided into three main groups, while others showed a combination of features from two or three groups. Is it possible to generalize this grouping model by including other popular service sectors in the recognized groups? How universal are the groups – in other words, what changes might occur in the location of the same service sectors based in other countries? What are other possible common managerial and operational features within each group? Should the "rapid changing environment" be seen as a temporary environment that is going to stabilize once the rapid change is completed or is "rapid change" a permanent feature of these service sectors? Is it possible to recognize one or a limited number of variables that can be used as indicators or factors that position a service sector into a particular group?

3. Trade-off between productivity and quality (with the particular meaning that was explained in this paper) is a complex issue in service organizations. In studying the twelve service sectors three main factors that can reduce the trade-off were identified. One of these factors, self-service customers as co-producers, has previously been identified by Lovelock and Young (1979). The other two factors are the notion of common element and the separation of

the productivity and quality efforts. Extended study is needed to investigate how applicable these factors are in different service sectors and how exactly they affect the trade-off between productivity and quality. Focusing on the notion of a common element, it is interesting to see how the notion relates to the newly emphasized theory of "operational versus customer productivity" (Johnston and Jones 2004).

The above are the main proposed research agendas in this paper. It is also interesting to investigate possible links between the above three main outcomes of this project. Is it possible, for example, to argue that services in a particular group in the proposed grouping model fit better with one or more of the three factors that reduce trade-off between productivity and quality? Does the shifting focus of some services affect their positioning in the proposed groups? How does this impact the applicability of common element as a tool to reduce trade off (between productivity and quality) in these services?

Conclusion:

When an area of study is complex and in need of fundamental research, initial analysis to provide some insights into the field can help with setting directions for future research. The three research agendas that were proposed and their possible links can provide an appropriate departure point for further research in the field of service productivity.

This research work has advantage in being explorative and being based on the views of senior managers with a diverse experience in their respective service sector. Such explorative methodology was needed to gain insights into the complexity of service productivity and its link with quality on the basis of the experience of those who deal with these issues on a daily basis. A deductive approach could not provide such in-depth insight. The explorative nature of the work however does not allow generalizing the findings of this study. As pointed out in the last section, each of the findings can benefit from further research. A deductive approach with a statistically satisfactory sample size will be able to test how generalizable some of the findings of this study are. Appropriate hypotheses can be formulated to address some of the research questions that were raised in the last section. In such deductive study, it will be interesting to add some specific types of services that were not included in this research. Some of the most obvious ones are e-services, art & entertainment services and freelance services.

The literature on service productivity has not been growing in a considerable pace during the last decade. In their systematic literature review paper on service productivity that covers the research papers from 1989 to 2010, Lehmann and Koelling (2010) refer to only 9 post 2005 papers, out of which only two are considered as notable contributions in the field. Recognizing and specifying relevant research queries can help with expediting the process of research on service productivity.

This research work was designed to help with this endeavor. Collectively and individually, the proposed research agendas in this paper can be seen as a think-tank for generating new research topics. Further, more explorative research like this is needed to further contribute in directing and facilitating research in the interesting yet mysterious subject of productivity in services.

References

Adam, K., and Gravesen, I. (1996), "Is service productivity a viable concept?", *The Second International Research Workshop on Service Productivity,* Madrid, Spain.

Bernard, H. R. (2000), *Social Research Methods: Qualitative and Quantitative Approaches,* Sage Publications, CA.

Bryson, J.M., Ackermann, F., Eden, C., Finn, B. (2004), *Visible Thinking: Unlocking Causal Mapping for Practical Business Results,* John Wiley & Sons. London.

Buffa, E. S. (1976), *Operations Management: The Management of Productive Systems.* Wiley. New York.

Chase R. B. (1978), "Where does the customer fit in a service operation", *Harvard Business Review,* Vol. 56 No. 6, pp. 137-42.

Cook, D. P., C. H. Goh, and Chung, C.H. (1999), "Service typologies: A state of the art survey", *Production and Operations Management*, Vol. 8, No. 3, pp. 318-38.

Creswell, J.W. (2007), *Qualitative Inquiry and Research Design: Choosing Among Five Approaches,* Sage Publications, CA.

Djellal, F., and Gallouj, F. (2009), *Measuring and improving productivity in services: issues, strategies and challenges.* Edward Elgar Publishing.

Djellal, F. and Gallouj, F. (2010), "Services, Innovation and Performance", *Journal of Innovation Economics*, Vol. 1, No. 5, pp. 5 - 15.

