Is the concept of service productivity compatible with the framework of service-dominant logic?

Esa Viitamo¹, Marja Toivonen²

¹Aalto University, Finland
²VTT Technical research Centre of Finland

This paper examines how and to what extent the perspective of service productivity can be reconciled with a central argument of service-dominant (S-D) logic: the collaborative nature of value creation and the central role of user in it. Applying the traditional microeconomic modeling system, we analyze how both efficiency and effectiveness (the provider’s and the user’s productivity) can be achieved in service offerings and how the co-productive nature of service processes can foster them. Our background is in various theories of service management that we group together under the title ‘socioeconomic views’ on service productivity. We also illustrate our argumentation with a case study from the banking sector.

1. Introduction

The perspective of customers and users is becoming increasingly prominent in various fields of service research. One of the most influential new frameworks highlighting the important role of users is service-dominant (S-D) logic. The developers of this framework (Vargo and Lusch, 2004, 2008) argue that the value of service is always co-created by the provider and the user (customer); the provider cannot deliver value but only offer value propositions. In addition, the multiple relationships in the user’s economic and social context contribute the value creation – the user integrates contextual resources with the specific input received from the provider. The phenomenological side of value is essential: actors make sense and determine the value of service experientially in a specific context (ibid.).

Service-dominant logic focuses on value-in-use. Consequently, it puts less emphasis on the role of the provider and the provider’s objectives. The other aspect of value – the market value (value-in-exchange), which is a central interest of the provider – is included but the arguments concerning it are very abstract. The main argument is that the exchange logic which is built on goods and money should be replaced by a new logic in which service is the fundamental basis of exchange: service is exchanged for service (Vargo and Lusch, 2006). To enable this kind of thinking, S-D logic separates service from services and concentrates on the former, which it defines very broadly; the concept refers to the process of using one’s competences (knowledge and skills) for the benefit of another party. Thus, S-D scholars are primarily interested in the relational and process viewpoint. They argue that services as offerings (outputs), which are sold and purchased in the markets, are a particular type of intangible good. As goods in general, they are vehicles for service provision rather
than primary to exchange and value creation. Service relationships characterize the market; transactions and products are structural and temporal isolates in the value creation process (Vargo, 2009).

Vargo and Lusch have presented ten foundational premises of S-D logic in order to make clear its contrast to the hitherto prevalent goods-dominant (G-D) logic (Vargo and Lusch, 2008). Most of the premises present, however, different aspects of two basic arguments: 1) service as the fundament of economic exchange, and 2) the collaborative nature of value creation and the central role of user in it. Both arguments are interesting from the viewpoint service productivity. Yet, in this paper we concentrate on the latter, which we consider more plausible and possible to analyze at such a level of concreteness that includes managerial implications. As regards the former, the relational view on exchange is surely important in the present network economy as a source of theoretical insights. However, it is questionable whether relationships in all their complexity can ever be measured in such a way that ‘exchanging service for service’ has a practical meaning.

Also the collaborative nature of value creation and the central role of user are challenging issues in the context of productivity analysis. Because productivity is tightly linked with the competitive advantage of the firm, the analysis necessarily reflects the perspective of the provider: the preconditions for success in the market exchange of service offerings. Even though a provider aims to create user-based service concepts and implement them through co-creation, the economic situation may lead to unsatisfactory compromises. For instance, providers often face the problem of scarce resources and the need for cost-cutting, downsizing and restructuring (Kostama and Toivonen, 2011). The awareness of the central role of users and use value does not as such tell the provider how to develop a service concept which enables the emergence of this value in the co-creation process. The experiential aspect of value makes the situation even more complicated – here the managerial implications in relation to productivity are indirect, and only loosely traceable.

Taking into account the above-described restrictions, we specify our research target on the reconciliation possibilities between the productivity concept and S-D logic. We propose the following question: how do firms develop user understanding and integrate it with their internal operations in the way that supports service productivity and at the same time fosters the co-creation of service value (use value)? More concretely, we examine two sub-topics. First, we model the productive implementation of user-understanding in service offerings, in which the balance between efficiency (the provider’s productivity) and effectiveness (the user’s productivity) is the core issue – managed via customization vs. standardization among others. Second, we analyze the fostering of productivity in a service process in which customers participate (a co-production process).

Our paper has been structured as follows. After this introduction, we discuss S-D logic in the broader context of user- and customer-centric perspectives. In the third section, we summarize the theoretical basis on service productivity, concentrating on socioeconomic views. These views, which focus on managerial issues within companies, form like ‘a bridge’ between the purely economic concept of productivity and the analysis of value co-creation (Viitamo, 2009). In the fourth section, we analyze how efficiency and effectiveness can be achieved in service offerings, and in the fifth section we examine the fostering of productivity in a co-production process. After these theoretical sections, we briefly illustrate (in section 6) practical ways in which produc-
activity and user-centricity have been integrated in companies: we describe two different productive strategies and managerial practices in the Nordic banking sector. The paper ends with concluding comments which summarize how and to what extent we consider it possible to reconcile the concept of service productivity with the S-D logic.

