Fostering Innovation in Services

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A Report of the Expert Group on Innovation in Services

Fostering Innovation in Services

Contents

Executive Summary

1. The success of Europe is intimately bound up with the success of its service economy. The majority of European jobs, GDP and productivity growth are based on service activities. Services play a major role in European member states in terms of their growth and development. A key element in this growth is the role of innovation, although more research needs to be undertaken to understand the role of innovation in services (Section 1.2).
2. Building on earlier Commission and Council documents, this report seeks to define a strategy to promote innovative services in the European Union.
3. An increasing proportion of business R&D is therefore being performed in the services sector in Europe (from 11.5% in 1997 to 15.1% in 2003). Between 1990 and 2003, service-sector R&D increased at an average annul rate of 12% across OECD member countries, compared to approximately only 3% for manufacturing sectors. The increasing importance of services sector research is mainly due to three factors: an improvement in the measurement of services sector R&D; a growth in R&D intensity in the services sectors; and, an increase in the outsourcing of R&D by both the business and government sectors (Section 2.2).
4. Studies have shown that service activities are innovative and are generating more innovations over time. Thus, the share of business service firms reporting that they were innovative in terms of introducing an innovation between 2002 and 2004 in major European Union countries ranged from just under 50% in Germany to under 20% in Denmark. No longer can service firms therefore be dismissed as just passive consumers of technology or mere facilitators to manufacturing companies, who are seen as the 'real innovators' (Section 2.3).
5. Service innovation is often closely linked to changes in dis-embodied, non-technological innovative processes, organisational arrangements and markets. Similarly, service firms closely ally investments in innovation with investments with training and skills based provision (Section 2.4).
6. However, it is also important to recognise that services and service innovation remain difficult to study and conceptualise. As such, more work and funding needs to be undertaken to support the development of new indicators that can better articulate and measure what service innovation is about (Section 2.5).
7. The rest of the report is then based on systematically identifying issues and problems associated with innovation in services, rationales for intervention and then outlining a set of proposals under each of the policy themes. These policy themes are centred around two main policy areas; namely, those associated with extending and extending horizontal framework policies (Chapter 3) and those associated with outlining and developing specific policy agendas (Chapter 4).
8. In terms of developing and extending horizontal framework policies (Chapter 3) a series of policy mechanisms are proposed around the following themes associated with innovation in services, namely: legal and regulatory frameworks (Section 3.2); the knowledge base (Section 3.3); entreneurship and finance (Section 3.4); and demand, including public procurment (Section 3.5).
9. In relation to specific policy actions (Chapter 4) the following initiatives are proposed, namely: European Innovation Platform for Start-Ups in Knowledge Intensive Services (Section 4.2); European Service Innovation Institute (Section 4.3); Innovation Service Exchange Network (Section 4.4); and, support for the market launch of high risk, innovative service products (Section 4.5).
10. At the core of this report, therefore, is a set of policy prescriptions and recommendations that seek to further encourage, harness and fully exploit the innovative potential of services to lever such growth and development. No longer can Europe afford to neglect services and its innovative potential in policy terms.

1. Introduction

1.1 Mandate for Expert Group

This report should be seen as building upon earlier initiatives and communications produced by the Commission in seeking to develop and enhance innovation and economic competitiveness, both generally[1] and more specifically in relation to services[2]. It has also been recognised that services, and service innovation, needs to fully harnessed and supported to meet the objectives of the Lisbon objective of by 2010 making Europe the most competitive and dynamic knowledge-based economy in the world[3]. Moreover, there has been a recent acknowledgement that to achieve such objectives a much wider and more encompassing definition of innovation needs to be acknowledged and moves beyond technological innovation, to include organisational innovation and innovation in services[4].

Although there has been recent progress in developing our understanding of innovation in services and service innovation (ISSI)[5], much remains to be done; whilst, in terms of policymaking, services have received little or no attention. This need with regard to service innovation policy has been recognised by the Commission in recent statements. In particular, this Expert Group report seeks to help address the need for the Commission to "define a strategy to promote innovative services in the EU…."[6] which was highlighted in the Communication 'More Research and Innovation' which published in October 2005. More recently, the Council has also invited "…the Commission to prepare by April 2007 an overall assessment on innovation in services evaluating e.g. the related needs for policy adjustments, where appropriate. The Commission is also invited to take into account the various forms of non-technological innovation." [7] As such, this report seeks to provide an updated and more holistic view of innovation in services and service innovation, whilst more specifically proposing a set of policy frameworks and mechanisms that the Commission and member states might consider to more effectively harness service innovation to stimulate growth and competitiveness for their economies.

1 Commission of the European Communities (2002) *More Research for Europe: Towards 3% of GDP,* Communication from the Commission, COM (2002) 449 final, Commission of the European Communities, Brussels.

2 Commission of the European Communities (2003a) *The Competitiveness of Business-Related Services and their Contribution to the Performance of European Enterprises*, Communication from the Commission to the Council, The European Parliament, the European Economic and Social Committee and the Committee of the Regions, COM (2003) 747 final, Commission of the European Communities, Brussels.

3 Commission of the European Communities (2005a) *Common Actions for Growth and Employment: The Community Lisbon Programme,* Communication from the Commission to the Council and the European Parliament, COM (2005) 330 final, Commission of the European Communities, Brussels.

4 Commission of the European Communities (2006a), *Putting Knowledge into Practice: A Broad-based Innovation Strategy for the EU*, COM (2006) 502 final, Commission of the European Communities, Brussels, 4.

5 It should be noted that 'innovation in services' is defined here as innovation processes within service industries (as specified by the NACE and ISIC definitions); whilst 'service innovation' covers any innovation activity with service like attributes that can occur in any part of the economy: manufacturing, agriculture, services or even informal parts of the economy. This report focuses on both, but with emphasis on the former in parts of the report (in particular Chapter 2) for data reasons. The acronym, ISSI, is used to denote both elements associated with 'innovation and services'.

6 Commission of the European Communities (2005b) *More Research and Innovation - Investing for Growth and Employment: A Common Approach* Communication from the Commission, COM (2005) 488 final, Commission of the European Communities, Brussels, 21.

7 Council of the European Union (2006) *Council Conclusions on a Broad-Based Innovation Strategy: Strategic Priorities for Innovation Action at EU Level*, Doc. 14065/06. 2769th Competitiveness (Internal Market, Industry and Research) Council Meeting Brussels, 4 December 2006, Commission of the European Communities, Brussels, point 8.

1.2 The Need for Strategy

The success of Europe is intimately bound up with the success of its service economy. The majority of European jobs, GDP and productivity growth are based on service activities. Services play a major role in European member states in terms of its growth and development. The service sector has a dominant role in the developed economies, accounting for about two thirds of employment and Gross Domestic Product (GDP) and Gross Value Added (GVA). According to Eurostat, "Services are the only sector of the European economy that has generated jobs in the last two decades."[8] Thus, between 1985 and 1997 (the two decades in question) approximately two-thirds of economic and employment growth in the business sector of Organisation for Economic Cooperation and Development (OECD) countries was due to growth in services. On average, value added created by business-related services constituted 54% of the total in 2001, compared with 34% for manufacturing industry[9]. Services, therefore, not only comprise a large part of the economy, but also represent the main engine for growth within advanced industrial economies.

In short, Europe needs to recognise, understand and support services. This is, however, not a 'zero sum' game; it should not imply that by supporting services we no longer support, or care about, manufacturing. Services should be seen as intrinsic element in sustaining and enhancing the competitiveness of manufacturing industry and indeed a number of member states now recognise this[10]. Equally, manufacturing firms are important consumers of business services and, more specifically, Knowledge Intensive Business Services (KIBS); the performance of these sectors is important to manufacturing.

Despite the dominance of services in economic activity in Europe and other advanced economies, very little attention has been paid to innovation in services or to its policy implications. Innovation in services has been largely ignored, in large part because of the artefact, embodied and manufacturing-based paradigms that have remained dominant in innovation studies up until the present day. However, this begs the question of why it has taken so long? Even by the early twentieth century, service activity was such a size and significance economically in parts of Europe and North America that it made up something like a quarter to a third of GDP in countries in these two continents.

Leading on from this view of the relative un-importance of services to general economic welfare is the ongoing prevailing view of services being passive economic and innovative activities[11]. Services have, therefore, all too frequently seen as being laggards[12] and as consumers (albeit often significant consumers) of innovations produced by manufacturing firms. This view of services lacking merit or signifying real value (however expressed) goes back as far as Adam Smith himself[13]. In relation to multiplier and trade effects, at least, which can be seen as one indicator of economic impact, the view that services are lagging economic activities with low multiplier effects has recently been challenged.

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8 Eurostat (1999) Services in Europe, Data 1995-*1997,* Eurostat, Commission of the European Communities, Luxembourg.
9 Commission of the European Communities (2003a), op. cit., 11.
10 See, for example, "Innovation with Services" concept projects recently introduced by the German government which seek to stimulate new business models at the interface between production and services; *Federal Ministry of Economics and Technology (2006) Annual Report*, 2006 P3, Federal Ministry of Economics and Technology, Berlin, 45.
11 Hipp, C. (1999) 'Information flows and knowledge creation in Knowledge-Intensive Business Services: scheme for a conceptualization' in Metcalfe, J. S. and Miles, I. (Eds.) *Innovation Systems in the Services Economy: Measurement and Case Study Analysis*, Kluwer, Norwell, 149-167, 163; see also Daniels, P. W. (1983) 'Service industries: supporting role or centre stage?' *Area*, 15, 301-309.
12 Miles, I. (1993) 'Services in the New Industrial Economy' *Futures* 25, 653-672, 661.
13 Smith, A (1776) *An Inquiry into the Nature and Causes of the Wealth of Nations* (Volume I, Book II, Chapter III 'Of the Accumulation of Capital, or of Productive and Unproductive Labour') in Campbell, R. H. and Skinner, A. S. with Todd, W. B. (Eds.) Oxford University Press, Oxford, 330.

Services have been found to make a very strong contribution to the expansion of the economic base of local economic areas in the USA[14].

However, despite so much of Europe being dependent on services, services have received little or no attention in terms of policymaking. At best, policy formation towards services, and in particular innovation in services, has been piecemeal; at worst it can be summarised as ignorance and neglect[15]. There is need for effective, holistic and integrated set of policies to make innovation in services more effective in terms of enhancing European growth and competitiveness.

1.3 Defining a Strategy

This report presents a broad strategy relating to innovation and services. To do this, the report's first objective is to present a framework to enable a better understanding of services innovation, developing a new paradigmatic setting for discussion and debate on policy that can match the reality of innovation for services.

Secondly, and more centrally here, it seeks to develop a robust framework to take policymaking regarding innovation in services forward by bringing together different policy arenas, which have a bearing on innovation *and* services. The report, therefore, seeks to frame policy discussion and policy formation on innovation and services at both national and European levels. It outlines existing or newly planned initiatives; identifies new areas for action; and, above all, introduces a more focused strategy to facilitate the creation and marketing of new innovative services. In seeking to outline this strategy this report does not propose to create, per se, new structures, but instead it builds on the existing legal and institutional frameworks to enhance and extend service innovation policies at both Member State and European Union level.

14 Beyers, W. B. (2005), 'Services and the changing economic base of regions in the United States' *The Service Industries Journal*, 25, 461-476; see also Beyers, W. B. (2002), 'Services and the New Economy: elements of a research agenda', *Journal of Economic Geography*, 2, 1-29.