Edosomwan, J. A. (1987), *Integrating Productivity and Quality Management.* CRS Press, New York. Fisk, R.P., Brown, S. W. and Bitner, M. J., (1993), "Tracking the evolution of the services marketing literature". *Journal of Retailing*, Vol. 69 No. 1, pp. 61-103.

Fisk, R. P., Brown, S. W. and Bitner, S. W. (1995), "Service management literature overview: a rationale for interdisciplinary study", *Understanding Services Management, Integrating Marketing, Organisational Behaviour,* in W. J. Glynn, and J. G. Barnes, *Operations and Human Resource Management,* John Wiley & Sons, Chichester.

Gordon, R.J. (1996), "Problems in the Measurement and Performance of Service-Sector Productivity in the United States", *NBER Working Paper*. No. 5519

Gronroos, C. (1994), "From Scientific Management to Service Management: A Management Perspective for the Age of Service Competition", *International Journal of Service Industry Management*, Vol. 5 No. 1, pp. 5 – 20.

Gronroos, C. (2000), *Service Management and Marketing, a Customer Relationship Management Approach*, John Wiley and Sons, Chichester..

Gronroos, C. (2004), "Service productivity: Towards a conceptualization of the transformation of inputs into economic results in services", *Journal of Business Research*, Vol. 57 No. 4, pp.414-23.

Gronroos, C., and Ojasalo, K, (2002), "Service productivity, towards a conceptualisation of the transformation of inputs into economic results in services". *Journal of Business Research*, Vol. 55, pp. 1-10.

Gummesson, E. (1993), "Service productivity, service quality and profitability", Keynote Address, *Service Superiority: The Design and Delivery of Effective Service Operations,* Eight International Conference of the Operations Management Association, May 25-6, Warwick.

Gummesson, E. (1998), "Productivity, quality and relationship marketing in service operations", *International Journal of Contemporary Hospitality Management,* Vol. 10 No. 1, pp. 4-15.

Hope C.A. (2007), "Is there an inverse relationship between Service Quality and Productivity or Not?", in Johns, N., and D. Lee-Ross *Research Methods in Service Industry* Management, Cassell, London.

Johnson, R. A., Newell, W. T. and Vergin, R. C. (1972), *Operations Management*, Houghton Mifflin, Boston.

Johnston, R. (1999), "Service operations management: return to roots", *International Journal of Operations and Production Management*, Vol. 19 No. 2, pp.104-24.

Johnston, R., and Clark, G. (2001), *Service Operations Management*, Pearson Education: Essex.

Johnston, R., and Jones. P. (2004), Service productivity, towards understanding the relationship between operational and customer productivity, *International Journal of Productivity and Performance Management*, Vol. 53 No. 3, pp. 201-13.

Jones, P., and Hall, M. (1995), "Now listen! Service operations really are different ... sort of". in R. Teare and C. Armistead *Services Management, New Directions, New Perspectives*, Cassell, London.

Jones, S. (2005), "Toward an Acceptable Definition of Service", *IEEE software*, Vol. 22 No. 3, pp.87-93.

Kontoghiorghes C. (2003), "Examining the Association Between Quality and Productivity Performance in a Service Organization", *Quality Management Journal*, Vol. 10 No. 10, pp.32-42.

Kyale, S. and Brinkmann, S. (2008), *Interviews: Learning the Craft of Qualitative Research Interviewing,* Sage publications, London.

Lehmann, C., & Koelling, M. (2010), "The Productivity of Services: A systematic literature review", *RESER, 20th anniversary conference. The resilience of the global service economy*. Gothenburg, Sweden.

Levitt, T. (1976), "The industrialisation of service", *Harvard Business Review*, September-October, pp. 63-74.

Lovelock, C. H., and Young, R. F. (1979), "Look to consumers to increase productivity", *Harvard Business Review*, Vol. 57 No. 3, pp.168-78.

Maroto-Sanchez A. (2010), "Growth and productivity in the service sector: The state of the art", *IAES Working Paper*.

Martin, C. R., Horne, D. A. and Chan, W. S. (2001), "A perspective on client productivity in business consulting services". *International Journal of Service Industry Management*, Vol. 12 No. 2, pp.137-57.

Miles, M. B., and Huberman, A. M. (1994), *Qualitative Data Analysis, an Expanded Sourcebook*, Sage Publications, London.