2. Service users, use value and co-creation

An explicit definition of ‘user’ is difficult to find in the service literature. Implicitly the concept is, however, quite clear and can be defined as follows: the ‘user’ of a service is a person or an organization who or which actually or potentially benefits from a service through receiving it or through participating more or less actively in its production and development. If a user is a person, he or she can also be a consumer, citizen and have other roles. If a user is an organization, it can be a firm, public organization, association etc. (Sundbo and Toivonen, 2011)

In the context of material products, interest in the role of users can be traced back to the 1970s and early 1980s. Studies on the background factors of successful innovations brought to the fore the necessity to acquire ‘user feedback’, which enables the understanding of user needs and circumstances (Nelson and Winter, 1977). Being based on evolutionary economics, these studies did not pose the question of how a producer acquires the feedback. This gap was, however, soon filled and at the same time studies extended to the field of services: the service marketing school – and the view of relationship marketing linked to it – adopted a strong customer focus right from the beginning and started to develop managerial practices to foster it. (In the marketing literature, the concept of ‘customer’ or ‘client’ is prevalent instead of ‘user’.) Relationship marketing emphasizes the service firm’s encounter with the customer as the essence of service (van Looy et al., 1998; Grönroos, 1990).

In the newer studies on the needs of customers and users, two additional perspectives have been highlighted: 1) the role of user experience, and 2) the importance of elaborating information on user needs into shared understanding within the provider organization. The first perspective focuses on the phenomenological side (lived experiences) of the service and on social networks as the framework for experiences (e.g. Payne et al., 2008). It is one of the central interests in S-D logic, but also other approaches, for instance ‘service design’ developed by industrial designers, have emphasized its importance (Saco and Goncalves, 2008). The second perspective highlights that information gathering as such does not guarantee its purposeful application, but customer information has to be structured, elaborated, interpreted and shared within the provider organization. The formation of shared understanding on the interpretations and implications regarding customer information is crucial for successful practical operations and organizational strategy (Nordlund, 2009). We argue that it is also crucial for the achievement of productivity.

An important difference between material products and services is the nature of services as entities in which a production process and a consumption process coincide. The user of a service benefits not only from the end result but also directly from the process (Edvardsson, 1997; Grönroos, 1990). In some services (e.g. experiential services, cf. Pine and Gilmore 1999), there is no discernible end result at all. In the service process, the user is a more or less active party – the co-production relationship has been highlighted as a fundamental characteristic of services (Gallouj and
Weinstein, 1997; Sundbo and Gallouj, 2000). Thus, in the service context a ‘user’ often means a ‘user-producer’.

On the other hand, the active role of users has also been highlighted in the studies on manufacturing and technology. New technologies are not unchangeable artefacts, but their introduction and later use very often include modifications, i.e. an element of re-invention. Furthermore, technology is actively interpreted and appropriated by the users; one technological artefact can have different meanings for different user groups. Finally, social practices change together with the incorporation of new technologies. These perceptions imply that also in manufacturing use-related knowledge is as critical as technological expertise. Today the limiting factor in the diffusion of novelties is more often the capability of users to learn how to integrate technology into their everyday practice, rather than a lack of insights (Tuomi, 2002).

On the basis of the short summary above, we can state that many of the ideas of S-D logic have a long history. The user-centric view in particular has been highlighted by scholars from different disciplines and frameworks. Curiously enough, some of the views that closest resemble the propositions of S-D logic have been presented in the context of manufacturing and technological development (e.g. the active interpretation of technology by users). Important new contributions of S-D logic (irrespective of the conceptual problems included) are the integration of various notions into a whole, their analysis in the service framework, and a much stronger emphasis on the user than in any other service theory. The last point can be crystallized in the idea that the service provider cannot create use value without the customer, because the use value manifests itself only when the service is consumed (Vargo and Lusch, 2004).

S-D scholars discuss the development of their ideas primarily against the background of service marketing, questioning its traditional views. They mention that there are several other idea sources as well, but detailed discussion about S-D premises in comparison with insights of other disciplines is rare. An important exception is a comparison with institutional economics, which considers transactions as bounded relationships within larger institutional structures set up for mutual value creation (e.g. Araujo and Spring, 2006). Vargo (2009) parallels this view with S-D logic, specifying that sometimes the transactions are defined in terms of direct (‘services’) and indirect (goods and ‘objectified’ services) service provision. Here we can also find one of the rare links to productivity discussion: Vargo (ibid.) refers to the separation between efficiency and effectiveness. According to him, it might be argued that indirect service provision lends itself to efficiency, whereas direct service is characterized by effectiveness. We take a similar standpoint in sections 4 and 5. Before that we introduce the basic concepts linked to productivity. In particular, we present socioeconomic views that we consider most suitable for the analysis of productivity in services.

