Service Science 2(3), pp. 136-145, © 2010 SSG

Division of Labor between Firms: Business Services, Non-Ownership-Value and the Rise of the Service Economy

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Why have services grown into the dominant sector of developed economies? Our analysis of macroeconomic data shows that business services make the strongest contribution to the rise of the service sector. We integrate three related economic theories of the firm to explain business services in shaping firms, industries and economies. Business service providers relieve their clients from the costs of asset ownership (Property Rights Theory), unlock management capacity (Resource-Based View) and support their clients in navigating their firm's boundaries towards their most valuable business opportunities (Entrepreneurial Theory of the Firm). We show how these theories build on the non-ownership value provided by business services that result from sound division of labor between organizations. We highlight three areas that call for research and provide opportunities for service science: (1) Systematic design of business-models for fostering service performance, (2) the transformation of high-tech-products into service-hubs, and (3) service-driven innovation and the transformation of R&D into a service industry.

Key words: business services; service economy; property rights theory; resource-based view; entrepreneurial theory of the firm; non-ownership services; rental-access-paradigm
History: Received Mar. 8, 2010; Received in revised form May 25, 2010; Accepted May 26, 2010; Online first publication Jul. 22, 2010

1. The Rise of the Service Sector – the Hidden Role of Business Services

Service research started exploring services as a special case, frequently contrasting them to goods. Commonly cited unique features of services included ***i***ntangibility, ***h***eterogeneity, ***i***nseparability and ***p***erishability (Zeithaml *et al.* 1985), collectively often referred to as IHIP (Lovelock and Gummeson 2004). How things have changed! Then, services were seen as a special case that required new management approaches. Today, services constitute the highest share of GDP and occupy the centre-stage of economic growth in developing economies. Furthermore, serious academic debate resonates around the service-dominant logic that claims goods as one special category of means to provide service (Vargo and Lusch 2004, 2008). Finally, as we will argue in this essay, the lines between goods and services are increasingly blurring even in the manufacturing sector itself.

Secondary data consistently show business services as the major contributors to growth within the service sector and of entire economies (Wirtz and Ehret 2009). The rise of the service economy is first and foremost the rise of business services. Empirical data and economic theory suggest that this is no coincidence but an inherent feature of economic development. In the early stages, economic growth is driven by vertical integration of assets and people under the roof of integrated corporations. As economies grow, competition increases and forces companies to focus their assets and competencies on areas where they enjoy competitive advantages. For doing so, companies must design organizational structures to capture entrepreneurial opportunities and draw corporate boundaries around the most promising areas. As a result, many activities that used to be organized in-house are now sourced from external service providers. Strategies of redrawing corporate boundaries started on a large scale in IT-outsourcing, when globally operating companies began to hire external business providers for managing data and information operations (Lee *et al.* 2003). Soon this practice became common in a growing range of corporate activities (Quinn 1992, Heracleous and Wirtz 2009), including custodial services, customer contact centers, payroll operations

consulting for a growing range of expertise and even contract manufacturing. Today, there is almost no business activity one cannot source from a specialized service provider in a competitive business service market.

To a significant extent, new business services do not necessarily contain substantially new or revolutionary activities (Lovelock and Wirtz 2011, p. 100-106). Rather, in many cases the crucial step in the evolution of a business service resides on the switch from internal to external sourcing of a process, activity, operation or asset. As a manufacturing company outsources to external service providers, the according share of GDP and employees are being moved from the manufacturing to the services sector.