15 Dialogic/Fraunhofer IAO/PREST-CRIC-IoIR/Servilab-University of Alcala (2006) *R&D Needs of Business Related Services (RENESER)*, Final Report, Utrecht/Stuttgart/Manchester/Madrid.

2. Innovation in Services: A Statistical Picture

2.1 Current Trends and Patterns

There are a number of emerging trends with service innovation. There are, in particular, three trends which are becoming more important:

- services are becoming more R&D intensive (Section 2.2);
- services are increasingly innovative (Section 2.3); but,
- this is usually centred on non-technological, disembodied forms of innovation (Section 2.4).

Each of these trends and characteristics will be discussed below.

2.2 R&D and Services

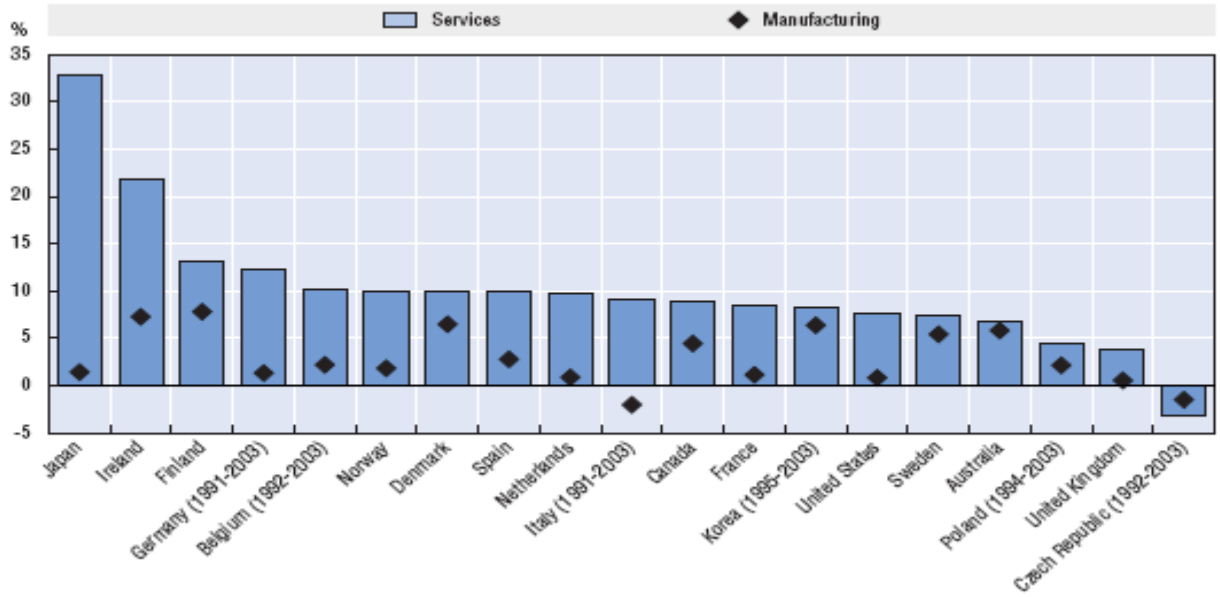
The first trend is one is that services are becoming more research and development (R&D) intensive over time and the significance of innovation to the performance is also increasingly being recognised. Thus, traditionally, services other than those in the 'peculiar sectors' of telecommunications and computer services, have been assumed not to engage in R&D[16]. In recent years, R&D surveys have recorded substantially more R&D as being undertaken by services, and not just by computer services and telecommunications sectors[17]. The extent to which this reflects real change, or a growing recognition by statistical agencies (and the responding firms) that services engage in R&D is unclear, but at the very least in relation to R&D activity there is some real growth. Thus, service sector R&D continues to be growing rapidly. Between 1990 and 2003, service-sector R&D increased at an average annual rate of 12% across OECD member countries, compared to approximately only 3% for manufacturing sectors (Figure 2.1). Thus, by 2002, the European Union average for the share of services in Business Expenditure in Research and Development (BERD) had risen to over 15% (Figure 2.2), with some countries, such as the Australia (42%), Denmark (40%), United States (39%), Canada (36%), the Czech Republic (35%) and Norway (33%), this proportion was much higher at over 30%[18].

16 Indeed, Pavitt's classification of services as 'supplier-dominated' activities partially derived from the statistical evidence available at that time which showed that services undertook very little R&D; see Pavitt, K. (1984) 'Patterns of technical change: towards a taxonomy and a theory' *Research Policy* 13, 343-373; see also Miozzo, M. and Soete, L. (2001) 'Internationalisation of services: a technological perspective' *Technological Forecasting and Social Change* 67, 159-185.

17 Young, A. (1996) 'Measuring R&D in Services' *STI Working Papers*, OECD/GD(96)132, OECD, Paris; see also Gallaher, M. Link, A. and Petrusa, J., 2005. *Measuring Service-Sector Research and Development* Planning Report 05-1, National Science Foundation and National Institute of Science and Technology, Arlington, VA..

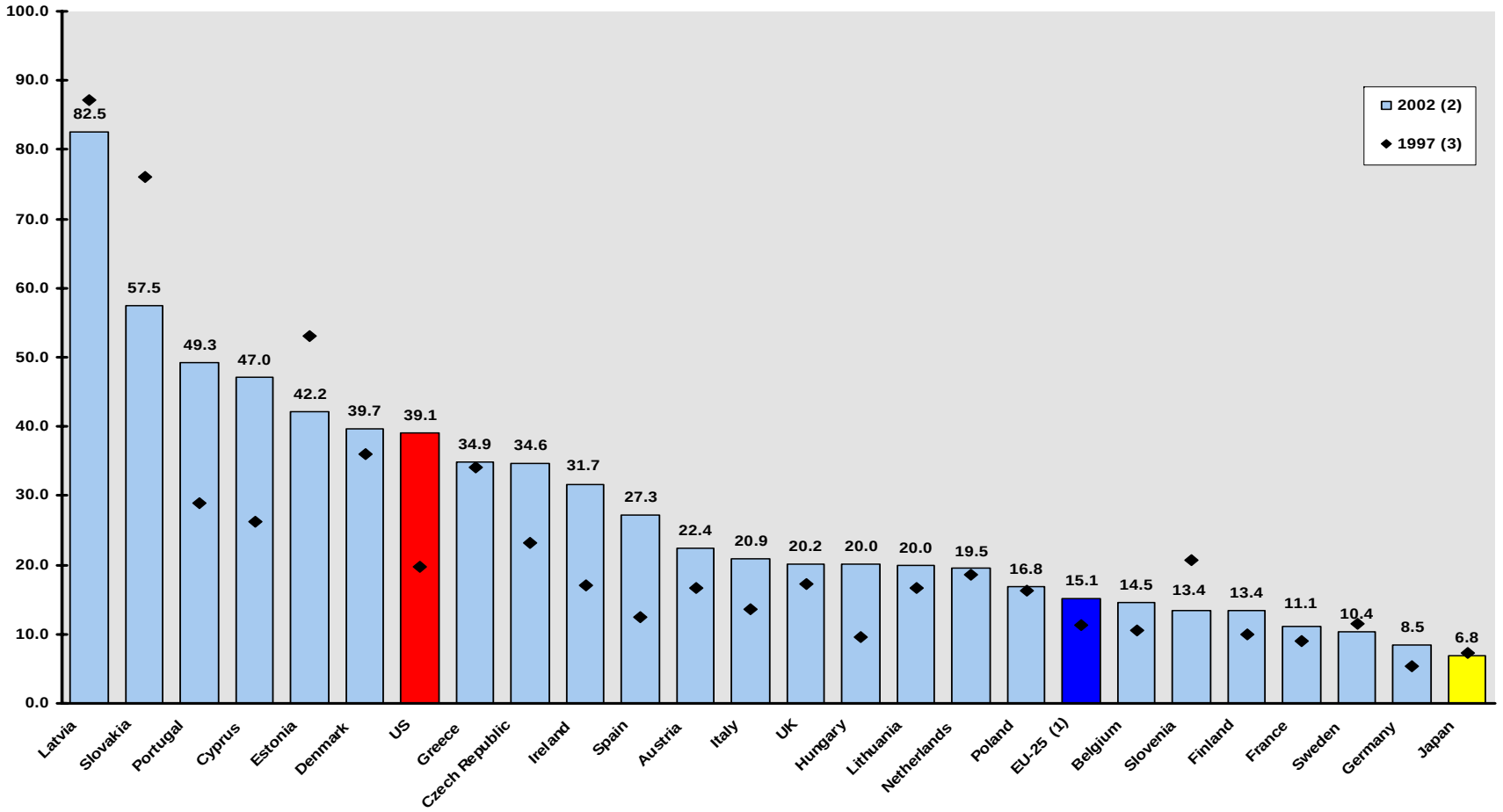
18 OECD (2006) *Science, Technology and Industry Outlook,* OECD, Paris, 32. The figure for 2003 is little changed at 15.07%.

Figure 2.1 Average Annual Growth Rates (%) of Business R&D Expenditures, 1990-2003



Source: ANBERD Database (OECD 2006, 32)

Figure 2.2 Share of BERD Performed in Services (%), 1997 and 2002



Source: Commission of the European Communities (2005c), 37.

An increasing proportion of business R&D is therefore being performed in the services sector in Europe (rising from 11.5% in 1997 to 15.1% in 2003). The increasing importance of services sector R&D is mainly due to three factors:

- an improvement in the measurement of services sector R&D[19];
- a growth in R&D intensity in the services sectors; and,
- an increase in the outsourcing of R&D by both the business and government sectors[20].

2.3 Innovation in Services

R&D is, however, only one aspect of innovation activity within services. Even in manufacturing, R&D generally amounts to only about half of total investment in innovation[21]; in services the share is even smaller. This is supported by a European-wide survey[22] which has revealed that despite the attention paid to R&D, technological advance and R&D competencies it was either the least, or the second least, likely of these factors to be identified in both manufacturing and service sectors in terms of innovative performance. Thus, it was identified by less than one in five manufacturers, and by an even smaller proportion of the service firms. Most firms, therefore, be they manufacturers or service firms, consider that their strengths in innovation do not rely on R&D activities[23].

Studies using CIS data have also shown that service activities are innovative and are generating more innovations over time. Thus, the share of business service firms reporting that they were innovative in terms of introducing an innovation between 2002 and 2004 (using CIS4 data) ranged in major European Union countries from just under 50% in Germany to under 20% in Denmark (Figure 2.3; although for most countries this was below the level for manufacturing firms). No longer can service firms therefore be dismissed as just passive consumers of technology or mere facilitators to manufacturing companies, where manufacturers, by contrast, are seen as the 'real innovators'.

A final point here is that the discussion above has mentioned very little about major sectoral differences in both the R&D intensity[24] and the innovation profile[25] of service sectors, which are significant. Important differences remain in the level[26] and nature[27] of innovative activities within services and this

19 This is, however, still poor; see, for example, Commission of the European Communities (2006b) *The Future Policy of R&D in Services: Implications for EU Research and Innovation Policy* EUR 21959, DG Research, Commission of the European Communities, Brussels.

20 Commission of the European Communities (2005c) *Key Figures 2005 on Science, Technology and Innovation: Towards a European Knowledge Area*, DG Research, Commission of the European Communities, Brussels, 37.

21 Pilat, D. (2001), 'Innovation and Productivity in Services; State of the Art', in OECD *Innovation and Productivity in Services*, Paris: OECD, 17-54.