### 3. Socioeconomic views on productivity

To date, productivity growth is a key policy objective in all market-based economies (OECD, 2005). Productivity can be defined as the ability of a production process to generate the expected and desired outcome with the minimum usage of resources (Djellal and Gallou, 2008; Tangen, 2005). Productivity has been analyzed at various levels of economic activity. At the macro level, productivity is a composite indicator for the performance of the economy. At the industry level, productivity reflects com-
petitiveness as well as technological opportunities and constraints in specific industries. Finally, companies use productivity in assessing the competitiveness of their products and services, activities and business units with respect to other companies. This last mentioned level is the focus in the present paper.

While increasingly salient in modern economies, the field of service productivity seems to be a difficult and highly disputed topic for both theorists and policy makers. The field has been dominated by statistical analyses which assume that productivity of services and manufacturing can to a great extent be measured unequivocally (Metcalfe and Miles, 2006). The statistics are most often used for macroeconomic studies of industries and the economy, but they draw on firm-level data and apply the economics of a firm and markets. The underlying theories of a firm assume that firms are identical, share perfect information and adapt passively to the industry equilibrium (Varian, 1984). Hence, in the mainstream of the statistical analysis, the economy and industries are treated technically as if it they were a single firm. This simplification aims to explain the observed productivity growth. For instance, innovation and technical advances, which are supposed to be exogenous, are seen to diffuse instantaneously among new and old establishments within an industry. As a result, a new equilibrium will be attained at a level where the total factor productivity (TFP) of the industry is higher. However, the assumptions of economic equilibrium and perfect information fit uneasily with the notion of innovation and productivity growth. Evolutionary and organizational analysts (Dosi et. al., 1998; Nelson and Winter, 1982), for instance, argue that innovation and technical change occur as a consequence of information asymmetries. Such asymmetries can scarcely be termed market imperfections as they are necessary for any technical change to occur in a market economy.

Despite the dominance of the macroeconomic, statistics-based analyses, there have emerged other kinds of approaches which can be grouped under the title ‘socio-economic views’ on service productivity (Viitamo, 2009). These views are rooted in various theories of service management and they represent several disciples and schools. They include service marketing, service quality management, supply chain management, service operations management, and service innovation. A significant part of the managerial research is normatively oriented: it aims to enhance the performance of a service and the profitability of a service firm. These are thought to be attained through the co-employment of the firm’s technological, relational and organizational assets. The socioeconomic views of service productivity stress the distinctiveness of services, which evolve in the firm’s internal and external processes and in the interaction with the service user (customer). The joint production of a service and the joint value creation with the customer takes place in an open system, where multiple processes and objectives need to be coordinated simultaneously.

The specific characteristics of services have rendered service productivity as a focal, multi-faceted topic in the socioeconomic analysis. Based on hermeneutic and inductive theory construction (e.g. Zeithaml et al., 1985; Gummesson; 1988; Grönroos and Ojasalo, 2004), service productivity is modelled as an interactive process highlighting the linkage between the producer’s and the customer’s productivity. Owing to the axiomatic view of co-production, and particularly to the co-incidence of the production and the consumption in many services, the possibilities to develop generalizations on the nature of service processes, interaction and the productivity is inevitably constrained (Parasuraman, 2002; Johnston and Jones, 2004). On the other hand, the genuine attempt to model service productivity realistically in its actual context can be seen as an important contribution of the socioeconomic views. The analysis is guided
by the pragmatic needs to enhance the competitiveness of services, which is exam-
ined from the dual perspective of the user (customer) and the provider. Due to their
holistic perspective, the socioeconomic views hold a substantial potential for a robust
modeling of service productivity, with inter-disciplinary analysis.

The socioeconomic views are close to the theories of strategic management and
economics of organization, and can be supplemented with the arguments of these
theories. In this way, service productivity can be linked with the issues of the firm’s
competitive advantage and organizational capabilities (Virtamo, 2008a, 2008b). The
starting point can be found in the argument that the objective of a firm’s management
is to attain high consistency between strategy, technology, and organization (cf. Por-
ter, 1985 and Williamson, 1985). The strategy of a firm reflects the managerial choi-
ces with respect to the technology and the characteristics of productivity (Porter, 1985;
Grant, 1991). Similarly, the strategy of a firm reflects the organizational characteris-
tics and structure of the firm (Dosi et. al., 1998). In the context of services, the intan-
gible characteristics of service productivity can be addressed through the tangible
characteristics of the organization, as the principal aspect of the service technology is
the organization itself (cf. Preissl, 2000).