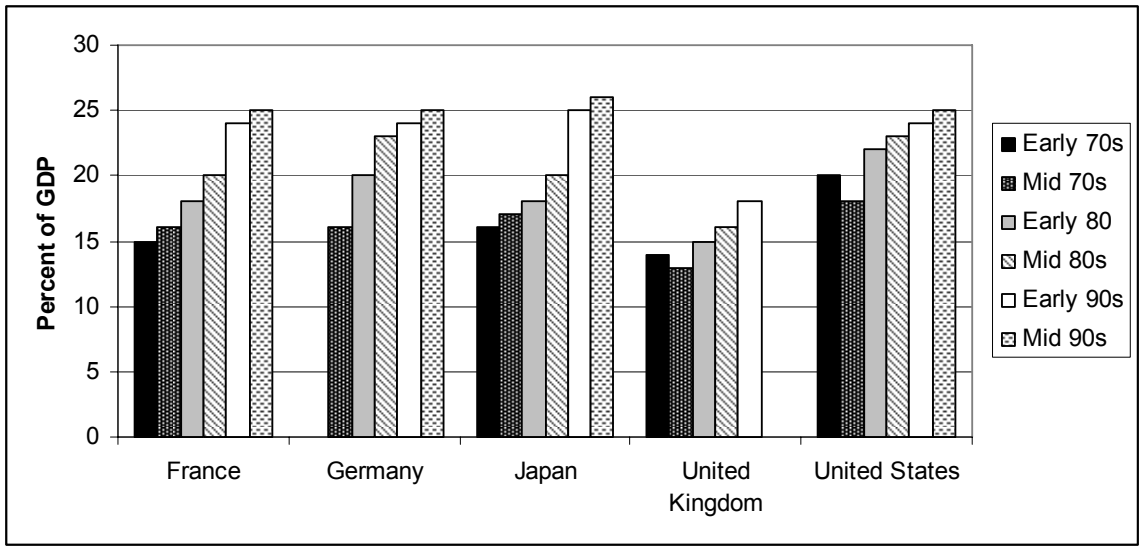
In the industrial age the name of the game was to search for productivity gains through smart division of labor ***within the firm*** (Smith 1986). In contrast, productivity growth in today's service economy relies on the division of labor ***between firms*** (Stigler 1952, Becker and Murphy 1992). As such, one salient feature of the service economy is the division of labor between organizations (Wirtz and Ehret 2009). This perspective provides service science with a number of challenges and opportunities. First, empirical research has started to take note of the role of the re-organization of business activities as part of the rise of the service economy. Second, we are just beginning to understand the theoretical underpinnings and conceptual implications of the division of labor between organizations for the growth and management of businesses. Finally, one widely neglected implication of the division of labor and outsourcing of activities is the role of services in driving innovation and resulting productivity growth.

In the following sections, we first present evidence for the central role of business services in restructuring our economies. Second, we explain the economic benefits firms enjoy by redrawing their organizational boundaries and argue the case for a non-ownership perspective. Third, we discuss the theory of the firm, division of labor and the value of business services for service innovation and growth using three related theories. They are the Property Rights Theory, Resource-Based View and the Entrepreneurial Theory of the Firm. We conclude by discussing the implications for service science.

2. The Rise of Business Services

Macroeconomic research has started to note the structural contribution of business services to economic growth. For example, OECD studies have identified a continuously rising share of business services in adding value to the output of manufacturing (Woelfl 2005, OECD 2008, see Figure 1).

Figure 1 The Rise of Value Added by Business Services as Inputs for Manufactured Goods



Source: Adapted from Woelfl (2005), p. 22.

Traditionally, economic research held that services lag in productivity behind manufacturing and therefore inhibit economic growth – a phenomenon called the "Baumol's disease" (Baumol 1967). This argument may apply to certain consumer services, where productivity may not be the purpose of service delivery or is hard to measure (e.g., an opera performance, a fine dining experience or a hair stylist). However, if services are supplied to

businesses, they can significantly contribute to productivity growth of manufacturing as well as the overall economy (e.g., Fixler and Siegel 1999, Oulton 2001, Wirtz and Ehret 2009). Indeed, studies show that business services used by manufacturing firms are the most important driver of productivity growth in developed economies, followed by the use of IT (Triplett and Bosworth 2003).

Why would business services improve the productivity of a manufacturing firm? Consider the following example. A manufacturing firm runs its own canteen with 100 workers, who in the national statistics are all classified as "manufacturing employees", and who produce "manufacturing output" (their output is captured in the added value created by their employer, i.e., the manufacturing firm). However, how good is a manufacturing firm in buying ingredients for cooking, designing and running kitchen processes, supervising chefs, and controlling quality and costs in a canteen? The general answer is that they would probably neither produce fantastic food nor be very cost effective. The reasons for this are threefold. First, the operation lacks economies of scale and is high on the learning curve. Second, the manufacturer does not have a lot of experience catering to many sites, which makes management, cost and quality control, and benchmarking difficult. Third, the firm has little incentive to improve processes or conduct R&D on that aspect of its business, mainly because of the low volume and low criticality of canteen operation to the overall business. As such, the canteen operation would neither justify much management attention nor significant investments in process improvements or R&D (Wirtz 2000, Wirtz and Ehret 2009).