22 See Howells, J. and Tether, B. (2004) *Innovation in Services: Issues at Stake and Trends*, Inno Studies Programme (ENTR-C/2001), Commission of the European Communities, Brussels for analysis and details. Evidence on the extent and patterns of innovation in service firms, in comparison with manufacturers, as these were reported by managers in over 3,000 European firms to the 'Innobarometer' of 2002. The 'Innobarometer' was a telephone survey, undertaken for the European Commission by Gallup Europe during February 2002. The 3,014 European enterprises which participated, all had 20 or more employees and the surveying was stratified: by country; by enterprise size (20-49 employees; 50-249 employees; and 250 or more employees), and by activity (construction, industry, services and trade).

23 Although those that did identify R&D competencies as one of their key strengths in innovation were more likely to regard their innovation performance as superior to that of their competitors.

24 OECD (2005a) *Promoting Innovation in Services* DSTI/STP/TIP(2004)4/FINAL, OECD, Paris.

25 Howells and Tether (2004), op. cit., passim.

26 OECD (2005a), op. cit.; OECD (2005b) *The Role of Knowledge-Intensive Service Activities in Innovation: Final Synthesis Report*, DSTI/STP/TIP(2005)6/FINAL, OECD, Paris.

27 Howells and Tether (2004), op. cit., 94-5.

needs to be recognised both in our conceptualisation of such a large part of the economy and in the way we seek to develop and deliver policies for this overall sector.

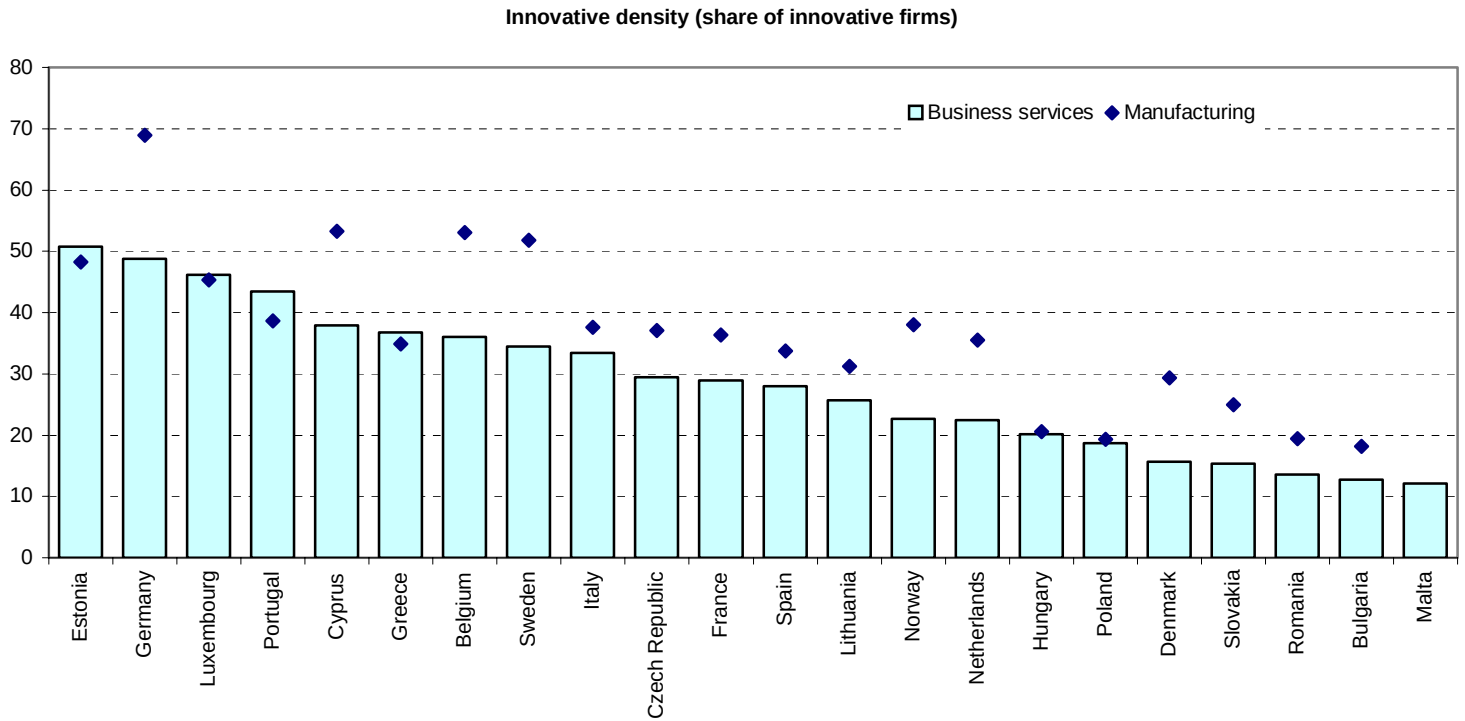
2.4 The Significance of Non-Technological Innovation in Service Innovation

Although service firms are now being acknowledged as being more innovative, it is also being recognised that such innovation is more likely to be linked to changes in dis-embodied, non-technological innovative processes, organisational arrangements and markets. This has been revealed in a survey that sought to capture a much wider notion of innovative change in Europe within services[28]. Thus, service businesses frequently perceive greater change in these non-technological dimensions than they did to the service products they provide or the means they use to produce or deliver services (Figure 2.4). The greatest extent of 'change' is found in the technologies used within the businesses. It is interesting to note here that whilst technologies were often changed significantly, the adoption of new or advanced technologies does not rank amongst the most widely acknowledged determinants of success. This suggests that new technologies tend to be the servant rather than the master of service improvement and innovation[29].

This can also be seen in the importance that service firms attach to investing in training for existing staff compared with the importance they attached to investing in new technologies. Innovation and the introduction of new technologies commonly involve concomitant investments in training and skill development by firms. Technology and skills in relation to innovation is not an either/or decision, but one of related investment and commitment. Thus, in relation to innovation the majority of service firms attach equal importance to investing in new technologies and in skills[30] (although the balance between investing in technologies and people varies markedly between sectors with people based sectors such as elderly care stressing skills and human factors more than technologies and technical change).

28 Howells and Tether (2004), op. cit.; see also Australian Bureau of Statistics (2006) *Patterns of Innovation in Australian Businesses*, 2003 8163.0, Australian Bureau of Statistics, Canberra, 15.
29 Howells and Tether (2004), op. cit., 94.
30 Howells and Tether (2004), op. cit., 95.

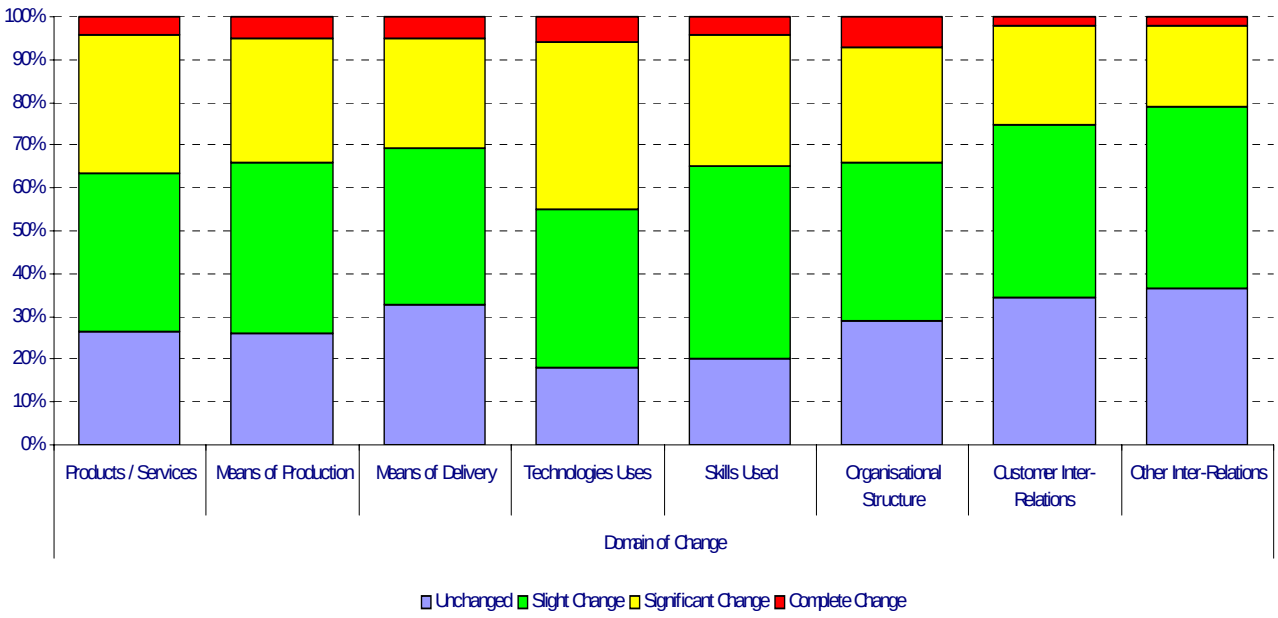
Figure 2.3 Innovative Density* in Business Services and Manufacturing



*Share of innovative firms in each sector as a % of firms in each sector

Source: compiled from Eurostat data

Figure 2.4 Technological and Non-Technological Change in Service Activities



Source: Howells and Tether (2004)

2.5 Measuring Innovation in Services: Challenges and the Way Forward

The lack of adequate data, indicators and methods to analyse services and service innovation, has been the constant refrain of researchers studying services over the years. Thus, Greenfield noted in 1966 there is a "…. dearth of data… "[31] in the services field and an "…attempt should be made to develop as much information …. for services as we have for goods"[32]. It is little different today. Although there have been some advances in the study of ISSI, there remain a number of challenges and shortcomings in the analysis of innovation in services. Firstly, there is a problem in analysing and studying services and their innovative potential have because services are simply too big a 'sector' to study in any meaningful or coherent form. The sheer size and significance of the sector within the economy has, therefore, created its own problems in terms of analysis and policy formulation. Services not only account for an increasing share of the economy, but services are also far from homogeneous. In addition, they also interact amongst themselves and with other sectors of the economy (notably manufacturing) in complex ways[33]. Thus, there is a significant challenge in reporting the diversity of activities covered by the services sector, and to provide an informed commentary on the innovation trends across these diverse activities. With such size and diversity, it is perhaps not surprising that anyone could satisfactorily hope to cover such a heterogeneous and diverse set of industries with a single monomorphic model or paradigm.

Secondly, there is the inherent difficulty of studying intangible, disembodied changes over time, which covers a key dimension in many service innovations[34]. Whereas indicators and metrics of tangible products and equipment and their innovation may be difficult to survey, it is even harder when intangible changes are sought to be measured[35]. Traditional 'across-the-board' surveys of innovation, most notably the previous Community Innovation Surveys, have only very imperfectly captured innovative activity in services.