This paper develops further the socioeconomic perspective of service productivity.
We base our analysis on the economics of a firm (Kreps, 1990; Nelson and Winter,
1982) and the stylized fact that the overriding objective of an ‘entrepreneurial’ service
firm is high profitability. This profitability is attained through the co-creation of high
use value together with the customer. A central tool, which the management employs
when pursuing this objective, is productivity. Reflecting the dual perspective of the
producer and the user, productivity has two basic components: efficiency and effec-
tiveness. Efficiency growth of a firm can be decomposed into three effects and
sources (Varian, 1984; cf. also Kreps, 1990). 1) Improved operational efficiency im-
plies cost reduction given the existing technology and the scale of production. Higher
cost-efficiency reduces the waste of resources and moves the actual costs closer to
the firm’s average cost curve. 2) Improved scale-efficiency implies a move along the
firm’s average cost curve towards the point where the average costs reach the lowest
possible level. In the presence of increasing economies of scale this implies an in-
creased volume of production. 3) Technological advance, which reflects improved
total factor productivity, shifts the firm’s average cost curve downwards. Effectiv-
ness on the other hand shows the ability of a product or a service to generate high
customer value and to meet customer’s preferences (Neely et al., 1995). In the oper-
ative use and measurement, effectiveness has been interpreted to indicate the consis-
tency of the service outcome in relation to the customer’s needs and expectations –
or the perceived value of the customer (cf. Tangen, 2005).

In the following analyses on service offerings and the co-production process, the
concepts of effectiveness and scale-efficiency play a central role. We use them to
examine the possibilities of reconciling the provider’s productivity and high use value.

4. Efficiency and effectiveness in service offerings

In this section, we examine how the user (customer) understanding acquired by a
provider for the design of a service offering can be modeled as the co-determination
of scale-efficiency and effectiveness (the provider’s and the user’s productivity). To illustrate the ramifications of productivity in the user-producer relationship, we apply the traditional microeconomic modeling system. We first define the provider’s and the user’s productivity on the basis of the assumptions on the service technology and the user’s preferences. Then we analyze changes in productivity: we examine how the productivity-related decisions of the provider actually influence its own and on the user’s productivity (efficiency and effectiveness). It is shown that the provider’s short-sighted strategy to improve its cost-efficiency may lead to the subordination of the productivity of the user. At the end of this section, we also briefly comment on proper ways to measure service productivity.

The model in Figure 1 assumes that the production possibilities of an established service firm can be approximated by a continuous and by a concave functional relationship between scale-efficiency and effectiveness. The curves with the symbol S indicate the provider’s constant and maximum levels of productivity, whereas the curves with the symbol I indicate the customer’s constant levels of productivity. The continuity of the surface S reflects the flexibility of service technology whereas the concavity reflects the economic scarcity and the consequent trade-off in using the provider’s resources most productively at any point of time. Along the surface S, part of effectiveness has to be given up to obtain higher scale-efficiency. This also holds true for the moves in the opposite direction: sacrificing scale-efficiency for higher effectiveness. It is realistic to assume that the productivity surface S describes the evolvement of the provider’s learning and experience of how to attain customer satisfaction in different types of customer segments.

![Figure 1: The co-determination of the provider's and the user's productivity (scale-efficiency and effectiveness).](image)

The surface (frontier) S also describes the best practice service technology available to the provider. The principal objective of the provider is to stay on the productivity frontier S, where the maximum level of productivity and the right balance between effectiveness and scale-efficiency for different customers and customer segments is reached. To exemplify, if the preferences of a customer regarding a service change
so that a higher level of customization is required, the provider has to allocate more resources to serve this customer. In the Figure, a move of the symbol A to the left on the frontier S illustrates this situation. It implies a higher uncertainty in the service outcome and a diminished opportunity to utilize economies of scale (replicability) and standardization in the case of this customer. However, the provider’s overall productivity may remain unchanged. With fixed amount of customer time and other resources, this is possible if the scale-efficiency is enhanced in the service of other customers (e.g. case B in Figure 1). One opportunity is to increase the degree of standardization in the case of other customers (implying that some of the customers of type B move to the right on the frontier S).

As regards the customer’s (user’s) productivity, we restrict our analysis to those customer’s preferences that concern the choice between customization and standardization. This choice has been considered essential by several researchers (cf. Anderson et al., 1997). In Figure 1, the degree of customization quality is assumed to be a linear function of effectiveness, while the degree of standardization quality is assumed to be a linear function of scale-efficiency. (For simplicity they are presented on the same axes in the Figure.) The convex surfaces I and I display the trade-off for a customer’s preferences with respect to the characteristics of a service. They correspond to the consumer’s indifference curves of standard microeconomics (cf. Kreps, 1990), on which the consumer’s utility – or in our case the perceived quality of the service – remains constant. I and I may be called ‘constant customer’s productivity frontiers’. That the customer’s perceived quality along this productivity frontier remains unchanged reflects the stylized fact that high customization, which may be preferred by the customer per se, also entails higher sacrifices (costs) to the customer. With a more intense customer participation and increased delivery time, there is also higher uncertainty associated with the service outcome as standardization needs to be diminished.