Many manufacturing firms have recognized this problem and outsourced their canteen operations, most likely via a tender process with a renewal every few years. The winning bidder is likely to be a large catering firm or a firm that specializes in running canteens or kitchens across many sites. That company makes "operating canteens" its core competency, so the operation is managed with an emphasis on quality and costs (sites can be benchmarked internally), has economies of scale, and is way down the learning curve. It also makes sense for the firm to invest in process and service redesign and innovation as the benefits can be reaped across multiple sites. What used to be a neglected support activity within a manufacturing firm has become a management focus and core competency of an independent service provider calling for entrepreneurial responsibility and professional management.

What drives the division of labor between companies? A non-ownership perspective provides a partial answer to this question as discussed next.

3. Why Business Services? The Case for a "Non-Ownership Perspective"

When asked to define services, researchers tend to use specific characteristics of services like intangibility, heterogeneity, inseparability and perishability that reflect crucial management challenges of service businesses (Zeithaml *et al.* 1985, Lovelock and Gummesson 2004). An interesting feature of services that is not reflected in this standard categorization is revealed in the rise of business services. In many cases, the most substantial change when substituting internal operations to an externally sourced service is the introduction of an organizational interface drawing a line between a service provider and its client. The fundamental event that has transformed a manufacturing support-activity into a genuine service process is the division of labor between the client and the provider. The crucial difference is that the client has delegated responsibility and managerial control to an independent firm.

This resonates well with one stream of service research that argues that services provide value by liberating clients from costs and burdens of ownership (Judd 1964, Lovelock and Gummesson 2004). For example, you can enable yourself to use a car either by buying or renting one. Most economic statistics would classify the first case as a goods business, and the second as a service business. This is the basic idea underlying Lovelock and Gummesson's (2004) proposition of the rental-access paradigm of services. The main factor differentiating goods-centered from service-centered transactions relies on the transfer of ownership rights. In this light, services are simply transactions without the transfer of ownership rights, in contrast to trading goods for money.

In that light, services are a response to the fact that ownership burdens its holders with costs, responsibilities and liabilities that can outweigh its benefits (Moeller and Wittkowski 2010). As a car owner you are exposed to fluctuations in market prices and dependent on its current location. These features make car-ownership unattractive for the occasional transcontinental business or holiday trip, but much more attractive for frequent commuting or spontaneous rural escapes. However, if companies perceive assets and people as a burden, why do they find service providers who are willing to take on these responsibilities? One misleading implication of the rental-access paradigm would be to conclude that ownership is disappearing entirely in the service-economy. While services free users from burdens and responsibilities associated with ownership, service providers often assume ownership and see this as a business opportunity (Rifkin 2000). Business services build on the re-allocation of ownership from clients to service providers, rather than mere replacing ownership. But when and why does the re-allocation of

ownership and responsibility imply benefits? This question is at the heart of three related research streams on the theory of the firm, which we present next.

4. Theory of the Firm, Division of Labor and the Value of Services

4.1 Services and the Division of Labor between Firms

Why does it pay for firms to use external service providers in addition or as alternative to their own operations? In economics, this question has puzzled several research streams in the wider field of the theory of the firm. Why do firms exist at all within an efficient market economy? What costs and benefits affect their organizational boundaries? What events or forces call for redrawing these boundaries? These questions call for a clear understanding of what a firm does. They also explain the value contributed by external service providers for taking on tasks or value co-creation. We discuss three major streams of research that shape the core topics and challenges of that realm:

a) *Property Rights Theory* highlights the costs of ownership as a crucial factor playing in favor of business service providers who can act as the efficient owners of assets.
b) *The Resource-Based View* identifies the unlocking of valuable management capacity from unpromising non-core activities as an important value proposition of business service providers.
c) Finally, the *Entrepreneurial Theory of the Firm* conceives the use of external service providers as an important way for firms to navigate their organizational boundaries to their most promising business opportunities.

