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## **Services, innovation and performance: general presentation**

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This special issue of the Journal of Innovation Economics is given over to services considered from the point of view of innovation and performance and against a background of sustainable development. Although contemporary economies are undeniably service economies, since services are now our main source of wealth and jobs, the relationship between services, on the one hand, and innovation and performance, on the other, continues to be a matter of considerable debate. Thus in the still dominant industrialist or technologist approach to this relationship, innovation efforts and performance levels in services are underestimated. It is this approach that is responsible for the existence of two gaps: an innovation gap and a performance gap (Djellal and Gallouj, 2010). The innovation gap indicates that our economies contain invisible or hidden innovations that are not captured by the traditional indicators of innovation, while the performance gap is reflected in an underestimation of the efforts directed towards improving performance (or certain forms of performance) in those economies. These gaps may have harmful consequences for the validity of the public policies implemented at national or European level. Since they are based on imperfect or even erroneous forecasts, these policies may also prove to be inappropriate. These gaps have their origin in certain more or less ancient myths about the fundamental nature of services (Gallouj, 2002) and the errors of measurement associated with them. The aim of this special issue is to help fill the innovation and performance gaps, or in other words to rescue these invisible innovations and forms of performance from the oblivion to which they have been consigned.

### **1. An innovation gap**

The innovation gap is a measure of the difference between the reality of innovation in a service economy and innovation as it is captured and measured by the traditional indicators (particularly R&D and patents). It indicates that the service economy probably innovates more than these indicators would suggest and that consequently there is hidden or invisible innovation in service economies that has, if possible, to be identified and supported by appropriate public policies.

This innovation gap concerns services in particular, and it might reasonably be assumed that the larger the service sector is in a given society, the greater the gap is likely to be. In reality, however, it is also sustained by the invisibility of certain forms of innovation in other sectors of the economy. This is all the more true since contemporary economies are characterised by a certain blurring of the boundaries between goods and services and a tendency for them to converge. This convergence is facilitated by a tendency for goods to acquire some of the characteristics of services and, conversely, for services to acquire some of the characteristics

of industrial products. It is also facilitated by the all-pervading and integrating nature of NICTs, which are technical resources shared by goods and services.

Visible innovation is the innovation that is captured by the traditional indicators, such as R&D and patents. Consequently, it reflects a technologist and assimilationist view of innovation that regards innovation as involving essentially the production of technical systems with a scientific basis. Such a concept of innovation leads to the conclusion that services are relatively less innovative than manufacturing industry, despite the progress associated with the adoption of ITCs. It also indicates that innovations (produced in the manufacturing sector) are much more likely to be adopted than produced by services themselves. Services are said to be dominated by manufacturing: they adopt technological innovations, so it is argued, but produce very few. This technologist and scientific concept of innovation is the cause of the innovation gap under discussion here. It is able to capture only the exposed tip of the innovation iceberg. It not only causes a public policy gap but it is also reinforced by it. After all, public policies intended to support innovation, whether they be national or supranational, are primarily horizontal scientific and technological policies (Rubalcaba, 2006).

Thus invisible or hidden innovation constitutes an important area of research that is still largely unexploited; it is essential to continue exploring it in order to fill the innovation gap and to make good the gap or bias in public policy. This is the purpose of a number of the articles in this special issue (particularly those by Luis Rubalcaba and Jorge Galiego, Mercedes Rodriguez and José Antonio Camacho and Lars Fuglsang). It should be noted, firstly, that this invisible innovation is not invisible to everybody. It is undeniable that, in recent years, there have been institutional changes and efforts made by researchers to remedy this situation<sup>1</sup>; nevertheless, it frequently remains invisible to theoretical analysis, to the statistical indicators used by national and international institutions and to public policies. On the other hand, the issues at stake in invisible innovation do not elude the actors in organisations responsible for implementing this type of innovation. Invisible innovation is not a homogeneous category. The diverse forms it may take are often grouped together under the heading of non-technological innovation. This is a convenient expression, but it conceals a wide diversity of types of innovation: social innovations, organisational innovations, methodological innovations, marketing innovations, innovations involving intangible products or processes, etc.

Thus innovation in services cannot be reduced to technological innovation, as is shown by the following examples, among others: a new insurance policy, new financial instruments, a new area of legal expertise, a new restaurant, distribution or hotel concept, a new leisure concept, a new care or cleaning protocol, a new consulting methodology, etc. This does not mean that these innovations cannot be based on tangible technologies (computer or telecommunications systems or means of transport, for example), but that they are not consubstantial with them and that they may in certain cases dispense with them. In other words, the notion that innovation exists only when the novelty is embodied in a technical system is unjustified. Not to accept this is seriously to underestimate the capacity for innovation in services. The myopia of national and international indicators of R&D and innovation (which persists, although it is declining thanks to changes in OECD manuals) can be explained by this error. It is not that services are unsuited to R&D and innovation but rather that these highly technologist indicators are unable to capture it.