In Figure 1, the area below the surface S is, by definition, inefficient (unproductive) and thereby reflects the waste of the provider’s resources. Correspondingly, the move towards S indicates an improvement in the use of resources and an increase in the operative cost-efficiency of the provider. Productivity growth which is manifested in technological progress and innovation may shift the provider’s productivity frontier outward from S to S* such changes, which are typically asymmetric, demonstrate the impacts of learning, improved skills of the service professionals, improved quality of the complementary inputs, or the re-organization of the service processes. It is apparent that the extent to which the provider’s technology is smooth and continuous, as indicated by the frontier S, is an empirical matter and depends on the industry. Service firms might be specialized in the production of specific types of services for specific types of customers. In such a situation, A and B in Figure 1 may represent the situation of two different firms in a service industry, whose technology is approximated by the frontier S.

In the first-best equilibrium, such as A and B in Figure 1, customers attain the highest possible level of perceived quality (customer’s productivity) and also the provider’s productivity is the highest possible, given the service technology S. The first-best equilibrium can also be attained after a service innovation, which shifts the production frontier outwards (S*), if the level of customer’s productivity increases in the same proportion. This is highlighted by the indifference curves I and I. In reality, such situations prevail only exceptionally and in a short run. In more realistic situations, where the production of services shows some cost-inefficiency and takes place
below S, such as point A′′, the provider’s strategy to increase its own productivity does not necessarily generate the first-best solutions for A or B. For instance, an improvement from A′′ to A′′, which maximizes the provider’s productivity (as the surface S is reached), results in only sub-optimal improvement to the customer’s productivity. The improvement is indicated by the distance between the productivity curves I′′′A and I′′A. However, there is still a distance between the productivity curves I′′A and I′A, which shows that there is a mismatch compared to the service level agreed and expected by the customer (symbolized by A). In other words, the distance between A and A′′ describes the degree of mismatch in supply and demand and the degree of loss in effectiveness (cf. Tangen, 2005).

To be operational, the definition of service productivity requires compatibility with the methods of measuring the performance of a service (firm). As quality, productivity and profitability constitute an interrelated triplet for any service business (Gummesson, 1998), the most viable index of service productivity is inevitably financial (Steiner, 1997). We posit that the productivity index, which relates revenue and cost (R/C) shows consistency with the suggested argumentation above. It compares the market value of a service outcome (revenue) with the market value of the inputs (cost) related to a service offering. Assuming that the service firm implements cost-based pricing, a higher effectiveness and lower scale-efficiency along the frontier S implies higher unit price and unit cost, whereas in the opposite direction both are diminished. The net effect on R/C depends on the technology and the characteristics of the output and input markets. In practice, the R/C -indicator is a valid measure for the provider’s productivity but the customer’s productivity is incompletely captured.

The analysis above has aimed at modeling the basic options in service production. It has taken into account the enabling and limiting factors of the existing technology and the market demand, which affect scale-efficiency and effectiveness. It illustrates the fact that service offerings of a firm are evolutionary. They reflect entrepreneurial search for improved knowledge on service markets and improved customer understanding, as well as the solutions how this accumulated knowledge and understanding at any point of time are translated into service productivity. The basis for customer understanding is the information on the perceived value of the service by the customer. However, this perceived value is a complex experiential phenomenon, which a model like ours cannot tackle. On the other hand, there is a unique opportunity in services to bring the customer’s world close to the provider – this is the phenomenon of co-production. Next, we discuss this phenomenon from the viewpoint of productivity.

5. Productivity and the phenomenon of co-production

The phenomenon of co-production, highlighted by several service researchers (e.g. Gallouj and Weinstein, 1997; Sundbo and Gallouj, 2000) offers a unique opportunity to achieve immediate ‘touch’ with the customer context and to build genuine customer understanding on that basis. However, services differ regarding the extent to which customer understanding has to be case-specific or individual. The distinction made by Vargo (2009) between the direct and indirect service provision points out the opposite ends in this respect. The direct service provision is linked with a case-specific approach and aims to customize service on that basis, whereas the indirect service provision takes broader market demand as its starting point and pursues
standardization. The difference can also be described using the productivity framework, and as mentioned earlier in section 2, the proponents of S-D logic have briefly commented on the concepts of effectiveness and efficiency. According to them (Vargo and Lusch, 2008; Vargo, 2009), maximum profit is achieved by standardization and economies of scale, but effectiveness is necessary before efficiency has relevance. Efficiency is often both a component of effectiveness (the buyer’s perspective) and also necessary for long-term effectiveness (the seller’s perspective).

The above-described differences have implications on the nature and role of co-production. Even though co-production is a basic characteristic of the service process in the theoretical sense, the involvement of the customer varies in practice. In the case of standardized services (also called commoditized services – e.g. Coombs and Miles, 2000), the degree of customer participation in the service process is generally low. Scale-efficiency is the dominant form of productivity, and well organized intra-firm activities are central from the viewpoint of competitive advantage. Customer-orientation is implemented in the acquisition of contextual information which forms the basis for the design of offerings. This information is today often accumulated abundantly regarding both the customer profiles and the development of the customer relationship (Xu and Walton, 2005). The situation is different in the case of customized service. Here the customer’s participation is more intense and may include – in addition to the offering of contextual information – carrying out some actual tasks in the process. It can also extend to the design of service together with the provider (Alam and Perry, 2002).