We discuss these three interrelated streams more in-depth in the subsequent sections.

4.2 Property Rights Theory: Services as an Alternative to Ownership

From its early days, service research has highlighted the value of services as an alternative to owning goods for obtaining value. A firm has the alternative to use its own assets and employees to produce the services it needs, or to buy these services from external providers. Property Rights Theory analyzes factors and conditions for optimal own-versus-rent decisions. At its heart, this theory is concerned with the efficient size and boundaries of the firm. The boundaries of the firm are defined by the ownership titles it holds for assets such as machines, inventories or intellectual property (Grossman and Hart 1986). An important implication for service research is a framework for deciding when a firm should use external service providers rather than its own assets and people.

Property Rights Theory was developed for the analysis of economic issues arising from the shared use of assets. Assets are valued for their potential services (Barzel 1997). For example, commuting or leisure driving are part of a car's service potential, while potential valuable output produced is that of a machine. Property rights contain (1) the right to use an asset (ius usus), for example using a machine for manufacturing, (2) to change its form and substance (ius abusus), for example changing parts and components of the machine, (3) to obtain income or other benefits (ius fructus), that is, renting the machine to a third party, and (4) to transfer all residual rights, for example selling the machine (ius succesionis) (Furubotn and Pejovitch 1972).

Contracts can be used to share valuable assets, define the terms of property rights across several parties and thereby put assets to their most valuable use. This works under the assumption that contracts accurately reflect the different valuations of the various services of an asset to the sharing parties, and that enforcing the terms of contracts is costless. In such a perfectly-known world, the institution of ownership would not matter as all economic actors simply rent what they need according to their valuation, thus ensuring the highest valued use of an asset. But according to Coase (1960) this is unlikely to hold, as writing and enforcing contracts is costly, and fundamentals of valuations are exposed to uncertainty. Under such conditions ownership does provide value.

When is it beneficial not to own an asset? Building on Coase (1960), Property Rights Theory highlights factors that render owning assets inefficient and play in favor of external service providers. Mainly two types of costs decide if using a service provider is more efficient than ownership.

First, *measurement costs* need to be incurred when determining the value a collaborating partner contributes in order to enforce the terms of a contract. If the output of an activity can easily be measured and enforced, service contracts tend to be the more efficient solution. If measurement costs are high, or measurement is unfeasible at all, the firm is better off by assuming ownership and managerial authority (Barzel 1997). Thus, industries tend to favor vertical integration to explore value mechanisms in early stages of their life-cycle, while the share of externally sourced services rises once critical value drivers are well understood and performance measures are easily established and maintained. Once managers are able to define performance indicators, establish measurement

methods and enforce contract terms, external sourcing of a service becomes a feasible option and is increasingly used.

Second, *governance costs* affect efficient allocation of property rights. Governance costs accrue from investments in specialized assets such as a highly customized machine. In the hands of external service providers these assets become a powerful negotiation weapon, enabling them to hold-up their clients and re-allocate profits. For that reason US-car companies used to insist on owning machines and equipment operated by their suppliers (Williamson 1971, 1985, Hart 1995).

Thus, Property Rights Theory proposes the guiding principle that users of specialized assets should be equipped with ownership rights that grant them residual control. From a governance-cost perspective, external sourcing is favored as soon as an asset class has lost its specific character. For example, as soon as a manufacturing process or technology has become common "best practice", the benefits of vertical integration are diminished in favoring ownership by an independent, specialized service provider (Grossman and Hart 1986, Hart 1995).

To summarize, Property Rights Theory provides an organizing principle by which ownership of an asset is efficient in the hands of that economic party that is in the position to maximize its value. If not in this position, firms should use external service providers to contract for the assets' services. In maturing industries, assets tend to lose their specific character and companies become more capable of measuring value contributions. This leads to an increased division of labor between companies, where downstream companies tend to source a growing share of services from upstream service providers who specialize in asset-ownership. Industrial manufacturing is a point in case, where a growing range of assets is being managed by external service providers. For example, facility managers maintain office and factory buildings, contract manufacturers direct production, and performance contracts delegate responsibility for machines to operating companies, often times related to the machine vendors.