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<sup>1</sup> For a survey of these efforts, see in particular, among others : Gallouj and Djellal (2010) ; Gallouj and Savona (2009); Howells (2007) ; Miles (2005) ; Tether (2005), Sundbo (1998).

## 2. A performance gap

Economic performance also poses serious problems of definition and measurement, and here too hidden forms of performance can be identified. These hidden forms of performance are also not unconnected with the service-based nature of economic activities. Thus today's developed economies are confronted not only with an 'innovation gap' but also with a 'performance gap'. This performance gap reflects the difference between the reality of performance in a service economy and performance as measured by the traditional economic tools (productivity and growth). Once again, an organisation or an economy in its totality may perform better (or worse) than is suggested by the indicators of productivity or growth. In particular, this notion of hidden performance brings into play that of sustainable development, defined in both socio-economic and environmental terms, and, more generally, other worlds of performance (or systems of performance definition and assessment) than the industrial and technological world. Three of the papers in this special issue focus on hidden performance, namely those by Faridah Djellal and Faïz Gallouj, Céline Merlin and Claire Garcia, Andrew Fearn and Lisa Wood.

This performance gap has its roots in classical economic thought, and in particular the work of Adam Smith (1960), who compared the productive work involved in manufacturing with the unproductive work involved in services, which vanish at the very moment they are produced. It is curious to think that an analysis based on a definition of services confined to the work of domestic servants, servants of the state and artists continues to influence contemporary thinking. The main criticism generally aimed at the service economy is that it suffers from low productivity. This characteristic was for a long time (and indeed still is) regarded as intrinsic to services, so much so in fact that it provided Jean Fourastié (1949) with the main criterion for the first positive definition of the service sector. It also lies at the heart of Baumol's models of unbalanced growth (Baumol 1967), in which it characterises the so-called stagnant sectors. It is reflected in contemporary discourse by the diagnosis of a new pathology, namely Solow's paradox, according to which computer technologies exist everywhere except in productivity statistics.

In reality, productivity and performance in services are not (or are no longer) poor by definition. They have undeniably increased. This increase can be explained by both the actual strategies adopted by the economic actors and a knowledge effect produced by our improved understanding of the theoretical and methodological problems posed by services.

Firstly, the economic actors concerned are not inactive. Service firms and organisations are capable of effectively implementing rationalisation strategies, which tends to give the lie to the notion that productivity in services is inevitably low (Gadrey, 1996; Djellal and Gallouj, 2008). It is not only in operational services (those involving the processing or transformation of material objects) that these strategies are at work. They are also deployed in knowledge-intensive services (engineering, consultancy). In the first case, the rationalisation in question is industrial in nature. More specifically, such 'industrialisation' is indicative of a trend towards the production of tangible goods at the expense of the provision of intangible services and the establishment in service firms and organisations of a certain mode of production (the type of work organisation and technologies that predominated in the heavy industry of the post-war period). In the second case, the rationalisation takes a form that Gadrey describes as 'professional' (development of methods and 'tool boxes', standardisation of activities and service provision, etc.).

Secondly, the performance gap can also be filled by an improved theoretical and methodological understanding. Critical analyses of the notions of productivity and growth are frequently tackled in similar terms, since in both cases it is the essentially the nature of the product that is at issue (Gadrey, 1996). The terms of this critical debate can be divided into two groups of arguments.

The first argument concerns measurement error. The hypothesis is that the level of productivity in services is undoubtedly less problematic than the methods used to measure it. Attempts to use this industrial and technical indicator come up against the problems of identifying the product or output of service activities. Thus the unit of output for a computer manufacturer is a computer, but what is the unit of output for education, the health service, R&D, national defence (particularly in peacetime), the police or even the ministry of foreign affairs? Thus this first argument calls into question the results and suggests corrections. In the case of public services, for example, the measurement of output in terms of input (which presupposes that productivity remains static) has been abandoned and replaced by measures of output based on the activities that make it up.

The second argument calls into question the very notion of productivity, or at least its absolutism. The idea is that, in services to a greater extent than elsewhere, performance cannot be captured solely through the notion of productivity. Consequently, a multi-criteria form of assessment is required, one that takes account of the multiple dimensions of performance: technical performance of course, but also commercial performance (relative to monetary and financial values), civic performance (relative to equity, equal treatment, social cohesion, respect for the environment, etc.) and relational performance (quality of interpersonal relations, empathy, trust relations, etc.).

### **3. The contents of the issue**

The aim of the articles published in this special issue is to attempt, each in its own way and using different methodologies and theoretical perspectives, to fill the innovation and performance gaps that characterise the service economy. The first three articles are given over to the innovation gap and the next three to the performance gap. The last one focuses on a gap that is linked to the other two, namely the skills gap, which reflects an underestimation of skill levels in the service economy.