Figure 2 illustrates the role of co-production in customized (A) and standardized service (B). As in Figure 1, curves with the symbol S denote the provider’s and curves with the symbol I the user’s productivity. It is logical to assume that with the increasing degree of customization the customer’s involvement in the service process grows. Correspondingly, the provider needs more customer involvement to reach the required level of effectiveness and the productivity frontier S. In the Figure, the distance between S and the dotted curve below it indicates the customer’s contribution.

![Figure 2](image-url)

**Fig.2.** The role of co-production in customized and standardized services and implications for productivity
The phenomenon of co-production highlights that irrespective of the level of technology a part of the effectiveness of service – and a smaller part of its scale-efficiency – is attributable to the customer’s involvement. This involvement brings with it a bundle of indirect inputs and resources that are embedded in the customer’s context (cf. Vargo, 2009). Thus, the productivity of the service provider is more or less dependent on the external resources that are beyond its direct control. Total productivity consists of partial productivities that are to a great extent untraceable in the case of external resources. Even though these partial productivities would be relevant to signal the value of different resources, their calculation is usually impossible; among others, due to the fact that they are impaired by externalities. Thus, the provider has to be content with less exact analyses and develop practices that improve its capability to manage and coordinate internal and external resources.

The difference between direct and indirect service provision also has relevance for the two value concepts: value-in-use and value-in-exchange. The former is uniquely and phenomenologically determined by the customer, whereas the latter is set by the provider and represented in the market price which the customer is willing to pay (Vargo, 2009). It is apparent that value-in-exchange is much more directly linked with the analysis of productivity (particularly with its measurement) than value-in-use which is, however, central for the success of service. Thus, the two value concepts are interrelated: insight concerning value-in-use is essential for the determination of a proper value-in-exchange. We can also argue that the strategic importance of this insight – based on information on the customer’s context – grows with the increase of the degree of customization (illustrated in Figure 2). The multiplicity and complexity of customers’ contexts highlights the demanding nature of customization. In the case of individual consumers, the context consists of physical, social and mental domains (cf. Heinonen et al., 2010); in the case of corporate customers, it includes the organization, management system, and in-house culture, among others.

It is plausible to assume that in standardized services, with highly predictable outcome and low customer participation (point B in Figure 2), the pricing of the service is not much affected by an individual customer’s value and context. The pricing reflects more the production costs and the general supply and demand conditions of the service markets. Here the value-in-use is reflected indirectly in the market demand. In customized services, with less predictable outcome and high customer participation (point A in Figure 2), individual customers’ value-in-use is important for the pricing of the service for several reasons. First, increased customization and effectiveness entails a shift from the mass-markets to more differentiated and relational service markets, which are less exposed to the invisible external market forces. Higher customization implies that the determinants affecting the individual customer’s context need to be taken into account in the design of the service. Second, the deeper involvement of the customer in the service process implies that experience becomes highlighted and may influence his or her willingness to pay. Third, given the higher unit costs and uncertainty associated with the outcome of customized services, the provider’s incentive to collect contextual customer information grows.

It is important to avoid the simplification that the provider always prefers standardization and the customer always desires tailor-made services. In addition to the lower price, many standardized services are attractive due to their time saving nature. It is also important to highlight that transparency between value-in-use and value-in-exchange is important in both standardized and customized services. Information on the customer context – in standardized services on the market or segment level and
in customized services on the case-specific level – essentially improves the ability of the provider to show properly the linkage between the price and the customer benefit. For standardized services, value-in-use can be approximated by indicators derivable from customer satisfaction surveys, for instance. Using this kind of data supports the development of service offerings that meet the needs of different customer segments; consequently, it enables improved profitability (price-cost-ratio) for the service firm. For services characterized by high customization, the central source of information on the customer context is the co-productive service episode itself (in addition to satisfaction surveys). It provides a unique opportunity for mutual learning on both sides: the provider learns to understand the customer’s context, and the customer learns to specify his or her needs in relation to the service available.

Within the productivity framework outlined Figures 1 and 2, the improved information of the customers’ context enables higher levels of productivity, i.e. an outward shift of the frontier S. Higher degree of effectiveness of the service is associated with a better match between supply and demand, whereas learning and routinization of the service processes may improve scale-efficiency at the same time.

6. A case study on the Nordic banking sector

To illustrate how efficiency and effectiveness are balanced in the productivity management of service firms and what kind of role productivity plays in the strategies of these firms, we present empirical evidence from the Nordic commercial banking industry. This industry is particularly interesting from the viewpoint of S-D logic, as the distinction between direct and indirect service provision (Vargo, 2009) is clearly observable within it. We can even argue that the banking sector locates in the ‘grey terrain’ between manufacturing and service. The fact that the service offering of a bank consists of standardized and customized elements, as well as of intangible and tangible elements, implies that the business models of competing banks may be highly different. We have carried out a comparative case study in two Nordic banking corporations: Nordea and Svenska Handelsbanken. Our case material consists of the banks’ official strategy and organizational models, and of the personal views about service productivity collected from executives through interviews.