More specifically, the issue of R&D activity within services is an important part of this issue, which also needs to be raised. Current definitions of R&D activity based on the Frascati Manual still exclude much research activity, which is non-artefact based. A series of revisions have been made to the Frascati Manual[36], but this needs to be ongoing. Related activities, such as design, have also evolved and become closely-intertwined with R&D over time. However, even with these revisions to encompass more service-based R&D, service companies must be made aware that many of their activities are indeed 'R&D'. There are indications that there is substantial under-reporting of R&D activities within services (and this has been exacerbated in certain member states, such as the UK, which until recently had few fiscal incentives for companies to record R&D). Evidence so far is largely circumstantial on

31 Greenfield, H. I. (1966), *Manpower and the Growth of Producer Services*, Columbia University Press, New York, 10.
32 Greenfield (1966), op. cit., 130.
33 See Hamdani, D. (2000), 'Measuring novelty of innovation: evidence from the Canadian Services Innovation Survey', paper presented at *The Economics and Socio-Economic of Services: International Perspectives Conference*, Lille, 22-23 June 2000.
34 Hipp, C. and Grupp, H. (2005), 'Innovation in the service sector: the demand for service-specific innovation measurement, concepts and typologies Germany' *Research Policy*, 34, 517-535.
35 This is, for example, evident in productivity analysis; see Heshmati, A. (2003) 'Productivity growth, efficiency and outsourcing in manufacturing and service industries', *Journal of Economic Surveys*, 17, 79-112.
36 OECD (1963) *The Measurement of Scientific and Technical Activities: Proposed Standard Practice for Surveys of Research and Experimental Development* (Frascati Manual) OECD, Paris; OECD (1981) *The Measurement of Scientific and Technical Activities: Proposed Standard Practice for Surveys of Research and Experimental Development* OECD, Paris; OECD (1989) *The Measurement of Scientific and Technical Activities: Proposed Standard Practice for Surveys of Research and Experimental Development* (Supplement to the Frascati Manual) OECD, Paris; OECD (1997) Proposed Guidelines for Collecting and Interpreting Technological Innovation Data: Oslo Manual, Second Edition, OECD, Paris; OECD (2002) *Frascati Manual: Standard Method Proposed for Surveys of Experimental Research and Development* OECD, Paris.

this[37], but it is likely to be a significant issue. Even though most service firms may not be high intensity R&D spenders, even small amounts of R&D activity will aggregate to represent a significant (un-recorded) 'addition' to European base because business services firms represent such a large proportion of total enterprises.

Problems over lack of metrics, indicators and data have crucial policy implications as well. Thus, the European Commission in 2003 noted "…. serious deficiencies in our understanding of the structure of the services sector and the factors influencing the growth of services enterprises remain. The available statistical material does not reflect appropriately the dominant position of services in the economy…."[38]. However welcome subsequent initiatives have been, such as extending the European Community Innovation Survey beyond manufacturing to include services, insight into services and service innovation, and in turn policy formation, are still hampered by this lack of adequate basic statistics on services and service industries, which is a prerequisite for policy formulation, monitoring and evaluation. There, therefore, needs to be recognition amongst all the key stakeholders associated with the study and analysis of service innovation that we need a much better understanding and measurement of the innovation process in relation to services. Innovation statistics are still strongly biased towards technological innovation, and the measurement of knowledge inputs and innovative processes and outputs in services is one of the key areas where initiatives are needed within member states[39], but also within a European and international level. Much more effort needs to be done to compare service innovation between countries[40], but this has been hampered, amongst other things, by comparability of datasets. More widely, further effort should therefore be made to harmonise the European NACE and North American Industrial Classification System (NAICS) classification systems.

However it is important to recognise that services and service innovation remain difficult to study and conceptualise. It is therefore not 'simply' a matter of funding the collection of more data and the creation of new and more comprehensive datasets. More effort also needs to be undertaken by the research community in developing new, more robust, indicators that can actually better articulate and measure what service innovation is about, rather than simply trying to adapt old modes of thinking in relation to innovation.

Gradually, there appears to be a growing consensus that acknowledges the increasing complex and multidimensional character of innovation (Section 2.3) not only in services but also in manufacturing. This includes the increasing 'encapsulation' or bundling of services and manufactured goods into 'solutions'[41]. This also recognises the major changes that have occurred in managerial practice, and the shift away from 'manufacturing' versus 'service' companies, towards organizations focused on the realisation of value. This has moved the focus of research away from technologies to knowledge, and away from individual firms towards understanding value chains or networks, locating service and manufacturing in a set of interrelated activities[42].

37 However in a UK context see Howells, J. Tether, B. Cox, D. and Rigby, J. (2006) "Information technology research in the UK: perspectives on services research and development, and systems of innovation" *Science and Public Policy* 33, 17-31.
38 Commission of the European Communities (2003b), op. cit., 36.
39 Van Ark, B. Broersma, L. and Den Hertog, P (2003) *Service Innovation, Performance and Policy: A Review,* Ministry of Economic Affairs, The Hague.
40 Kanerva, M. Hollanders, H. and Arundel, A. (2006) *2006 Trendchart Report: Can We Measure and Compare Innovation in Services?* European Trend Chart on Innovation, Commission of the European Communities, Brussels, 17.
41 Howells, J. (2004) "Innovation, consumption and services: encapsulation and the combinatorial role of services" *The Services Industries Journal*, 24, 19-36.
42 Davies, A. (2003) 'Integrated solutions: the changing business of systems integration' in Prencipe, A. Davies, A. and Hobday, M. (Eds.) *The Business of Systems Integration*, Oxford University Press, Oxford, 333-368.

Box 1 Measuring Innovation in Services

On the basis of the above evidence the Expert Group invites the Commission to:

1. Support further revisions of the definitions of R&D activity based on the Frascati Manual to include more service-oriented (non-artefact based) research activity, and to highlight their closer relationship with related creative, technical and design activities.
2. Encourage, and indeed make aware to, innovative service companies that many of their activities are indeed 'R&D' and innovation based, in order to energise and enable these service companies to feel part of the wider European innovation community and be active participants within such a community.
3. Encourage key stakeholders, such as member state governments and statistical agencies, associated with the study and analysis of service innovation that we need a much better understanding and measurement of the innovation process in relation to services. Innovation statistics remain strongly biased towards technological innovation, and measurement inputs and outputs in service innovation needs to be further developed and supported.
4. Support the research and statistical community in developing new, but robust, indicators that can actually better articulate and measure what service innovation actually is.

3. Horizontal Framework Polices

3.1 Introduction

This section explores the development and redefinition of policies to support and enhance innovation in services. The policy themes that are explored cover:

- legal and regulatory frameworks (Section 3.2);
- the knowledge base (Section 3.3);
- entreneurship and finance (Section 3.4); and
- demand, including public procurment (Section 3.5).

Each of these themes will now be explored in turn.

3.2 Improving Legal and Regulatory Frameworks for Service Innovation

The Internal Market For Services and Innovation in Services

As noted earlier, innovation is closely associated with competitiveness and dynamic change: innovation helps sustain competitiveness, but equally competitiveness and, hence, industrial and market change, also helps support innovation. Where competitiveness is reduced or hindered through barriers to markets or mobility of factors of production, this will militate against innovation and technical and organisational change[43]. Barriers to the full and proper functioning of a European single market for services hinder innovation, growth and competitiveness. The internal market for services must be made fully operational if services are to achieve their full innovative potential.

As noted earlier, the services sector has been responsible for almost all the new jobs created in the EU in the period 1997-2002; whilst services now account for 70% of EU value added. However, services only account for around 20% of intra-EU trade. The completion of a single market in services should lead to an increase in the GDP level by 0.6% and of the employment level by 0.3% (up to 600,000 jobs) in the medium term and adding overall € 37 billion to the European economy[44]. Restrictions to the creation of an effective and true, single European market in services, therefore, represent a significant barrier to service innovation. A wider market for new and novel services means that service firms can more rapidly and easily amortise the costs of their new service product. This has also been recognised in relation to pro-active standard setting, which is seen as helping aggregate demand for innovative activity[45]. A more narrow, national service market will make the enterprise of service innovation more risky and less profitable. This is a major disincentive to innovation. A blending and mixing of formerly separate service markets, in their own right, will encourage more creative and alternative thinking as regards new services. Lastly, here a single market encourages the more rapid diffusion of new services and organizational models. Again this is a key factor encouraging innovation and in reaping the full benefits of service innovation through improved productivity and growth.

43 see Griffith, R. Harrison, R. and Simpson, H. (2006) 'Product market reform and innovation in the EU' *IFS Working Paper* WP06/17, Institute for Fiscal Studies, London, 21-22.

44 Copenhagen Economics (2005) Economic Assessment of the Barriers to the Internal Market for Services Copenhagen Economics, Copenhagen, 31.

45 Council of the European Union (2006), op. cit., point 2.

The Commission has worked constructively with the European Parliament, the Council and other stakeholders within the legislative process to secure a broad consensus on the amended Service Directive.[46] This has led to an amended Directive, which combines the freedom to provide services principle, targeted harmonisation, mutual assistance between national authorities and other non-legislative activity[47]. The Commission's objectives to create a genuine internal market for service providers should be continued to be supported actively, and the benefits that would flow from such an initiative, particularly in realising the goals set for the EU by the Lisbon agenda are emphasised here.

As has been noted above, regulation and deregulation exercise a significant influence upon the service innovation process, creating an impetus for change in some respects whilst hindering change in other cases[48]. Regulators should offer proactive support to the development of new services and business models beyond their traditional 'watchdog' role. There is need for light, but effective regulation that is truly harmonised across the Union[49] and more regard should be made of removing those that raise compliance costs without clear benefit to either the producer or consumer[50]. However, regulation should not always been seen negatively. A stable, yet progressive regulatory regime covering, for example, the environment and sustainability arena can provide a very positive driver for generating new service offerings provided by environmental service companies[51]. Indeed, the ambitious use of standards-setting powers to demand high and innovative performance levels within services should be encouraged, together with a process that allows the agreement on these new standards to be reached quickly and efficiently[52] (Box 2).

Mobility in relation to services can be viewed in three ways[53]:

- mobility of labour, specifically here the free flow of professional labour;
- mobility of knowledge; and,
- financial mobility, notably access to venture capital.

This section will focus on the first mobility element, whilst the latter two will be examined in more detail in Sections 3.3 and 3.4 below. What should be recognised here is that all three elements are important if true service mobility is to be achieved in relation to services and their innovative potential. With respect to labour mobility, the EU has made provisions, for example, for the recognition of professional qualifications (a combination of academic qualifications and professional training and experience) to enable movement of workforce between Member States; this is a key issue for KIBS firms and their international expansion. The free flow of service professionals (including engineers and designers) is

46 Commission of the European Communities (2006c) *Amended Proposal for Directive of the European Parliament and the Council on Services in the Internal Market*, COM (2006) 160 final, Commission of the European Communities, Brussels.

47 Thus, the Directive "recognises the freedom that service providers should have to access markets in other member states and to exercise their activities there…….. [whilst recognizing]… that a whole range of barriers to the provision of these services will have to be abolished while, of course, permitting certain restrictions on well defined public policy grounds." McCreevy, C. (2006) *Commissioner Charlie McCreevy's Statement on the Vote in the European Parliament on the Services Directive* Speech/06/687, 15 November 2006, European Parliament Plenary Sessions, Strasburg.

48 See Forfás (2006) *Services Innovation in Ireland – Options for Innovation Policy*, A Report Commissioned by Forfás from CM International, Forfás, Dublin.

49 The European Commission SLIM Initiative (Simpler Legislation for the Internal Market) came about as the European Commission sought to increase its efforts to improve regulatory quality whilst seeking to reduce the regulatory burden. In November 1999 the European Council reached agreement on a common position on the SLIM proposals regarding the recognition of diplomas. This resulted in Directive 2001/19/EC, which amends both directives 89/48/EEC and 92/51/EEC.

50 Commission of the European Communities (2006d) *Creating an Innovative Europe* ('Aho Report') Commission of the European Communities, Luxembourg, 7.

51 James, P. and Hopkinson, P. (2002) *Service Innovation for Sustainability: A New Option for UK Environmental Policy?* Green Alliance, London, 2.

