Appropriability in Services

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ABSTRACT AND KEYWORDS	
Abstract	Services constitute a major part of the economy, and, contrary to popular believe, service firms do innovate. In this paper I take a closer look at one aspect of innovation in services: appropriability. I discuss the different elements that are possibly of importance for appropriability, and discuss one element in more detail. Reputation has been argued to be decisive when service firms try to appropriate the benefits of their innovative activity. In this paper, some suggestions are brought forward that will be useful in thinking systematically about reputation-shaping mechanisms.
Free Keywords	Innovation, services, appropriability, reputation

Appropriability in Services

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ABSTRACT:

Services constitute a major part of the economy, and, contrary to popular believe, service firms do innovate. In this paper I take a closer look at one aspect of innovation in services: appropriability. I discuss the different elements that are possibly of importance for appropriability, and discuss one element in more detail. Reputation has been argued to be decisive when service firms try to appropriate the benefits of their innovative activity. In this paper, some suggestions are brought forward that will be useful in thinking systematically about reputation-shaping mechanisms.

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Appropriability in Services

Services constitute over two-thirds of gross domestic product in many counties and almost 75 percent of employment. Nevertheless, the services sectors have not enjoyed the attention from scholars in management and economics that such numbers would seem to merit. Approaches and developed for manufacturing industries have been used to study the services industries. Opinions about the usefulness of using approaches developed for manufacturing in a service context vary, however (Drejer 2004). What does seem clear is that managing a service providing firm differs substantially from managing a firm that manufactures physical products (Ford & Bowen 2002). One area in which the discussion about innovation in services has been almost completely dominated by the insights from manufacturing industries is that of appropriability. In this short contribution, I will establish to what degree the discussion of appropriability as found in the literature on innovation in manufacturing industries is relevant for services, and suggest an extension of that literature that is particularly relevant for appropriation of benefits arising due to innovation in services.

Some time ago, Levit (1972) has claimed that the difference between products and services is inconsequential: “There is no such thing as a service industry. There are only industries whose service components are greater or less than those of other industries. Everybody is in service.” Others take a more nuanced view on the differences, claiming that there are differences, but that products are not *fundamentally* different from services (Dolfsma 2004). Rather, there is a continuum between them, with many goods being located in the middle (Shostack 1982; Johne & Storey 1998). Where services are seen as differing from products, their intangibility, co-production between provider and buyer, their perishable nature, and the subjective nature of their perceived quality are mentioned (Cook et al. 1999). In this contribution, I will look at appropriability issues related to new service development (NSD). Some have argued that the reason for service industries not to appear to be innovative is that they are less likely to appropriate the benefits of their innovations (Sundbo 1997). This view is supported by findings about the majority of service providing firms indicating that the majority of the ideas that they have for creating a new service stem from competitors (Johne & Storey, 1998, p.223).[1] Others dispute this claim and are able to provide empirical evidence to make their case (Miles & Boden 2000). The appropriability regime (Teece 1986) faced by service firms will have some effect on their innovative activities, if not in terms of the extent to which they are likely to be innovative, then in terms of the direction chosen. A first step towards such an assessment is to discuss what the appropriability regime for services looks like, and if it is different from that of manufactured goods. This paper aims to do so, arguing that many of the traditional elements of an appropriability regime do not apply to services, but that service providing firms have one particular additional source for appropriability: its reputation.

1. Innovation in services

Innovation in service industries has for a long time been considered a *contradictio in termines*. As innovation for a long time tended to be measured by R&D input or output measures, service industries seemed not to be innovating. At the least, the innovative efforts of services sectors were underestimated (Brouwer & Kleinknecht 1997). Few firms providing services, for instance, have a formal research department. This relates to the characteristics for services (Gadrey et al., 1995; Chase et al., 1998; Sirilli & Evangelista, 1998; De Brentani, 1989); services are:

- Intangible,
- Co-produced between firm and customer,
- Perishable,
- Experienced or heterogeneous.