We have summarized the key characteristics of the two firms in the concept of productive regime. We define a productive regime as a systemic (heuristic) view of the top management on how to balance between scale-efficiency and effectiveness in the production and the delivery of services. The essence of the productive regime is the strategy pursued in order to secure the competitive edge of the firm. The case study shows how commercial banks differentiate themselves through their productive regimes. Within the framework presented in Figure 1, the productive regime is reflected in the positioning of a firm on the industry’s productivity frontier.

The nature of productive regimes is linked with the perception of the consistency between strategy, organization, and technology (cf. section 3). Our case study showed that the organizational model of the banks reflects their strategic objectives and the competitive advantage with respect to the scale-efficiency and effectiveness. The strategic goals and organization of the case banks revealed differences in the principle of the divisionalization and specialization as well as in the centralization vs. decentralization of the banks’ activities. The differences are further identifiable in specif-
ic aspects of corporate governance. These include a) the practices of business planning, b) the corporate incentive schemes, c) the coordination of production and distribution, and d) the intra-firm competition and benchmark. The main elements of the two productive regimes are outlined in Figure 3.

Fig. 3. The productive regimes of the examined case banks

The organizational structure of Svenska Handelsbanken can be characterized as multidivisional or M-form (Williamson, 1985), where the main business units have high autonomy. The principal mode of divisionalization is geographic (horizontal), implying decentralized management and business responsibilities, as well as the specialization of production and sales activities by geographic markets. The corporate governance of Svenska Handelsbanken is to a high extent guided by external factors – the competition between banks – and it shows high adaptability to changes in the market conditions. Thus, the overall performance is assessed predominantly horizontally in relation to the competitors. In the organization of Svenska Handelsbanken, the division between sales and production has not been made explicitly. This inseparability is in line with the general conclusion that the production and delivery of offerings in this bank are based on technology utilized in traditional labour-intensive services (Thompson, 1967). Such technology is more concerned with the effectiveness of the offering rather than scale-efficient processes.

There is also other evidence which indicates that in Svenska Handelsbanken the productive regime draws predominantly on the effectiveness of services. According to the interviews, the management regards high customer satisfaction, which refers to high customer’s productivity, and tight cost control in branch operations as the principal sources of the bank’s own productivity. High customer satisfaction is pursued via the customized quality of service offerings. An entrepreneurial business model is implemented at local branches, where the utilization of the economies of scale is limited. This kind of business model enables to some extent the adjustment of effectiveness and scale-efficiency to meet the demands of various types of customers. It also means that the utilization of the options of co-production is generally
high and flexible. The high autonomy and business responsibility assigned to the branches encourages pro-active collection of information on customers’ context – yet, the collection and management of this information has not been organized systematically. This is reflected in ad-hoc customer service concepts and varying service offerings across branches and account managers.

The organizational structure of the other bank, Nordea can be characterized as unitary or U-form (Williamson, 1985), where the functional activities of the corporation are separated and organized hierarchically. The principal mode of divisionalization is sequential between the production and sales activities. Such a pattern is associated with centralized and hierarchical management and business responsibilities, and functional specialization in the production and distribution. The corporate governance of Nordea is to a high extent guided internally, through the corporate goals. It is less responsive to the changes in the market conditions. The overall performance is assessed horizontally in relation to competitors, but also longitudinally in relation to the bank’s historical performance and the predetermined goals. The prominence of sequential division in the organizational model supports the general conclusion that the production and delivery of the banking offerings are based on technology utilized in traditional capital-intensive manufacturing (Thompson, 1967). Such a technology is more concerned with scale-efficient processes than effectiveness.

Also the interview material indicates that the productive regime of Nordea draws predominantly on the scale-efficiency of services. This owes partly to the bank’s history and the evolving organizational structure. Deviating from Svenska Handelsbanken, where the static cost-efficiency implies cost-cutting at a given scale of production, the cost management in Nordea is focused more on the utilization of economies of scale in the banking processes. As the scale of operations and the centralization of the banking activities are controllable variables by the top management, there is the option for continuous improvement in cost- and scale-efficiency. The growth of sales and the margin between revenues and costs are considered to be the main performance indicators. The key drivers of productivity are centralization and the division of labour between the core and the supplementary activities. In Nordea’s regime, high emphasis is put on preplanning and budgeting. Hence, service productivity results from the predetermined levels of effectiveness and standardization. Standardized quality of the offering is enhanced by specific customer service concepts and the service modularization which are targeted to the ‘representative customer’ in each of Nordea’s customer segments. This implies that the utilization of the options of co-production is generally low and rigid. While the information on customers’ context is collected and managed systematically, it is based on rough segmentation, which does not enable a profound analysis of customers’ situations.