52 Commission of the European Communities (2006d), op. cit., 33.

53 Commission of the European Communities (2006d), op. cit., VII.

key to the full and proper functioning of an internal services market in Europe and further helps the fostering of the free flow of ideas, work practices and models. All these aspects are important in supporting creativity and innovation within knowledge intensive service activities (Box 2).

Once the Services Directive is finally adopted and implemented in all Member States, further work needs to be done on opening up national service markets. Too many services still operate in sheltered markets leading to misallocation of resources (especially high quality service workers) leaving room for lower quality, or too expensive, services to survive. Through increased scale there is more room for further specialisation in services (leading also to higher quality services), on the one hand, and developing more cost-efficient operations, on the other. Both trajectories provide incentives for investing more in services R&D and innovation.

Box 2 Legal and Regulatory Frameworks for Service Innovations

On the basis of the above evidence the Expert Group invites the Commission to:

1. Providing guidance to regulators to offer more proactive support in the development of new services and business models beyond their traditional 'watchdog' role.
2. Support in developing a stable, yet progressive, regulatory regimes which would provide a positive driver for generating new service offerings in, for example, environmental services. The ambitious use of standards-setting powers to demand high and innovative performance levels within services should also be encouraged.
3. Encourage the full recognition of professional qualifications across all key service sectors, both public and private, to enable the movement of key knowledge workers between Member States. The free flow of service professionals (including engineers and designers) is key to the full and proper functioning of an internal services market in Europe and further helps the fostering of the free flow of ideas, work practices and models. This remains a key issue for the successful development and international expansion of knowledge intensive service firms.

Intellectual Property Rights and Service Innovation

There is ongoing debate about creating an effective intellectual property right (IPR) framework that stimulates and sustains innovation in Europe[54] and this relates to services as well. Generally, service firms use IPRs much less to protect their innovations than manufacturing firms. Patent levels are much lower in services than in manufacturing, although other forms of IPR, such as copyright and trademarks, are seen as more significant[55]. Similarly, service firms do not typically consider lack of property protection as a major barrier to innovation; this is borne out by CIS3 data[56] and other surveys[57].

54 Council of the European Union (2006), op. cit., point 1.
55 Blind, K., J. Elder, U. Schlock, B. Andersen, J. Howells, I. Miles, J. Roberts, C. Hipp and R. Evangelista, (2003), *Patents in the Service Sector*, Final Report to Directorate General for Research, Commission of the European Communities, Brussels.
56 OECD (2005a), op. cit., 30.
57 See, for example, Howells and Tether (2004), op. cit., 20.

However, the issue is not transparent and deserves carefully monitoring for two main reasons. Firstly, for certain service sectors, such as telecommunication services or computer services, intellectual property right issues are important because businesses in these sectors often feel that existing property right mechanisms are not properly aligned to the needs of the firms concerned. There have been some shifts in the reach and nature of certain mechanisms, such as the extension of patents to cover certain forms of software generation, but problems remain for firms operating in these knowledge intensive and high technology service sectors. Secondly, as all forms of services become more knowledge and innovation intensive, increasing numbers of service firms are encountering problems associated with intellectual property rights and the protection of knowledge surrounding various aspects of the innovation process. As yet, these IPR barriers may be of a low level, but given the general trends towards increasing levels of innovation it is likely to become an ever more pervasive issue over time[58]. On this basis, there is a need for ongoing monitoring of IPR barriers to service innovation and the creation of a policy fora to exchange experiences[59].

Policy instruments should be implemented in two areas (Box 3). Firstly, there should be steps to systematically increase the awareness of the various options that IPR can provide for innovative service companies[60]. This also includes mechanisms, such as database protection or digital rights management. The awareness campaign should not only focus on a more active use of the existing IPR, but also on strategies and practical options how to deal with the rights of other companies. Secondly, there are particular IPR needs and problems for Small and Medium-sized Enterprises (SMEs) in the service sector[61].

The rationale behind supporting IPR scheme for SMEs is based on three pillars. First, in general, there is a low usage of the IPR mechanisms (with the exception of trademarks) amongst service companies compared with manufacturing companies. Second, SMEs face structural disadvantages in the use of IPRs due to their significant fixed costs associated with setting them up. Thirdly, IPR portfolios can represent important assets for (innovative) start-up service companies trying to raise finance from banks or venture capitalists.

58 Thus, the number of US patents issued for financial services has risen threefold between 2005 and 2006 to 238 see Scholtes, S. and Tett, G. (2007) 'Banks lay traps for copycats' *The Financial Times* 9 January 2007, 10. However, a contrasting view is that stronger IP protection is not necessarily better and that further legislation in this area could in fact stifle innovation. This, in particular, centres on open source software models as against changes to, or extension of, software patent controls. This contrasting perspective proposes encouraging diffusion and knowledge spillovers as a key to supporting innovation in services rather than further protection of intellectual property. For a discussion of this latter perspective see, for example, Deustche Bank (2004) *More Growth for Germany*, Deutsche Bank Research, Frankfurt am Main.

59 Thus, more specifically in the software area, it is suggested that establishment of a public database with source code in order to avoid infringements of software patents; see Blind, K. Edler, J. Friedewald, M. (2005) *Software Patents: Empirical Evidence and Policy Implications*, Edward Elgar, Cheltenham.

60 See, for example, Blind, K. (forthcoming) 'Regulatory foresight: methodologies and selected applications' Technology Forecasting & Social Change; Blind et al. (2003), op. cit.

61 Blind, K. Edler, J. Frietsch, R. and Schmoch, U. (2006) 'Motives to patent: empirical evidence from Germany' *Research Policy* 35, 655-672.

Box 3 Supporting IPR for Service Innovation

On the basis of the above evidence the Expert Group invites the Commission to:

1. Developing policy instruments which would systematically increase the awareness of the various options that IPR can provide for innovative service companies, especially SMEs.
2. Support service SMEs in the handling of their own intellectual property and that owned and used by other companies.

3.3 Service Innovation and the Knowledge Base

R&D and Innovation Policy for Services

Services are still largely neglected as arenas for government innovation policy[62]. Not only do new innovation schemes need to be devised to make them applicable to service industries ('widening'), but also existing innovation policies accessible and applicable to innovation in services and service functions (i.e., the 'deepening' of existing innovation policies). A recent study has highlighted the fact that service firms are less experienced in tracking down and using these schemes, but also suffer from the manufacturing bias in most of the innovation schemes that are available[63]. Thus, the proportion of firms that receive financial and other support for their innovation activities varies widely across Europe, but overall there is evidence that amongst those that are innovation active, service firms are less likely to receive support than are their manufacturing counterparts. Despite the general intention that innovation policies are 'sector-neutral', the reality is that most appear to be that they strongly favour manufacturers over service firms. Care also needs to be taken as R&D and innovation policies cannot only be measured in terms of financial spending as some of the more powerful instruments do not necessarily involve financial support, for example competition policies, regulation or educational policies. This bias in favour of manufacturing firms appears to exist for programmes provided by both individual member states and the European Union as a whole, although it appears to be most pronounced in support provided by member states.

This issue of policy relevance and accessibility, therefore, needs to be addressed at both European Union and member state level. R&D and innovation programmes need to be more aligned to the requirements of service innovation in both services and manufacturing firms. There has, however, been some good progress at the European Union level recently. Thus in the revision of State Aids for Research and Development and Innovation which notes that "The Commission, in this framework, expands the existing possibilities of aid to R&D to new activities supporting innovation."[64] This, more specifically here, highlights activities associated with process and organisational innovation[65].

Most R&D programmes, however, are not linked to particular sectors (i.e. they are horizontal), although most of them deal with thematic priorities and these are quite often more prevalent in one or more of a

62 Howells (2000), op. cit..
63 Van Ark et al. (2003), op. cit., 71
64 Commission of the European Communities (2006e) *Community Framework for State Aid for Research and Development and Innovation,* Staff Paper Preliminary Draft, 08.09.2006, Commission of the European Communities, Brussels.
65 Commission of the European Communities (2006e), op. cit., 25.

limited set of (mostly manufacturing) sectors. There is, therefore, a lack of truly horizontality when nominally horizontal programmes de facto exclude service innovation activities, either partially or totally. What needs to be done? Service firms (and service activities or functions) need to be more directly involved in formulating and developing national and European research agendas and R&D and innovation programmes. This, at a European level, should involve the inclusion of thematic priorities specifically relevant to services in future Framework Programmes (FPs). This can be pursued in two parallel ways, which are described in Box 4.

Links with the Research and Science Base

Another issue of concern here is service sector linkage with the science and research base of national territories. Thus, although services have been growing in their R&D intensity, service firms are still poorly linked with the science and knowledge base of their national and regional territories. Thus, service firms not only in general have fewer collaborative with external partners, but, moreover, universities and research institutes were the least widely engaged partner types. This is also reflected in terms of how service firms rate sources of information for innovation taken from the CIS2 survey data. The four least important sources: were consultants, universities, research institutes and patents. None of these sources was identified as 'very important' by more than 10% of the innovating firms, although individually financial services attached greater importance to consultants. This suggests these sources are rarely important for innovation in services, but it may be that they are used more frequently by service firms engaged in higher levels of innovative activity[66]. Amongst service firms, technical business service firms tend to be more likely to use these sources than all services, and indeed manufacturers.

How can service firms be supported in developing their engagement and use of the science and knowledge base of their national and European territory? This can be achieved via two avenues:

a) firstly, by enabling the science and knowledge base to become more responsive to the innovation needs of service firms; and,
b) secondly, by making service firms more aware and incentivised to use the science and knowledge base of their national territories.

In relation to the former element, a), the science and knowledge base (such as Higher Education Institutions (HEIs), public research establishments (PREs) and research technology organisations (RTOs)) needs to be made more sensitive to the knowledge needs of service firms and organizations (Box 3). Apart from investing in the services skill base more broadly, this requires a science base that is more responsive to the needs of services activities and the building up of 'state of the art' knowledge on services R&D and innovation. The policies proposed below, seeks to address the manufacturing (and technology driven) bias that is present in the knowledge infrastructures in most countries. Firms with requests dealing with technological innovation will find many organisations, research institutes and innovation intermediaries willing to help them; whereas service firms find it much more difficult to find support from within the science base for resolving issues that most often face. To a large extent, this is the result of institutional inertia, but is also due to service firms not articulating their knowledge needs adequately.

66 Based on CIS2 data; see Tether, B. S., Miles, I., Blind, K., Hipp, C., de Liso, N. and Cainelli, G. (2001) *Innovation in the Service Sector: Analysis of Data Collected under the Community Innovation Survey (CIS-2)*, Report for the European Commission within the Innovation Programme, CRIC, University of Manchester.

Box 4 Servicing the Research Needs of Services

On the basis of the above evidence the Expert Group invites the Commission to:

1. Involve service industries more actively when drawing up research agendas' and support them in articulating more actively their own R&D and innovation needs.
2. Encourage more socio-economic research associated with service innovation, which could provide a basic research platform for services activities.
3. Establish a 'Service R&D Challenge Call'; whereby R&D and innovation programmes encourage service, 'hybrid' and indeed manufacturing firms to systematically develop new service products and related support services.
4. Integrate a wider range of services to be more closely aligned to certain thematic research networks and programmes. For instance, the networks that are being established around emerging technologies (biotechnology, nanotechnology, new generations of ICT, converging technologies) could engage more actively with the service firms that are often likely to be their major users, or who will form major intermediaries between hardware suppliers and the end-users. It is likely that developments in, for example, genomics, neurosciences and ambient intelligence and locational technologies will have many applications in services (as well as stimulating new services). These research networks and programmes should also be evaluated in terms of how well services were integrated into them and to what extend service innovations will arise from them.