As a guiding principle implied by Property Rights Theory, firms should assume ownership over specific assets, and crucial but hard to measure elements of the value creation process. Otherwise they should hire external business service providers.

4.3 Resource-Based View: Management Capacity and Growth Opportunities

The Resource-Based View emphasizes the aim for growth as a driving factor of the division of labor between firms, and highlights the role of management in shaping the competitive position of a firm (Prahalad and Hamel 1990, Wernerfelt 1984, 1995). According to the Resource-Based View, the firms themselves are the tools and sources for differentiation. In their pursuit for growth, firms strive to build unique capabilities in order to capture rents not available in undifferentiated markets. Penrose (1959) pioneered this approach by providing a conceptual framework for investigating the key-factors that affect a firm's growth. She started from an assumption similar to the Property Rights Theory approach: Resources are bundles of different uses, and consequently, resource value is derived from the services they are applied to (Penrose 1980). Firms differentiate themselves by developing unique capabilities for the use of resources. This perspective makes management (in a broader sense) the decisive force that differentiates a firm and affects its growth.

One important strand of the Resource-Based View investigates how companies can cultivate resources that drive their differentiation. These resources include "those (tangible and intangible) assets which are tied semi-permanently to the firm," such as brand names, in-house knowledge of technology, employment of skilled personnel, trade contacts, machinery, efficient procedures and capital (Wernerfelt 1984). A key force driving the growth of the firm is based on the perception of growth (or differentiation) opportunities by the firms' management (Penrose 1959). Management shapes the growth opportunities of a firm in two ways: (1) A firm can only target that fraction of its growth opportunities that its management capacity allows it to address. Unlocking management capacity is imperative for taking on growth (Penrose 1959, p. 43-64); (2) Unlocking management capacity requires a firm to prioritize its management's attention on areas that promise growth opportunities and delegate remaining areas to external service providers.

There are important implications of the Resource-Based View for the rise of business services. A company's ability to exploit new entrepreneurial opportunities is constrained by its managerial capacity. Service companies provide the means to delegate management responsibilities and unlock scarce management capacity of their clients. The vision of the Resource-Based View is the intelligent enterprise that frees its management capacity for the pursuit of the most promising and profitable business opportunities, while delegating complementary activities to a network of world class service providers (Quinn 1992). As a guiding principle implied by the Resource-Based View, companies should design their boundaries in order to focus on their core competencies. The Resource-Based View highlights one genuine value proposition of business service providers: They empower the management of their client companies to focus on their most promising activities by relieving them from non-core responsibilities.

In sum, the Resource-Based View provides a compelling argument by highlighting managerial capabilities as a crucial factor that limit growth opportunities of a firm and therefore calls for the delegation of managerial control to specialized service providers.

4.4 The Entrepreneurial Theory of the Firm: Shifting Boundaries of the Firm

While Property Rights Theory highlights economic efficiency criteria affecting the boundaries of the firm, the Resource-Based View focuses on the role of specialization of management. But both approaches do not tell the whole story. Property Rights Theory provides a "snapshot" view and thereby neglects dynamic factors that might explain shifts in ownership or imply new modes of division of labor between firms. The Resource-Based View focuses on growth conditions of firms and is thus much better equipped to deal with change, but it lacks a valid criterion for defining boundaries of the firm. For example, in business networks, resources and capabilities are shared across organizational boundaries (c.f., Dyer and Singh 1998, Ghosh and John 1999). It is the major contribution of the Property Rights Theory to highlight the role of asset ownership for sharing responsibilities, providing incentives and distribute profits in co-creation processes. If we want to understand the evolution of business services we need an approach which puts ownership in a dynamic perspective. The Entrepreneurial Theory of the Firm provides salient elements for such a framework.

Research in economics (e.g., Schumpeter 1934, Schmookler 1966, Kirzner 1973, Baumol 1993, Lewin 1999), and strategic management and organization (e.g., Shane and Venkataraman 2000, Alvarez and Barney 2004, Foss *et al.* 2007) has highlighted how entrepreneurs shape organizations and how organizations support entrepreneurial action, thus providing a framework for explaining the dynamic forces that affect the boundaries of the firm and the rise of business services.