As much as the provision of services to a customer is a process of co-production, so is the development of new services in many cases a direct response to an expressed need of a customer. As such, even the agents directly involved may not perceive the newly developed service as an

[1] In general, though, Baumol (2002) has estimated that 80% of the benefits due to innovation does not accrue to the parties directly or indirectly involved with the innovation in the first place.

innovation. Innovation in service industries is often of an ad hoc kind (Gallouj & Weinstein 1997; Kelly and C. Storey 2000; Sundbo 1997). Still, it is known that formalizing the innovation process for services would benefit the firms involved (Foehle et al. 2000; de Brentani 2001). The characteristics that distinguish services from physical products make it difficult, however, to find natural ways to formalize the innovation process (Dolfsma 2004), for instance to make it a process that can be evaluated by parties not immediately involved in an innovation project. Separate steps in an activity based model such as the Booz-Allen-Hamilton model tend to be skipped or will not be acknowledged (Easingwood 1986; Debackere et al. 1998). Service production, but also innovation is often a matter or result of co-production, with a limited role for a back-office. In situations of co-production, there are less likely to be others involved in the further development of a service than the person actually providing it. Diffusion of the innovation across a firm is therefore more limited (Nambisan 2001). In addition, the co-production nature of service providing and innovation further means that the quality of the service is very much dependent on the perception of the customer, *and* dependent on the willingness and ability of the consumer to actually *co*-produce (Ford & Bowen 2002). Service innovations often entail organizational changes in the firm providing the service, as "to produce a service is to organize a solution to a problem […] it is to place a bundle of capabilities and competences at the disposal of a client and to organize a solution" (Gadrey et al. 1995; Gallouj & Weinstein 1997; Edvardsson & Olsson 1996). The distinction between product/service innovations on the one hand, and process innovations on the other thus blurs (Bitran & Pedrosa 1998). The more a service is like a physical products, however, the more a formal approach to innovation is appropriate, using tools that have been developed for manufacturing sectors of the economy.

2. The appropriability regime for services

Teece (1986) has suggested that the appropriability regime, the circumstances a firm is confronted with and can only marginally affect, at least in the short run, that allow it to reap the fruits of an innovation consists of four elements. These elements are:

- the nature of technology or knowledge, and most notably whether it is tacit (rather than codified), or related to the process (rather than the product);
- the legal environment, and most notably intellectual property rights such as patent and copyrights, but contract and labor laws as well;
- the establishment of a dominant design, and most notably if that design is one's own design or at least compatible with it; and finally
- complimentary assets, and most notably the extent to which an innovator commands critical, specialized complementary assets.

Not all of these elements may be relevant for innovation in a services context, or they may not be relevant to the same extent. What is more, as for manufacturing industries, for some firms or even sectors within the service industries they may be more relevant than for others. As the heterogeneity of service firms is bigger than of manufacturing firms, this particularly complicates the discussion about appropriability of service innovations.

In a recent contribution, the extent to which intellectual property rights apply to products as opposed to services is presented as their prime distinguishing factor (Nambisan 2001). Legal protection from imitation of innovation in the service industries is generally weak. For manufacturing industries, it can but need not be strong (Levin et al. 1987). In such a case Nambisan suggests "the only way to maintain competitiveness is to pursue rapid innovation and to bring a continuous stream of upgrades that maintain the product's uniqueness" (Nambisan 2001, p.73).

It is true that the appropriability regime – as Teece (1986) has coined it – for service industries is generally weak in many ways. Patents generally do not apply for service innovations, although the possibility of patents on business models might offer opportunities also for firms in service industries such as Amazon. As innovation in services is almost inextricably bound up with implementing changes in the organization, patents for business models seem particularly attractive for service firms. Patent protection for business models can only be obtained in the United States, however, and even there discussion on their desirability is intense (cf. Dolfsma 2005). What is more, the criteria that there must be in inventive step, the possibility of an industrial application and the involvement of a physical component still apply, limiting the number of patents for business models that will be granted. As more business models are patented in the United States, the 'prior art' that is used to evaluate each new application on its inventive step grows, decreasing the likelihood that a new application for a patent on a business model will be granted. Copyrights offer a much weaker legal protection than patents do. The expression of an idea (for a new service) is protected, but that hardly prevents others from taking the idea expressed in, for instance, a business plan or a script, to start providing a similar service as the innovator. In many cases a service, or the process of providing a services is not expressed in writing, and so will not be protected by copyright anyway. As for manufacturing firms, trade secrets are an option. The effectiveness of trade secrets depends on the contracts that must be used to protect them be upheld in the courts. Contracts that include strict clauses will not be upheld. Even when they will not be challenged in the courtroom, such contracts will de-motivate employees and limit the scope for cooperation (Miles & Boden 2000). Given the intangible nature of services, and given that they are co-produced with the consumer, the possibility of using contract law to ensure that the consumer does not appropriate an undue share of the benefits of an innovation by the firm that has provided the service in the first place is more limited than for products.