In relation to the latter element, b), service firms need to be encouraged to develop more links with the science and knowledge base (some member state governments are indeed already seeking to develop such programmes[67]). In part, it is an issue over the mismatch in the type of knowledge that is being generated within the science base and the way this filters down to service industries. This, in particular, is a key problem for those service firms that do not perform technological innovation. Grants or vouchers (Box 5) can also form important incentives for such firms to form such links with the science and knowledge base.

67 Such as the Finnish 'Serve' Programme; for details see Toivonen, M. (2006) 'The future of KIBS: The Finnish perspective' Paper presented to EMCC Anticipation Workshop *'The Future of Knowledge Intensive Business Services (KIBS) in Europe - Unlocking the Potential of the Knowledge Based Economy'* Helsinki, 23-24 November 2006; or the German research and innovation programmes focusing on services.

Box 5 Better Innovation Networking Links for Services

On the basis of the above evidence the Expert Group invites the Commission to:

Introduce and diffuse the successful innovation voucher scheme operated in the Netherlands (Innovation Vouchers for SMEs*) to a wider, European scale** and specifically aimed at service firms. The vouchers provide small amounts of money that are given to mostly non-R&D performing firms that they can hand in at HEIs and RTOs for solving a particular problem they are dealing with. This scheme shows exceptionally high levels of additionality and may be especially supportive of service SMEs building their first links with HEIs.

* For details see: http://www.senternovem.nl/innovatievouchers/ and also http://trendchart.cordis.lu/tc_article.cfm?ID=3125&NEWSID=12

** It has been now been adopted elsewhere in Europe, such as the West Midlands of the UK (see http://www.aston.ac.uk/about/news/061228.jsp)

Education, Learning and Skills

The issue of education, learning and skills is important for two reasons in relation to service innovation. Firstly, as we have noted already (Section 2.4), innovation and the introduction of new technologies commonly involves concomitant investments in training and skill development by firms. Secondly, lack of suitably qualified personnel can be a significant constraint to service firm and growth. Shortages of suitably qualified labour was rated as a significant barrier to service innovation, being rated the fourth most significant barrier from CIS3 survey data[68]. Compared with manufacturing firms, many service sectors are:

- more reliant on the skills and training of their workforce for competitive advantage; and,
- because much of their innovative activity is intimately bound up with skills and training.

The role of skills has received remarkably little attention from scholars of innovation in recent years, yet it is clear that skills have a fundamental bearing on innovation and firm's wider performance[69]. Two broad areas of skills need greater policy attention in relation to innovation in services[70]. The first is *management skills.* Very few people receive any formal training in innovation management, certainly from universities, and especially relative to those receiving training in the more established disciplines, such as marketing or accountancy or finance. Yet it is often argued that innovation management requires a broader mix of skills than is provided by traditional, disciplinary based approaches. Some have argued that a key weakness in many European firms is the poor quality of the management[71], many of whom lack any management qualifications, let alone any qualifications in innovation management. This leaves them ill-equipped to deal with change, especially in a proactive as opposed to a reactive way.

68 OECD (2005a), op. cit., 27-28.

69 See, for example, Freel, M. S. (1999) 'Where are the skills gaps in innovative small firms?' *International Journal of Entrepreneurial Behaviour & Research* 5, 144-154.

70 Tether, B. and Howells, J. (2006) *Changing Understanding of Innovation in Services: From Technological Adoption to Complex Complementary Changes to Technologies, Skills and Organisation* Discussion Paper, DTI, London.

71 See, for example, in UK situation, Finegold, D. and Soskice, D. (1988) 'The failure of training in Britain: analysis and prescription' *Oxford Review of Economic Policy* 4, 21-53.

The second policy field is *workforce skills*. Here, the tradition within the education and training systems has been to encourage high degrees of specialisation. Such specialisation is appropriate for economies based on highly decomposable tasks, but less appropriate where people need to interact and inter-relate in the course of their work. Such interaction and inter-relations are much more common in services work, including innovation related service work, and here worker skills are increasingly found wanting. There is, therefore, a need to adapt educational and training systems and develop degree curricula and training initiatives which prepare individuals for the demands of the service economy (Box 6). Typical aspects that are not always taught in regular education are project work capabilities, communication skills and skills to interact with clients.

Box 6 Education, Learning and Skills for an Innovative Service Economy

On the basis of the above evidence the Expert Group invites the Commission to:

1. *Identify new educational needs:* Encourage experimentation in developing roadmaps for identifying multidisciplinary knowledge and skill needs for the service economy and analyse in detail how they are met through regular education and then make proposals as to how to adapt curricula. This, in particular, relates to the developing training initiatives in management and workforce skills related to services. This would include establishing a 'European Services Industry Training Roundtable' to help articulate what knowledge and skills base modern service workers should aspire to. The results of such an exercise should then be feed back to course and curricula developers.
2. *Training:* This would explore the development of a range of schemes, including:
    a. Identification of 'best practice' courses that are adapted to the knowledge and skill needs of service activities.
    b. Investment in dual 'workplace' learning programmes where young adults combine learning from traditional educational establishments with workplace-based training in service firms and organisations.
    c. Encouraging the creation of courses and professional exchanges based on services R&D and services innovation management. This would include support for services' firms upgrading their innovation management, in particular underpinning the on-going formalisation of services innovation processes.
    d. Supporting the emergence of multi-disciplinary 'service engineering' or 'service science'* training and learning initiatives which aim to provide methods and tools that can be used systematically in the development and prototyping of new service offerings and development of new business models in services.
3. *Explore the extension of tax credits:* Tax credits are now available to support investments in R&D in many European Union member states; the same arguments can be applied to having *tax credits for training*, particularly where this training is associated with innovation, and consideration might be given to the introduction of such schemes.

Service industry, trade and professional associations would need to play a key facilitating role in developing these set of policy mechanisms.

* This concept has been strongly promoted by companies, such as IBM.

3.4 Entrepreneurship and Finance for Innovation in Services

Entrepreneurship and Finance

Entrepreneurship and new firm formation is a key dynamic factor in driving service innovation. Firstly, there is evidence that new service firms account for a larger share of innovative firms in the service sector compared with manufacturing. Thus, based on CIS3 survey data, in Sweden, around 10% of innovative service firms were established after 1998, whilst only 5% of innovative manufacturing firms were created after this date. Similarly, in Denmark 8% of innovative service firms were new compared to only 1% for manufacturing firms[72]. In countries, however, with lower rates of new firm entry, such as Austria, Italy and Portugal, the difference between the service and manufacturing sectors is smaller or even reversed[73].

Secondly, and more fundamentally, new entries (and exits) in services have an important role in driving the creative destruction and emergence of new forms of innovation and technology. New firm formation in service sectors is associated with a process of search and experimentation that leads to the emergence of new models of business organisation (and equally through the exit of firms the decline and disappearance of other less successful business models). This process of experimentation emphasises the process of survival of 'fitness'. Many new service firms do not survive, but those that do usually grow rapidly over time ('Gazelle phenomenon'[74]).

Lastly, new firm formation in services should be seen as having a wider dynamic role within the European economy. Some new service firms start as service firms, but evolve into manufacturing firms as part of a 'soft-hard' model of firm formation[75]. Moreover, a significant proportion of these new firms is in high knowledge intensive sectors (such as technical Knowledge Intensive Business Services (t-KIBS)) and transmogrify into high technology manufacturing firms. This wider economic transformation process associated with new service firms should therefore not be ignored in terms of its wider implications for the transformation and development of manufacturing industry and overall economic growth and dynamism.

Many new firms do not obtain funding because, quite simply, they do not generate a reasonable Rate of Investment (ROI) to the investor and consequently do not deserve commercial funding, either because of a too narrow business focus, too little innovative capacity, or too little growth potential. However, others that do seem to provide excellent returns both from an ROI and a risk perspective still do not find any investors. This paradox can partly be explained by market imperfections in funding regimes, but can also be explained by investors and entrepreneurs not understanding each other in certain service sectors.

However, if new firm formation is generally higher within services and entry barriers are generally lower than for manufacturing firms, why should they receive policy support? There are several reasons why innovative service firms might need support in accessing finance and these specifically centre around

72 OECD (2005a), op. cit., 28.

73 Indeed one study found no significant difference between 'recently established organisations' (3-5 years of age) and the propensity to innovate in any forms of innovation that were examined by the survey. For organisational and customer relationship innovation it was insignificant, but for other business relations, production processes, delivery processes and both technologies and skills used, recently established firms were less likely to change (Howells and Tether 2004, op. cit., 97).

74 See, for example, Erik, S. (2005) 'The geography of gazelles in the Netherlands' *Tijdschrift voor Economische en Sociale Geografie* 96, 121-127.

75 Bullock M. P. D. (1983) *Academic Enterprise, Industrial Innovation and the Development of High Technology Financing in the United States,* Brand Brothers, London; see also Westhead et al. (2002) 'Technology-based firms located on science parks: the applicability of Bullock's 'soft-hard' model', *Enterprise and Innovation Management Studies* 1, 107-139.

two issues. Firstly, because many venture capital firms are less tuned into the needs of new service firms (see below) and, secondly, because service firms are often dependent more on intangible, knowledge-based assets and valuations on these assets are often very difficult to undertake[76]. This can create considerable barriers for KIBS firms, especially in more design, technical and professional service areas. These barriers have recently been recognised by the OECD which noted: "The financing of innovation remains an important barrier for services firms, perhaps more so than for manufacturing firms. This is partly, because firms in certain service industries, such as business services, are quite small, which typically implies more restricted access to private financing."[77]

Policy issues associated with finance for service entrepreneurship and innovation should therefore centre on providing support for undertaking:

- intellectual property valuations
- due-diligence;
- viable business and financial plans; and,
- training initiatives to support professionals undertaking the above processes.

Such initiatives also need better training on the part of financial advisers on the specific issues and problems associated with financing knowledge intensive service firms (Box 7). In order to fully exploit the potential of the service sector, therefore, especially amongst European SMEs looking for finance, it will be necessary to upgrade and re-orient the financial support system throughout Europe; for example, in supporting service firms to prepare financial and business plans. Thus, many innovative SMEs in the service sector do not get funding because of inadequately prepared financial and business plans. A lot of resources are currently being spent among investors and innovation professionals in an effort to identify which of the many projects they see that have potential. It is important to find a cost efficient way to screen this 'deal flow'. This will require substantial training, the development of national adapted adequate tools and some sort of innovation professional certification. This could evolve into a self sustaining service supporting European growth-oriented service sector companies (see also Section 4.5). Upgrading local support organizations and service providers to conduct such service could be a valuable action.

76 Deustche Bank (2004), op. cit., 6.
77 OECD (2005c) *Growth in Services: Fostering Employment, Productivity and Innovation*, Meeting of the OECD Council at Ministerial Level, 2005, OECD, Paris, 18.

Box 7 Supporting Access to Finance for Service Innovation

On the basis of the above, the Expert Group invites the Commission to consider:

1) *Support for Better IP Valuations:* Support for in-depth IP valuations, which are often difficult with high levels of intangible assets. This may involve collaboration with external IP specialists and an overall broadening and deepening of IP valuations by financial services firms.