Broadly conceived, entrepreneurial action is concerned with the exploration and exploitation of profit opportunities arising from either un-served needs or un-used resources in an economy (Kirzner 1997, Shane and Venkataraman 2000). Firms show a Janus-face, one half consisting of individual perceptions and visions of business opportunities, and another half consisting of organizational resources, rules and routines that help them shape and exploit profit opportunities (Lewin 1999). Kirzner (1973) highlighted the role of the entrepreneur as an agile agent who identifies opportunities overseen by ordinary market participants and takes action to profit from them. Arbitrage is its simplest form – buying low from ignorant sellers and selling dear to ignorant buyers. Kirzner (1973) maintains that arbitrage is just a simplified version of a universe of profit opportunities that can be exploited by more complex commercial activities such as manufacturing, trade or R&D. Entrepreneurs enhance the range of business opportunities by mobilizing capital and knowledge, and by developing efficient routines and processes through the means of business organization within a firm (Mises 1949, Klein 1999).

While everyone has some potential for acting entrepreneurial, economic organization can provide a substantial leverage for entrepreneurial activity. For example, the evolution of the mass market for automobiles was not only driven by a visionary entrepreneur who perceived the potential for individual means of transportation, but also by the design of an organization that mobilized capabilities and resources for its exploitation. In a nutshell, entrepreneurs are the lifeblood directing firms to profitable opportunities, while firms provide entrepreneurs with capital, resources and an infrastructure that can enhance entrepreneurial opportunities and their exploitation (Lewin 1999, Sautet 2000, Foss *et al.* 2007).

This entrepreneurial perspective has decisive implications for the role of ownership and property rights in shaping economic growth and the demand for business services. From an entrepreneurial perspective, ownership is a tool for shaping and directing entrepreneurial processes like experimenting, exploring and exploiting business opportunities (Foss *et. al.* 2007). Firms use ownership in order to direct resources to expected higher valued uses, based on an entrepreneurial vision and a business model that contains a unique value proposition (Foss *et al.* 2007). Equity-ownership is the instrument to reap the returns and bear the risk entailed in entrepreneurial projects and thus is used to attract resources for the deployment of entrepreneurial projects (Knight 1921). Ownership is linked to the scope of entrepreneurial projects for a firm, and subsequently shapes its boundaries on resource markets. From an entrepreneurial perspective, resources and activities not related to the entrepreneurial focus of the firm should be sourced from external service providers.

In this perspective the opening-up of business models and the rise of business services are flip-sides of the same coin. Their appetite for growth and the pressure of competition forces firms to direct their capital to the most promising business opportunities. This implies a continuous review of core-activities and a subsequent restructuring process. Firms started with the outsourcing of routine operations and are now in the position to use external service providers for almost any function, operation or asset-class. As a result, firms are transforming into "intelligent enterprises" (Quinn 1992) that can rent almost every conceivable activity or asset type as a service, while focusing on areas of un-served needs of customers or underused potential of resources.

5. Conclusion: Value Drivers of Business Services

What drives the rise of business services and the subsequent growth of the service economy? Building on the theory of the firm, we have identified the following key economic forces:

a) Business services provide the means to draw efficient boundaries of the firm. Service providers generate value by acting as owners of assets, employers of people and owners of processes that have lost their central position in the investment agenda of a firm. Property Rights Theory highlights the efficiency conditions (i.e., measurement and governance costs) of an observed situation in a snap-shot mode and determines the efficient division of labor between provider and client.

b) Business service providers enhance the growth potential of their clients by freeing their management capacity to focus on the firm's most promising growth opportunities. The Resource-Based View implies a more dynamic perspective revealing strategic shifts of a firm's boundaries towards market opportunities.

c) The Entrepreneurial Theory of the Firm proposes the firm as a tool for entrepreneurs to explore and exploit business opportunities. To some extent it shares the dynamic perspective and core arguments of the Resource-Based View. It highlights ownership and contracts as tools for entrepreneurs to assume control (and the entrepreneurial risk and returns) through equity of their most promising projects. This theory thus provides an explanation of a firms' shifting boundaries that are shaped in response to shifting perceptions of entrepreneurial opportunities (Dyer and Singh 1998, Ghosh and John 1999). Entrepreneurial projects are also the dynamic factors that change efficiency conditions investigated by Property Rights Theory (Nooteboom 1992, 1993). Thus, the Entrepreneurial Theory of the Firm identifies the common denominator of the diverse perspectives concerned with the boundaries of the firm. In a nutshell, business services support their clients in navigating them to the most promising business opportunities.