Teece distinguishes other sources that contribute to an appropriability regime. One is the 'dominant design' – the exact way in which consumers in the market want (features of) a good to look like. The haphazard way in which new services are developed, makes the concept of a dominant design not as useful as it is for physical products. The ease with which versions of a service are made, often in a situation of direct co-production, is another reason why the emergence of a dominant design is difficult to pinpoint. Therefore, a firm providing a service that becomes the dominant design as recognized in the market is less likely to have a position of sustainable competitive advantage than in manufacturing. Services are also much more tied to a more circumscribed geographical region than manufactured products - any market for services in which a dominant design is to emerge will be relatively smaller than for products. More fundamentally, the discussion of dominant design is predicated on the ability to distinguish product innovations from process innovations, which is something that needs not be possible, as discussed earlier. Teece's third element in an appropriability regime – complementary assets – similarly offers less opportunity to appropriate benefits as innovator from the innovation than in the case of manufactured goods. Services being provided in a direct interaction between customer and firm, the complementary assets of which Teece speaks of as a reason for firms to be able to appropriate the benefits of an innovation, are not as likely to play a role as would be the case for newly developed physical products. The complementary assets are either possessed by the individual who actually provides the service or they are not. If critical, specialized complementary assets are not commanded by a service firms this can often not be established prior to the actual act of the service being provided (as will become clear later), and may in addition actually not be clear to the customer even as or after she has been provided with the service is provided due to a possible bias in the perception of the customer that may or may not be induced by the service provider.

Teece's 'nature of technology' is a source for service providing firms to appropriate the benefits of their innovative activities. Innovation in services most often entails a change in the way in which a service-providing firm is organized; service innovation therefore is much like a process innovation in manufacturing. Teece rightly claims that process innovations are relatively difficult to imitate by competitors. The co-production element in the provision of services, as well as the development of new services, points to the relative importance of tacit knowledge, when compared to manufacturing. The element of what Teece calls the 'nature of technology' generally is an important source for service providing firms to appropriate the benefits of innovation: they entail changes in the processes of a firm, and involve tacit knowledge.

3. Reputation

Despite the generally weak appropriability regime for services, "innovation in services is [not] being substantially deterred by ease of imitation".[2] There may, however, be other important grounds for service firms to be able to appropriate benefits from having developed a new service, for instance a

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[2] The more localized nature of the market for services can probably help explain this as well (see Miles & Boden 2000, p.162). Still, as Van der Aa & Elfring (2002) argue, an important way in which service firms may innovate is by establishing multiple small-scale units based on the same concept. Such services still cater to highly localized markets, though.

firm's reputation. Many scholars have pointed to this factor, but few have studied it systematically. Terrill, for instance, is adamant about the point that: "Image and identity are critical for any new service offering. […] new services must rely on faint and trust to convince the customer to repeat the purchase" (Terrill 1992, but also Ford & Bowen 2002). De Brentani concurs, saying, "buyers frequently rely on company reputation when evaluating a new service" (De Brentani 1989, p.244). Avlonitis et al. argue that a firm providing services can be overly innovative, thereby hurting itself in terms of financial indicators, but making "the strongest contribution on non-financial performance", including company image, building loyalty and attracting new customers (Avlonitis et al. 2001). For financial services it is known that it takes only six months for competitors to come with a imitation of a newly developed service. The competitive advantage there too is a firm's reputation, which takes at least five years to establish (cf. Menhart et al. 2002). A firm's reputation will mean that it is more likely to persuade consumers of the value of the new service they offer, and at the same time it means that competing firms are less likely to be able to persuade the market that its services are to be considered.

The importance of reputation is evident from the extent to which some firms use the legal possibilities available to protect the creative expressions that are a sign of their reputation. Design patents, but most importantly trademarks are used to establish and maintain a reputation. The fast-food chain McDonalds is an example of a firm that takes this legal means to protect its reputation to extremes as it knows how important reputation is to maintain its position (McMillan 2001, p.103ff). As services provision as well as new service development is inseparable from organizational considerations on the one hand, and, on the other hand, the actual provision of a service, but also the development of a new service entails the implication of the customer firms providing services may ask themselves the following two questions:

- How do customers determine the value of the service provided?
- What other parties, if any, are involved in the determination of the value of the service provided?