Millward, R. (1990), "Productivity in the UK services sector: historical trends 1856 - 1985 and comparisons with the USA 1950 – 85", *Oxford Bulletin of Economics and Statistics*, Vol. 52, No. 4, pp. 423-36.

Murray, A. (1987), "The outlook: the service sector's productivity problem", *The Wall Street* Journal, February 9.

Nachum, L. (1999a), "Measurement of productivity of professional services, an illustration on Swedish management consulting firms", *International Journal of Operations and Production Management*, Vol. 19 No. 9, pp. 922-49.

Nachum, L. (1999b), "The productivity of intangible factors of production, some measurement issues applied to Swedish management consulting firms", *Journal of Service Research*, Vol. 2 No. 2, pp. 123 – 37.

Nakajima, T. (2007), "Is Retail Service Productivity Really Low in Japan? Numerical experiment based on Shepard's model", *ESRI Discussion Paper Series No. 193*.

Ojasalo, K. (1999), *Conceptualising Productivity in Services,* Hanken Swedish School of Economics, Helsinki.

Ojasalo, K. (2003), "Customer Influence on Service Productivity", *SAM Advanced Management Journal*, Vol. 68 No. 3, pp.14-9.

Parasuraman, A. (2010), "Service productivity, quality and innovation: Implications for service-design practice and research", *International Journal of Quality and Service Sciences*, Vol. 2, No. 3, pp. 277 – 86.

Parasuraman, A. (2002), "Service quality and productivity: a synergic perspective", *Managing Service Quality*, Vol. 12 No. 1. pp. 6-9.

Patton, M. Q. (2002), *Qualitative Research and Evaluation Methods,* Sage Publications, London.

Sahay, B.S. (2005), "Multi-factor productivity measurement model for service organisation", *International Journal of Productivity and Performance Management*, Vol. 54 No. 1, pp. 7 –22.

Schmenner, R.W. (2003), "How service businesses have survived and prospered", *One World? One View of OM? The Challenge of Integrating Research and Practice,* Euroma POMS Conference, June 16th - 18th, pp. 983-92, Lake Como.

Shafti, F., Bedfords, T.J., Deleris, L., Hosking, J., Serban, N., Shen, H., Walls, L.A. (2010) "Service operations classification for risk management", *IBM Journal of Research and Development*, Vol. 54 No. 3, pp. 1-17.

Sheehy, B., and Schone B. (2003), "Service productivity, stop wasting your investments in service", *Executive Excellence* Vol. 20 No.7, p. 5.

Sherwood, M. K. (1994), "Difficulties in the Measurement of Service Output", *Monthly Labour Review*, March, pp. 11-19.

Silverman, B. (2000), "Analysing talk and text" in N. K. Denzin, and Y. S. Lincoln *Handbook of Qualitative Research*, 2nd ed., Sage Publication, Thousand Oaks.

Silvestro, R., Fitzgerald, L., Johnston, R. and Voss, C. (1992), "Towards a classification of services processes", *International Journal of Service Industry Management*, Vol. 3 No. 3, pp. 62-75.

Smith, A. (2003), *The Wealth of Nations, books 1-111*, New Ed edition (first published in 1776), Penguin Classics, London.

Spohrer, J., Maglio, P. P., Bailey, J., Gruhl, D. (2007), "Steps Toward a Science of Service Systems". *Computer*, Vol. 40 No. 1, pp.71-77.

Sumanth, D. (1984), *Productivity Engineering and Management*, McGraw-Hill, New York.

Thietart, R.A. (2001), *Doing management research, a comprehensive guide*. Sage Publications, London.

Van Biema, M., and Greenwald, B. (1997), "Managing our way to higher service - sector productivity", *Harvard Business Review*, July – August, pp. 87-95.

Van Looy, B., Gemmel, P. and Van Dierdonck, R. (2003). *Services Management: An Integrated*

Approach, 2nd ed. Pearson Education, Harlow.

Viitamo E. (2008), *On service productivity – strategic management perspective*, *Research Report*, Lappeenranta University of Technology, p. 205.

Vuorinen, I., Jarvinen, R. and Lehtinen, U. (1998), "Content and measurement of productivity in the service sector, a conceptual analysis with an illustrative case from the insurance business", *International Journal of Service Industry Management*, Vol. 9 No. 4, pp. 377-96.

Wölfl A. (2003), "Productivity Growth in Services Industries: An Assessment of Recent Patterns and the Role of Measurement", *OECD STI Working Paper 2003/7*.