The strategic positioning of the two banks with respect to the hypothetical productivity surface of the banking industry is illustrated in Figure 4. Based on the firm level analysis of productivity in section 4, the productivity surface in Figure 4 is constructed to highlight the service technology of an industry. The findings on the productive regimes of the case banks indicate that commercial banks are specialized in their utilization of effectiveness and scale-efficiency.
Our comparative case study revealed that service productivity is not explicitly on the agenda of the operative management of the case banks, but manifests itself mainly indirectly via the productive regime, which is embedded in the corporate culture and organizational capabilities of the banks. However, the R/C ratio shows high performance in both case banks. An interesting observation is that the two banks do not recognize the differences in the productive regimes in the same way, and their perceptions on each other do not correspond to their self-image. The interviews showed that Svenska Handelsbanken believes that it differs clearly from the main competitors; from Nordea in particular. However, Nordea does not consider Handelsbanken’s model to deviate much from the dominant model of the industry, which is also Nordea’s model. Such an observation indicates that banks are not fully aware of the diversity of the business models and the actual competitive advantages of their rivals.

In summary, the empirical results show that it is possible to organize the production and delivery of banking services in very different ways – actually in the ways which in some respects can be regarded as opposite. From the viewpoint of productivity, both of the opposite ways in our cases seem to enable success. The cases also question simplifications regarding the favourability of the ‘service-oriented model’ (Svenska Handelsbanken) over the ‘manufacturing-oriented model’ (Nordea). Even though the former results in larger effectiveness, it is evident that not all customers prefer high customization regarding all services. More detailed analyses – both theoretical and empirical – are needed on the ways in which efficiency vs. effectiveness (and customization vs. standardization) should be balanced in different circumstances in banking and in other service industries.
7. Concluding comments

In this paper, we have examined the reconciliation possibilities between the productivity concept and S-D logic. We have crystallized ten S-D premises in two basic arguments: 1) service as the fundament of economic exchange, and 2) the collaborative nature of value creation and the central role of user in it. We have concentrated our analysis on the latter, which we consider more plausible and possible to analyze at such a level of concreteness that includes managerial implications. In the analysis of productivity, we have adopted a perspective that we call ‘the socioeconomic view’. This view consists of several theoretical approaches that are close to the theories of strategic management and economics of organization. (In the modeling, we have applied traditional microeconomic mode of representation.)

Based on our analysis, we can conclude that an important conceptual framework that connects S-D logic and the concept of productivity is the division between efficiency and effectiveness. Efficiency reflects the striving of the provider for profitability and competitiveness, while effectiveness is linked with customer value and the fulfilment of customer needs. We have modelled how the productivity-related decisions of the provider in the design of service offerings influence on its own and on the user’s productivity (efficiency and effectiveness). In addition to the offering perspective, we have examined the process perspective, taking into account that a part of the effectiveness of service – and a smaller part of its scale-efficiency – is attributable to the customer’s involvement in co-production. The degree of this involvement varies, however, in practice in accordance with the degree customization. We have applied the concepts of direct and indirect service, introduced by S-D logic, to denote the opposite ends: customized vs. standardized services.

Even though we can (at least partially) combine the perspectives of productivity and S-D logic, we have to point out that their focus is different. The difference crystallizes in the concept of value: S-D logic analyzes primarily value-in-use, whereas productivity (and its measurement in particular) is first and foremost linked with value-in-exchange. The former is uniquely and phenomenologically determined by the customer, whereas the latter is determined by the provider and represented in the market price. In this paper, we have not discussed the phenomenological or experiential aspects of value that play an important role in S-D logic. However, we have highlighted that the two value concepts are interrelated: information concerning the customer context and value-in-use is essential for the determination of a proper value-in-exchange.

An important contribution of S-D logic is its emphasis on the multi-relational nature of customer context. This means that customer involvement in the service process brings with it a bundle of indirect inputs and resources, on which the productivity of the provider is more or less dependent and which are beyond its control. This is one area where the productivity framework should be developed further: service productivity should be seen to emerge from the close interaction between the provider and the customer (including the customer’s context). On the other hand, productivity is fundamentally a strategic concept which the service provider employs in transforming the customer value into more profitable business. Thus, without denying the importance of customer- and user-centricity and value-in-use, a detailed analysis of the operations of the provider is needed in order to understand how success is achieved in service business. Here again, we can find an important notion emphasized by S-D
logic: the human skills and knowledge as fundamental sources of competitive advantage. This notion can be supplemented by stating that flexibility in the utilization of scale-efficiency and effectiveness is one of the most essential skills.

References


**Authors:**

Esa Viitamo, Senior Researcher  
Aalto University  
BIT Research Centre  
P.O. Box ,15500, 00076 Aalto, Finland  
esa.viitamo@aalto.fi

Marja Toivonen, Research Professor, Dr.  
VTT Technical Research Centre of Finland  
Service innovations and business models,  
P.O. Box 1000, 02044 VTT, Finland  
marja.toivonen@vtt.fi