Outsiders will be more involved in establishing a reputation for service firms than for firms in the manufacturing industry, a reputation on the basis of which consumers will buy its services rather than those of a competitor. The first question, I suggest here, is best answered in terms of the category suggested by Zeithaml (1981) distinguishing between search, experience and credence goods. Search goods are goods of which the qualities are readily discernible, from their appearance, often before purchasing them. The consumer can only determine the value of experience goods after purchase, by using or experiencing the good. Credence goods are goods for which a consumer finds it next to impossible to determine the value. He therefore relies on the judgment of others besides the provider and himself to determine what value the good has for him. These three types of goods coincide, I would like to suggest, with three different types of selection systems (Wijnberg 1995). This will be elaborated in the subsequent section.

4. Building Reputation: Selection & Type Goods

If, then, "image and identity are critical for any new service offering […] new services must rely on faint and trust" (Ford & Bowen 2002), the issue then becomes what the relevant circumstances are for service providing firms. Here I would like to offer a framework that relates two concepts that shed light on the way in which reputation is established. One is the well-known distinction between search goods, experience goods and credence goods (Zeithaml 1981). Given that services are a co-production between service provider and customer, given that they are intangible, and specifically given thus (inter) subjective nature of their perceived quality, services tend to be experience goods or credence goods. If what Zeithaml observes – "service quality benefits are rarely experienced in the short term and instead accumulate over time" (Zeithaml 2000) **-** is correct, services would in most cases be credence goods.

Certainly where credence goods are involved, but to some degree where experience goods are involved as well, customers' valuation of goods depends on what others state about it. To come to grips with the role of others besides the individual consumer, it is useful to distinguish between different selection systems (Wijnberg 1995). Wijnberg (2000) has suggested a useful way to distinguish between three selection systems each of which one may observe in market situations, each having a different effect on the outcome of the market processes. For that reason, it is useful for the management of a firm to be aware of them. In the market system, anonymous agents select what is valuable and what is not; the valuation is reflected in the price. This selection system works well for search goods, as their characteristics are easy to determine. Market selection is selection of a good by the consumers on the market without one of them being in a position to influence the process significantly. This is the situation much akin to the perfect market as known in the standard economics from the textbooks. In many real markets, consumers rely in their decisions to purchase for some goods on the judgments made by people from among themselves before they purchase the good. This is a situation that scientists know from the way in which (most of their) intellectual output is processed for publication in scholarly journals, a selection system that can be characterized as peer selection. Thirdly, only people who are not a part of either the group that provides them judge some goods or of the group that purchases them. Outsiders, or 'experts,' then make the selection.