2) *Support for Due Diligence:* Support should be given to help subsidise the cost of conducting a professional and thorough due diligence. Lack of proper due diligence assessments often discourages investors to be active in the early stage funding market segment. Smaller funds have limited in-house analytical capacity. Embarking on a costly due diligence process, which can often still lead to a negative investment decision, represents a major obstacle for smaller funds and can lead to a rejection at the outset. This is, therefore, not because the opportunity per se is not attractive, but because the cost of conducting the needed due-diligence process.

3) *Support for Financial and Business Plan Preparation:* This would be via a 'Screening–Selection–Coaching' (SSC) staged process approach, involving easy-to-use diagnostic on-line tools that would provide investors and innovation professionals a cost efficient way to identify the most relevant type of investment targets or clients. The "first line" screening stage would provide simple, structured tools to less experienced staff who could undertake a pre-screening service that would provide a first line scanning of innovative service oriented projects from which projects with the best chance of becoming successful investment opportunities could then be selected. The initial screening would provide a "classification" of the type of problems a company is facing. These screened projects would then be passed on to a group of investors who have expressed an interest in these types of projects and to assess if the client firm is ready to enter into a support and coaching partnership. Only those fulfilling both criteria would be analysed further. Lastly, in the context of "coaching", the objective would be to quickly identify challenges and weaknesses in a business concept, to identify the type of "treatment" needed and to identify a number of relevant investors to approach. The SSC approach therefore represents a cost efficient way to screen and select those service companies, which have a growth potential, *and* an adequately structured business model to offer potentially high investment returns.

4) *Establish a 'Train the Trainer Initiative':* where selected venture capitalists, incubators, other investors (such as 'business angels') and legal professionals could be trained to provide more tailored support to the innovative service companies from innovation professionals with experience from the service sector. This, in turn, would help generate successful role models for a more growth oriented service sector. These training initiatives could be established around specific service sectors (or groups of sectors) with such training based on a generic shell, but additionally have a specific service sector orientation. The initiative would also provide tools and training for innovation professionals and entrepreneurs regarding the special requirements associated with funding service sectors.

Clusters and Innovation in Services

Another way to support entrepreneurship and innovation in services, which requires is that of cluster formation and development. Clusters can often form the core of innovative development[78]. It is widely recognised that new firms can often thrive in the proximity with other companies, investors, educational institutions and research centres afforded by clusters (particularly in the presence of world class academic institutions). Such clusters can also be supported by strong and dynamic local labour markets that allow the mixing of people and, in turn, the diffusion of knowledge and best practice methods.

There is some indication that service clusters can improve their attractiveness, if they find good levels of integration with other service clusters that provide complementary activities or advantages[79]. The EU could certainly help create a policy environment that makes it easier for regional clusters to develop such inter-cluster linkages. Effective linkages might require geographical proximity within at least a group of neighbouring countries[80]. Such policies are not without pitfalls, however; linkages between regional clusters are not a substitute for the inherent strength of a regional cluster itself.

Many individual cluster initiatives and cluster policy programmes are currently underway throughout Europe. However, research on service clusters and innovation remains embryonic[81], but clearly this phenomenon needs further examination and ideas in order to produce cogent policy support mechanisms. Effective cluster-based economic policy depends on accurate, timely and accessible cluster data. There needs to be effective and systematic policy impact assessment for service clusters, which would link in with other cluster initiatives and cluster-based economic policies, increasingly common across EU member countries. Whilst cluster initiatives are still a relatively new policy tool, there is an increasing amount of knowledge on practices that can be successfully deployed within the Union supported via, for example, a methodology tool box for regional cluster development (Box 8).

78 Baptista, R. M. L. N. and Swann, G. M. P. (1998) 'Do firms in clusters innovate more?' *Research Policy* 27, 527-542.

79 There is a high level of integration and co-dependency between the London, Frankfurt and Dublin financial service clusters.

80 Scanbalt, a network of regional clusters in biopharmaceuticals in the Baltic Sea Region, might from a template for service cluster initiatives in this respect.

81 See, for example, research on financial or computer service clusters: Pandit, N. R., Cook, G. A. S. and Swann, G. M. P. (2001) 'The dynamics of industrial clustering in British financial services' The Service Industries Journal 21, 33-61; Pandit, N. R. and Cook, G. A. S. (2003) 'The benefits industrial clustering: Insights from the British financial services industry at three locations' Journal of Financial Services Marketing 7, 230-245; Cook, G. A. S. Pandit, N. R. Beaverstock, J. V. Taylor, P. J. and Pain, K. (2003) 'The clustering of financial services in London' GaWC Research Bulletin 124, Department of Geography, University of Loughborough; Fingleton, B. Igliori, D. C. and Moore, B. (2004) 'Employment growth of small high-technology firms and the role of horizontal clustering: evidence from computing services and R&D in great Britain, 1991-2000' *Urban Studies* 41, 773-779.

Box 8 Clusters and Innovation in Services

On the basis of the above evidence, the Expert Group invites the Commission to consider the following policy mechanisms:

1. *European cluster mapping, impact assessment and 'tool box':* Eurostat and the European Commission should launch an action programme to ensure that regional data on a broad set of indicators (for example, employment, productivity, wages and export/import data) is available at the four digit industry level*. There also needs to be effective and systematic policy impact assessment for service clusters, which would link in with other cluster initiatives and cluster-based economic policies, increasingly common across EU member countries. Individual countries and regions** have already initiated such efforts, but there would be a major advantage from designing and organizing such a monitoring effort from a centralised, more neutral position. The European Commission should work with networks of practitioners in this field to identify such cluster practices and make them available throughout EU. This would also include practitioner training courses that the EU could organise.
2. *European service cluster alliance for best practices:* The European Commission should provide regular workshops and fora for practitioners to help share best practice experiences and to learn from failures as well as successes. The INNO-nets is a positive initiative in this direction.
3. *Networks of service clusters:* Service cluster networking can improve the attractiveness of an individual cluster, if they find good levels of integration with other service clusters that provide complementary activities or advantages. The EU can help provide an environment that makes it easier for regional service clusters to develop such linkages. This initiative could build on the INNOVA Network.

* This lack of data limits the type of analysis that is possible within, for example, the INNOVA Cluster Mapping Project.
** For example Austria, and groups of European regions, for example Catalonia and Yorkshire.

3.5 Demand, Public Procurement and Service Innovation

An important barrier to the development of adequate policies for innovation in services has been the continued focus on supply side issues to do with innovation. Given that so many services, especially new service products, are created through the process of co-production and co-consumption[82], a much more detailed examination of the consumption process as an aspect of service innovation is required. Thus, a key aspect of how services are defined, relates to their consumption, whilst how services are consumed represents an important dimension in the innovativeness of a service[83]. Indeed, this is implicitly, if not explicitly, assumed in much of the client-intensive service studies, which highlight the importance of the client (consumer) in many service-oriented innovations. It also provides part of the

82 Den Hertog, P (2000) 'Knowledge intensive business services as co-producers of innovation' *International Journal of Innovation Management* 4, 91-528 see also Illeris, S, (1994) 'Proximity between service producers and service users', *Tijdschrift voor Economische en Sociale Geografie* 85, 294-302.
83 Howells, J. (2004), op. cit., 22-3.

reason why so many specialist business services with close-client interaction have done so well and grown so fast[84]. Arguably, such service firms have grown so rapidly not only because of their specialist knowledge and bespoke generation and delivery of services to the firm, but also in their ability to *articulate* new wants, and reformulate existing demands, for their clients.

The importance of demand in relation to innovation can, however, be viewed in a more negative way in the sense that the lack of demand for novelty can from a significant barrier to service innovation. Indeed, in a major survey of service innovation across Europe and the United States discovered that it was the *most significant barrier to innovation*[85]. Thus, customers who were unwilling or unable to pay for new services were identified as the most important barrier to innovation to the service businesses. At a more general level, this links in with Porter's notion that demanding consumers are important for stimulating and sustaining competitive and innovative firms[86]. It was also found to be associated with another high ranking barrier in the survey, which was that customers are unresponsive to new service offerings. The lack of demanding and novelty seeking customers who are willing and able to pay for upgraded, improved or novel services can represent an important barrier in service innovation because enterprises find difficult to overcome. The need here is therefore to focus on consumption patterns; to concentrate and 'lock in' on leading-edge consumers[87] both locally and globally; and to examine how these patterns and characteristics feed into key intangible activities, such as design, engineering, testing and marketing (i.e. those elements that may be described as the 'soft side' of knowledge activity), which can then be translated into competitive advantage and growth. There are the activities where the advanced economies, including many EU member states, still have (though largely hidden and uncharted) strengths and where they will have an ongoing comparative advantage. Being able to stimulate and harness these activities, however, will not be easy from a policy point of view. A more 'demand side' perspective in relation to innovation policy at national and regional level will be unfamiliar territory for most policymakers.

Innovation policies are, therefore, still overwhelmingly supply-side in their orientation[88] with little consideration given towards the demand-side perspectives and the role of consumption in relation to innovation. This is a serious deficiency when it comes to service innovation where, as has been noted, innovation so often is intimately linked to the consumer. However, the Finnish Presidency[89], though, has recently highlighted the role of demand as a driver of innovation. In particular it highlights the fact that to compete effectively n the global economy firms' need to respond innovatively to the changing views and needs of customers and users – the demand side of the market. The policy document also seeks to include services in developing this policy perspective, including public services[90]. This is also strongly supported by the Aho Report[91] which concludes more generally in respect of markets and innovation: "If Europe cannot offer an innovation-friendly market for creative outputs of its businesses then those businesses will fail to thrive or go elsewhere."

Policies need to address the issue of effectively harnessing the role of demand in innovation, and this

84 Wood, P. A. (2002), 'Knowledge-intensive services and urban innovativeness' *Urban Studies*, 39, 993-1002.
85 Howells and Tether (2004), op. cit., 120-1; although recent CIS4 data suggests it lags behind cost and finance factors.
86 See Porter, M. S. (1990) *The Competitive Advantage of Nations*, Macmillan, London.
87 Herstatt, C. and von Hippel, E. (1992) 'From experience: developing new product concepts via the lead user method – a case study in a 'low tech' field' *Journal of Product Innovation Management*, 9, 213-221.
88 Georghiou, L. (2006) *Effective Innovation Policies for Europe – The Missing Demand-Side*, PREST, Manchester Business School, University of Manchester and Prime Minister's Office/Economic Council of Finland.
89 Ministry of Trade and Industry (2006) *Demand as a Driver of Innovation: Towards a More Effective European Innovation Policy*, Ministry of Trade and Industry, Helsinki. The Finnish Presidency moreover hopes that the German presidency will endorse and follow up this initiative in the first half of 2007.
90 Ministry of Trade and Industry (2006), op. cit., 3.
91 Commission of the European Communities (2006d), op. cit., 5.

applies to services in general and also to the neglected area of public services[92]. Studies have indicated the significance of government and public procurement in fostering innovation, but have also highlighted the problems and barriers associated with developing such strategies[93]. Europe must therefore think creatively (and not in a trade reducing or discriminative way) to enable its demand and procurement practices support innovative services and solutions. This could be done via a number of ways (Box 9).

Box 9 The Role of Demand in Stimulating Innovation in Services

On the basis of the above evidence the Expert Group invites the Commission to consider the following policy mechanisms:

1. Foster more experimentation in developing more *demand-driven* R&D programmes.

2. Governments need to develop schemes that could encourage purchasers of services to be more innovative in their purchasing patterns, via:

    a. Develop the use of more ambitious *standards* to stimulate more innovative service products and performance levels within services.
    b. Improve the *market transparency* for services by helping to ensure consumers and intermediate users are better informed on available service offerings (i.e., dealing with typical market failures, such as information asymmetry and market transparency).