Table 1: Operational features of the service sector groups

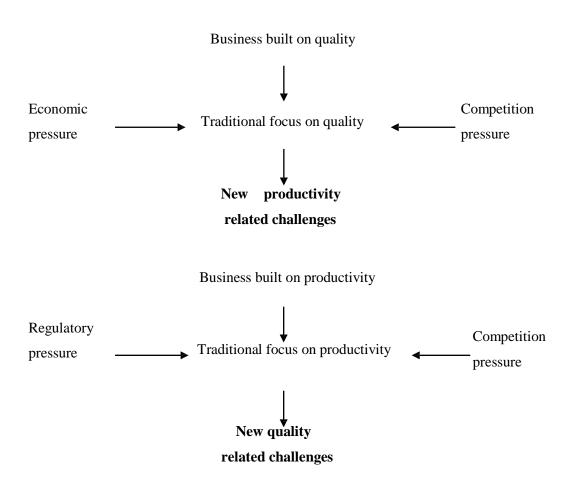| Groups	Advantages	Challenges
Factory Environment	- Standardization - Standard customer expectations - Easy performance measurement - Low appraisal and external costs	- Human conflicts - High prevention cost - Less customer focus in performance measurement - Over-specialization - Loyalty and motivation problems
Professional Environment	- Low prevention and appraisal costs - Effective team working - Good human relations between back and front office - High motivation of front line	- Not defined customer expectations - Difficulties in measuring intangibility - Inflexibility and scarcity of senior managers - Low motivation of supporting staff - Balancing back and front office
Rapid Changing Environment	- Technological advances - Growth - Easy to compete for the newcomers	- Marketing gap - Staff difficulty (morale, loyalty) - High prevention cost - Rapid change of customer expectation

Figure 1: Productivity and organizational background

Business built on quality

Economic
pressure
→
Traditional focus on quality
←
Competition
pressure

**New   productivity
related challenges**

Business built on productivity

Regulatory
pressure
→
Traditional focus on productivity
←
Competition
pressure

**New quality
related challenges**

Figure 2: Reducing trade-off between productivity and quality

PRODUCTIVITY

Common Element

Customer as
Co-producer

Isolated Sections

QUALITY

Appendix 1: Sample of a within-case table (airline industry)

Subject	Statements from the respondents
Productivity and quality trade-off	- Quality is more important in a healthy economy. - In theory both should be together but because of the economic cycle there is a short term trade off.
Policy with regard to controlling cost, quality and volume	- Volume and cost are important because of the application of yield management. - Interaction between quality and cost is very complex.
Productivity Factors	- Input includes people and technology like airplanes and is the dominant factor. - Substituting different categories of input is very easy, interaction between people and technology causes synergy effects. - Output gets more sophisticated over a period of time because of wider range of services and yield management. - Process is complex and costly and consumes productivity benefits. - Feedback is not very effective in increasing productivity as the procedures are routine factory types.
Productivity Problems	- Technology changes rapidly particularly in IT and causes all sorts of changes in customer's experience. - People are generally competent and loyal however in some airlines there are serious problems with competence of people. - Methodology and systems are amazingly good. - There are no major problems with management and organizational culture.
Productivity Improvement	- Different approaches are working together because of the complexity of getting all operations in different levels to come together, in particular technology is very important - There are attempts to increase customer involvement particularly for peripheral services
Productivity Measurement Problems	- As costs decline with distance, measuring valid volume is an issue. - Rules by which the costs are allocated to particular services are difficult. - It is difficult to see if a route is profitable - Measuring the output and its validity considering the intangibles is the most difficult one in the list with respect to the softer aspects of productivity.
Quality Gaps	- People have illusions about the advantages of flying - Perception of customer about output that contains getting additional services like Taxi or hotel is against productivity. - External Communications are small and customers are not misled.
Quality Costs	- External costs are the largest without doubt because people remember faulty service and talk about it.
Quality Characteristics	- Most important ones are reliability, speed, willingness to help and ethics. - Flexibility needs to be within limits, customer wants to control the situation.
Disagreements between the respondents	- None

Appendix2:
An extract from a causal map made for analyzing data related to Airlines**:**

difficulty of the rules
by which costs are
allocated to particular
services

arbitrary allocation of
cost in measurement

complexity of
processes

variety of categories of
cost and revenue

difficult to see if a
certain route is
productive

variety of output

focusing on cost

saturated market

legislation issues

increased
revenue

growth

technology particularly
yield management

cost reduction

increasing volume