Figure 1: Selection, Product Characteristics & Appropriation

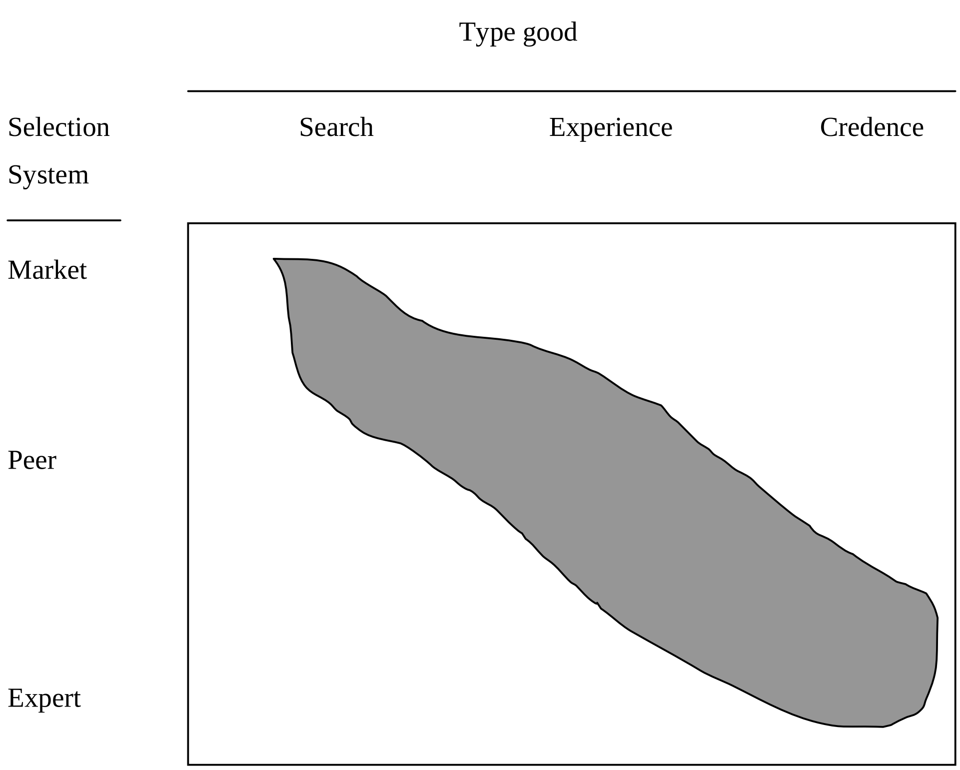

Figure 1 suggests feasible combinations of types of good on the one hand, and selection systems on the other. Cases outside of the shaded area are not sustainable it is suggested; search goods are best selected in a system of market selection, experience goods best in peer selection, and credence goods best by expert selection. In relation to services, and especially newly developed services, only the latter two types of selection systems are relevant. As services are a co-production between provider and customer, their qualities cannot be determined prior to purchase, they cannot be searched for. Services are thus either an experience good or credence good. Established services such as a hair cut may appear to come close to being a search good, but the quality of a hairdresser is subjective and in many ways incomparable to the service provided by the same hairdresser to other customers. One would have to consult others whom one believes to make similar judgments as yourself to ask about their experiences. More complex, unique and new services are mostly credence goods. External parties are needed to suggest the quality of the service likely to be provided. The reputation of the actual provider of the service might substitute for the expert opinion, but such a reputation is usually highly vulnerable and can only be established by prior (and most of the time: continuing) involvement of third parties.

The quintessential example of a service is the haircut. When a new hairdresser sets up shop, it is not known what the quality of his service will be. The hairdresser needs to persuade people to experience his services first. Only then may he hope to attract larger numbers of customers as these learn from their peers about the quality of the services rendered. Using peers to persuade a larger audience to demand the services of a firm is not an easy matter, however. The quality of a service is subjectively determined, and so the value that one person gives a service will differ from that of another. As information is distributed a-symmetrically and people's interests may not coincide, a person who considers making use of the services of the newly established hairdresser needs to grapple with uncertainty.[3] The more a haircut is presented or seen as fashion, the more it thus becomes a good whose value cannot be determined by the consumer himself but is instead determined by others. People outside the group of peers – 'experts'- determine the value of credence goods. Commentators

[3] These are not unknown circumstances; see Baliga & Sjöström (2001) for an application in work-settings.

in magazines such as Vogue and Vanity Fair are such acknowledged experts who are thought to be better informed about what is fashionable. Indeed such experts help create fashion itself. Firms will need to consider their relation vis-à-vis such experts. A firm may want to develop ways in which to try to influence such experts, or a section of them.

Consulting is a service that is, in many cases, a credence good. The value of consultancy for the firm that has hired a consultant is difficult to establish even after the service was rendered. Effects will only be clear in the course of a number of years, and may be canceled out by events that occur in the meantime. When a firm decides it needs the services of a consultant, the consultant's reputation will be among the most important characteristics to consider. A consultancy's reputation takes long to establish but is easily lost. Having a history as a consultant that draws many similar clients certainly is important in persuading a new client. As it is for (criminal) lawyers, being a consultant that is mentioned and recognized in the media is important as well. The media in this case is an external party that validates. Likewise, being admitted to or recognized in a trade union helps establish a reputation. The workings of, e.g., bar associations have this effect. In certain fields, being hired in the past by the government or another large (non-peer) customer, preferably in a high-profile case, may be such a sign that experts have found your services of value. It may be worthwhile for a firm to be hired under conditions that are less attractive and thus invest in one's reputation.

For services, only the combinations of experience goods in combination with peer selection, and credence goods in combination with expert selection are sustainable. When a good is an experience good, outside experts' opinion will not matter much in the evaluation of the service. In case of a credence good, the opinion of peers, or the signals from the market (price) mean little as experts are needed who are better informed than peers are.

5. Conclusion

Innovation in services is recently gaining attention from management scholars and economists as an important and yet neglected field that merits study. Many service firms do innovate, but their efforts are generally not well structured or focused. New services are, in principle, easy to imitate; the appropriability regime for services is generally weak. Nevertheless, this does not prevent firms from innovating. An important asset that a service firm may have that would allow it to appropriate benefits from its innovative efforts is its reputation. As the value of services is difficult to establish, others play a role in that process. It is shown that when buying experience goods people rely on peers to establish the value. For acquiring credence goods, outside experts are needed. For firms providing services, it is important to know what type good they offer. It directs them to the kinds of people or organizations they need to approach to (help) attract new customers.

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