There is one common implication of these three streams of research and theories: Division of labor between organizations drives business performance, economic value and growth. Businesses and economies thrive when organizations focus on areas where they can make a difference, be it a machine, a manufacturing process or a specialized area of knowledge. Service-based enterprises get the triple benefit of having professional companies managing their assets and resources, the unlocking of management capacity to pursue growth opportunities, and efficient access to assets and activities that are not critical for capturing core entrepreneurial opportunities. As such, business services are a salient feature of venturesome economies pushing the boundaries of economic growth and development (Bhide 2008).

The field of business services opens-up a boon of opportunities for service researchers. We highlight the three of the more challenging but potentially rewarding areas in service research:

a) *The transformation of products into service-platforms:* As the service-economy rises, boundaries between products and services increasingly blur. In that regard smartphones have become the signature gadgets that act as a service-platform linking users to a network of service providers via the "app-economy" (MacMillan *et al.* 2009). In a similar fashion the rise of industrial services has transformed many industrial products into service-hubs such as Rolls-Royce's shift towards selling engine powerhour by the hour (and assuming ownership of the engine and all related service processes, Lovelock and Wirtz 2011, p. 18). One current research challenge is to re-align design processes originally devoted to product development to keep up with the challenges and needs of the emerging service-systems (Brown 2009). Thus we need design approaches that take service experiences and performances into account that are typically not reflected in the spec-sheets and performance indicators that are used to direct industrial design-processes.

b) *Service-driven innovation:* In its infancy the service sector was associated with low growth potential. This notion is changing as we are beginning to understand the role of business services in supporting growth opportunities of firms. Business Services are crucial for opening up business models and therefore have become a powerful means for enhancing performance of existing firms, providing opportunities for new firms and thus keeping economies on a growth path. The service economy has become an innovation force in its own right. One of the most striking phenomena in this respect is the transformation of one of the hitherto core functions of the industrial corporation into a service industry: R&D. Accelerating costs and increasing volatility of innovation rents have forced companies to open up their business models. As a result, firms are increasingly building on external inventions while

becoming more agile in using external partners for commercializing their own achievements (Arora *et al.* 2004, Chesbrough 2006). Biotech is a point in case (Pisano 2006), where in advanced economies 70 percent or more of R&D budgets are managed by specialized service providers (Beuzekom and Arundel 2009). With respect to their role as a force of organizational innovation (Bhide 2008, Callaway and Dobrzykowski 2009), business services have arrived at transforming the way innovation is generated and commercialized.

c) *Services contribute to the opening-up of business models:* Innovation research has highlighted the potential of open business models (Chessbrough 2006). Qualcomm followed this strategy by licensing its IP for digital mobile-communication-technology to handset-makers and equipment-vendors (Mock 2005). But the same model that earned the firm respect in high-tech circles and fame on the trading floor failed in other markets such as digital cinema (Chesbrough 2006) and Biotech (Pisano 2006). While research has shown the potential of opening-up business models, it lacks a consistent theory and research framework to analyze benefits and drawbacks of these models on the same footing (Chesbrough 2006, Pisano 2006). Here, entrepreneurial contracting provides the conceptual underpinning for a research program on the performance of business-networks based on sound division of labor between firms.

One of the ambitions of service science is to reveal systematic forces driving the performance of service-systems (Chesbrough and Spohrer 2006, Maglio and Spohrer 2008). Division of labor between firms by the means of business services is one of the most powerful of these forces. It provides growth opportunities for clients, opening of markets for specialized service providers and fostering growth potential of economies. Thus, performance of business services is shaping the fate of businesses, industries and economies, as well as the well-being of society. Thus it deserves a prominent position on the agenda of service science research.

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