The article by Luis Rubalcaba and Jorge Gallego tackles an old but still topical question, that of the difference between innovation in goods and innovation services. The authors approach the question by drawing on the third Community Innovation Survey (CIS 3), analysing it at the EU 12 level. The article reveals the existence of specific structural patterns of behaviour in service activities that differ from those found in manufacturing activities. These specificities relate in particular to the place of product/service innovation, the low level of R&D activities and patents and the relative scarcity of sources of public funding. The article also confirms that innovation behaviour within sectors is characterised by a certain degree of heterogeneity. At the same time, the authors also note certain similarities and convergences between goods and services sectors. Finally, they qualify these results by noting that certain differences between goods and services and certain specific forms of innovation are not directly captured by the Community survey.

Like the previous article, that by Mercedes Rodriguez and José Antonio Camacho also examines the specificities of innovation in services. However, the scope of enquiry is more tightly drawn, in both sectoral and geographical terms. Indeed, the analysis focuses exclusively on knowledge-intensive business services (KIBS) in Spain. It is based on a large-scale survey of 1837 firms, which was the Spanish contribution to the fourth Community Innovation Survey. The emphasis in this article is on what in the introduction we called invisible or hidden innovation, that is non-technological or 'soft' innovation. The empirical study identifies four modes of innovation: hard innovation, soft innovation, lonely innovation and knowledge diffusion, which exist in all KIBS activities. 'Soft' or invisible innovation plays an essential role in KIBS, since it covers three of these four modes (the last three).

The article by Lars Fuglsang addresses the question of invisible innovation in public services. Here, the empirical work is based on case studies carried out in the elder care sector. The starting hypothesis is that the traditional analytical tools cannot easily capture innovation in public services. Fuglsang takes the view that a more process and practice-based approach to innovation is required. Thus according to him, an approach based on concepts such as 'ad hoc innovation' (Gallouj and Weinstein 1997), 'a posteriori recognition of innovation' (Toivonen et al. 2007) or 'bricolage' (Styhre 2009) is particularly well-suited to the dynamic of innovation in public services.

The next three articles fall within the scope of the second theme addressed in this special issue, namely the performance gap in a service economy. Nevertheless, the question of innovation (particularly invisible innovation) is not entirely absent.

Céline Merlin devotes her article to an analysis of the incorporation of the notion of sustainable development into network-based market public services. The theoretical approach draws on convention theory and the main areas of empirical investigation are postal services and the gas supply industry (the French Post Office and Gaz de France). The analysis of such organisations' adoption of sustainable development is examined through the following two variables: 1) the indicators of sustainable development and the sustainable systems of management adopted by the organisations, and 2) the forms of sustainable innovation implemented with a view to reconciling the various competing objectives of sustainable development in the economic, social and environmental spheres. Overall, it would seem that even though these organisations are operating in increasingly competitive environments, it is easier for them than for others to incorporate sustainable development concerns into their activities. After all, the public service aspect of their activities overlaps to a degree with some of the aspirations of sustainable development.

In their article, Faridah Djellal and Faïz Gallouj put forward a framework for analysing service firms' productivity strategies. The authors identify three generic strategies. The assimilation (or industrialisation) strategy, firstly, aims to make services resemble goods. The second strategy, which they term the particularist or differentiating strategy, takes advantage of the specificities of services in order to implement methods of rationalisation suited to such activities. It favours professional rationalisation over industrial rationalisation. The aim of the third strategy, termed the synthesising or integrationist strategy, is to reconcile the previous two strategies in various ways, for example by adopting assimilation strategies in certain areas of activity and particularist strategies in others or by putting in place integrated (or flexible) systems. Thus the proposed analytical framework constitutes an attempt to go beyond 'productivity' in order to take account of 'invisible' forms of performance. From the assimilationist perspective, after all, productivity in the traditional sense occupies a central

position. From the differentiating perspective, on the other hand, the issues around effectiveness (outcomes) supplement those around efficiency (outputs), while in the integrationist approach it is a multi-criteria evaluation of output, value and performance that prevails.

Claire Garcia, Andrew Fearne and Lisa Wood devote their article to the role involvement plays in the environmental and ecological evaluations of food products consumers make when making actual purchase decisions (rather than formulating intentions). The paper furthers understanding, from the marketing point of view, of the heterogeneity of consumers' purchasing behaviour when buying sustainable foodstuffs. It attempts to draw up a number of different 'organic' consumer profiles (depending on life stage and lifestyle) associated with different levels of involvement.

The article by Diego Dueñas-Fernández, Carlos Iglesias-Fernández and Raquel Llorente-Heras deals with neither the innovation nor the performance gap, but rather with the skills gap, which is of course related to the previous two. After all, it is still frequently assumed that, although services may create jobs, the jobs in question are of mediocre quality, so-called 'hamburger jobs' or McJobs (Bluestone and Harrison, 1986; Cohen and Zysman, 1987 ; Thurow, 1989). The French philosopher André Gorz (1988) even went so far as to describe the service society as a society of 'servants'. Adopting a dual approach to job quality (one based on the characteristics of the tasks involved and the other on workers' perceptions of their jobs), the article seems to refute this assumption. It shows that, despite certain differences depending on the activity in question, skill levels in services are not lower and that service workers have higher levels of job satisfaction than workers in manufacturing industry.

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