3. Governments are also consumers in their own right and should seek ways to become more innovative procurers for services. As such, governments are in a unique position to support service innovation by acting as *lead customers* with ambitious requirements when procuring services. Governments should be encouraged to develop and share experiences of innovative procurement policies.

92 Georghiou (2006), op. cit., 15.
93 Confederation of British Industry/QINETIQ (2006) *Innovation and Public Procurement: A New Approach to Stimulating Innovation*, Innovation Brief, CBI, London.

4. Specific Policy Actions

4.1 Introduction

Wherever possible it is appropriate to extend and modify existing (horizontal and framework) policies to make them better aligned to the needs of the European service economy[94]. However, in certain instances this is neither feasible nor realistic and in a number of cases more specific (vertical) policies are necessary. On this basis, four more specific policy actions are outlined here:

- European Innovation Platform for Knowledge Intensive Services (Section 4.2);
- European Service Innovation Institute (Section 4.3);
- Innovation Service Exchange (Section 4.4); and,
- supporting the market launch of high risk, innovative service products (Section 4.5).

4.2 European Innovation Platform for Knowledge Intensive Services

It has already been noted that encouraging entrepreneurship and new firm formation is important in stimulating innovation in services (Section 3.4). As fast-growing innovative firms strive to become 'threshold' firms, they need support during the critical years of explosive growth brought about by innovation. The qualities required for fast-growing innovative firms to survive and develop beyond the critical period of explosive growth include:

- identifying the needs of the firm's customers;
- developing a niche where competition is still minimal, but growth expectations are high;
- learning from mistakes in R&D;
- active information searching;
- flexibility; and,
- leadership development.

To aid this growth, policies have started to emerge that support:

a) new firm formation in high technology manufacturing (service) firms; and, more recently,
b) in identifying and supporting rapid-growth ('Gazelle') firms.

Financial and incubation support mechanisms have already been outlined more fully in Sections 3.4. Nevertheless, support for high growth firms, particularly in relation to services, is still very embryonic. Policies designed in particular to help establish and support new, high growth knowledge intensive service (KIS) firms need to be put in place, but there are also opportunities associated with supporting clusters and financial support for innovative new and small service firms. This would be in keeping with the recent Communication "Putting Knowledge into Practice" which highlighted the need for "a more pro-active approach to the creation and support of young innovative SMEs in the service sector."[95] The

94 Thus there remain concerns over attempts to incrementally alter the horizontal approach towards sector specific opt-outs or special provisions, which are seen as retrograde steps and institutions, have been encouraged to strongly resist calls for such developments. The benefits of a broad horizontal approach would be seen to be quickly lost if unalloyed sector specific policies were allowed to develop.
95 Commission of the European Communities (2006a), op. cit., 5.

Communication also noted the specific objective of creating within the Europe INNOVA initiative, "more efficient links between universities, entrepreneurship and finance" resulting in the creation of a European Innovation Platform in this sector.[96] In this section we seek to outline in more detail proposals relating to a European Innovation Platform for knowledge intense services.

New knowledge intensive service firms also often need particular support when it comes to benefiting from new developments in ICT and B2B technologies, such as identifying the most relevant B2B internet trading platforms[97]. In most sectors, a great number of trading platforms exist, and because of lack of market transparency, it is not always easy to select the right ones, as this would require a heavy resource commitment. There are also new commercial risks resulting from incomplete information about market rules, business partners and unfair practices. Thus, e-marketplaces have their own rules that are sometimes distinct from usual business practices, for example, for electronic auctions.

In terms of new firm formation and growth targeted at high knowledge intensive services, a number of policy mechanisms more attuned to the needs of service firms need to be developed which more readily for their business and innovation needs. What is the rationale behind this? Firstly, KIS firms have a high potential for growth and require dedicated policy instrument to support their development, but such instruments are practically inexistent. Secondly, as noted in Section 3.4, KIS firms confront a number of specific challenges, for example in often depending upon for finance, but often finding it difficult to effectively value intangible, IP based assets. Thirdly, there are also specific challenges to be addressed with respect to the knowledge transfer of business models for KIS as they are not easily described or standardised and this makes their dissemination more difficult.

Closely following the issues and initiatives outlined above we need to explore the best ways to establish new policy mechanism for service innovation. The notion of a European Innovation Platform for Knowledge Intensive Services aims at addressing the specific challenge of how to put knowledge relating to service innovations into practice, taking into account the dynamic interconnections between research, entrepreneurship and finance. (Box 10). This is not only considered as the most difficult challenge for promoting a better innovation culture for services in Europe, but also as the most rewarding one in terms of economic growth and value added[98]. Europe lacks leading edge innovations in services and, as a result, lacks fast growing enterprises with an international reach. There is an opportunity here to build on the Gate2Growth initiative, as well as to gain experience from the ongoing Europe INNOVA financing networks operating across Europe.

96 Commission of the European Communities (2006a), op. cit., 6.
97 Commission of the European Communities (2006f) *Report of the Expert Group on B2B Internet Trading Platforms*, Final Report, Commission of the European Communities, Brussels.
98 Commission of the European Communities (2006a), op. cit.,

Box 10 European Innovation Platform for Knowledge Intensive Services

The Expert Group invites the Commission to consider implementing the European Innovation Platform for Knowledge Intensive Services as a pilot scheme, which should be subsequently integrated into general framework policies, and which would act as a network for experts from different fields. It is suggested to implement the Innovation Platform through a public private partnership based on a sectoral networking approach complemented with horizontal support services.

The sectoral networks could aim to develop, test and validate pooled service packages for potential high growth KIS ventures. More specifically, the activities could include:

- Assessing the research needs of potential high growth companies active in knowledge intensive services and helping them in establishing closer links with the research and knowledge base
- Offering KIS ventures specialised coaching and training in market and investment readiness, based on existing good practices
- Facilitating the access to clusters

Activities such as a peer-to-peer user community as well as a research repository of service innovations in addition to the organisation of a prestigious European Venture Contest could be considered as horizontal support services.

As such, the European Innovation Platform for Knowledge Intensive Services would seek to bring together, test and explore many of the policy ideas outlined in this report.

4.3 European Institute for Service Innovation

In addition to the need for a European Innovation Platform in services focused on start-ups there is also a need to establish a much broader centre of excellence for services, the European Institute for Service Innovation (EISI) where future service needs could be identified, concepts 'proofed' and where innovative pilot projects in service innovation could be tested. As such, the EISI would act as a service laboratory or testbed for service innovation (Box 11). It would also provide an arena where multidisciplinary knowledge on developing new innovative services (including developing formalised methods for developing these) could be shared and brought together, before wider dissemination amongst the service community.

EISI could also encourage the development and transfer of best practice in service innovation in terms of:

- how to develop R&D and innovation strategies;
- methodologies that could be applied systematically to develop new services;
- how service firms can best link up to their respective science bases;

- indicate the sort of knowledge service firms should source in house for developing these new services; and, lastly,
- seek to encourage the persistence of these effects after initial contact and support[99].

Professional, industry and trade associations should play a key role here in developing a true public-private partnership for service innovation. EISI could also build upon, and network with, the Euro Info Centres (EICs), many of which are currently hosted by local Chambers of Commerce[100].

Box 11 European Service Innovation Institute

The Expert Group invites the Commission to consider setting up:

> A centre of excellence for services, the European Institute for Service Innovation (EISI), where future service needs can be identified, concepts 'proofed' and where innovative pilot projects in service innovation can be tested. Part of EISI's remit would also be to encourage the development and transfer of best practice in service innovation. Professional, industry and trade associations could play a role here in developing a true public-private partnership for service innovation. EISI could also build upon, and network with, the Euro Info Centres. One possibility here is that the Commission consider revising and extending the remit of the European Institute of Technology (EIT), so that EISI could provide a specific service function within an extended EIT (although not necessarily co-located with it)*.

* See Commission of the European Communities (2006g) *The European Institute of Technology: Further Steps Towards its Creation* Communication from the Commission to the European Council, COM (2006) 276 final, Commission of the European Communities, Brussels, 21.

4.4 Innovation Service Exchange Network

Knowledge on R&D, innovation and best practice methods in services remains in most countries fragmented over various institutes and organisations that deal with individual aspects of service R&D and innovation (knowledge on business models, on new service concepts, specialists in consumer behaviour, marketing, work design and value chain management) and there is an urgent need to help coordinate and disseminate this key information and knowledge.

There is evidence is emerging that high growth firms often prefer to obtain advice from their peers not from government agencies[101]. These findings suggest a network-based approach to the support of rapid growth that is consistent with, for example, a new Ontario-based programme, the Wisdom Exchange associated with the wider Innovators' Alliance. The Wisdom Exchange is one of the

[99] Georghiou, L. and Clarysse, B. (2006) 'Introduction and synthesis' in OECD *Government R&D Funding and Company Behaviour: Measuring Behavioural Additionality* OECD, Paris, 9-38, 19.

[100] See EuroChambres (2006) *Nurturing Economic Revival: The German Presidency of the European Union*, EuroChambres State of Play, First Semester 2007, EuroChambres, Brussels.

101 See Fischer, E. and Reuber, A. R. (2003) 'Support for rapid-growth firms: a comparison of the views of founders, government policymakers, and private sector resource providers' *Journal of Small Business Management* 41, 346-365.

initiatives the private and public sectors have jointly undertaken to sustain this growth, by providing a forum where these firms' managers can exchange ideas and expertise on the challenges they face[102].

We have also seen that there is poor research collaboration and information sharing between the public science and research base and industry in relation to services. As such, public-private networking in the services remains poorly defined and fragmented to the detriment of creating a more effective and dynamic service sector in Europe[103]. An Innovation Service Exchange could help improve such public-private research and knowledge collaboration within the service community (Box 12).

Box 12 Innovation Service Exchange Network

On the basis of the above, the Expert Group invites the Commission to consider establishing an Innovation Service Exchange Network that would involve the following components:

1. Establishing a specific, peer-to-peer *knowledge community** on services R&D and innovation to help coordinate and disseminate on key information and knowledge associated with R&D and innovation. This would encourage service firms to be more aware: a) of the knowledge relevant to services and service innovation both within their own *industry peer group*; and, b) between industry and universities (and other research institutes) by investing in networking events, demand driven research programmes at universities and proper mapping of services research in universities. It would also seek to increase the awareness amongst the social science and humanity communities across Europe that they have knowledge and expertise, which may of benefit to service firms.
2. Highlight and diffuse *best practices* by establishing an industry-academic network in service innovation. Thus in, for example, the health service sector best practice treatments and management practices can be more effectively diffused on the basis of the best scientific evidence helping to reduce wide variations in existing healthcare techniques and outcomes**.

This network would involve a strong *public-private* dimension to its activities.

* This would mirror the creation of knowledge communities that have already been created in, for example, production technologies under Framework Programme 6.

** Commission of the European Communities (2006h) *Consultation Regarding Community Action on Health Services*, Communication from the Commission, Health and Consumer Protection Directorate-General, Commission of the European Communities, Brussels.

102 Innovators Alliance (2006) *Ontario's Leading Growth Firms Innovators*, Alliance Board, Ontario, Canada.

103 This can be seen as a systemic failure in national innovation systems; see Woolthuis, R. K. Lanzhuizen, M. and Gilsing, V. (2005) "A system failure framework for innovation policy design" *Technovation* 25, 609-619.

4.5 Supporting the Introduction of High Risk, Innovative Service Products

A key barrier for many high growth, innovative service firms is the highly specialised, niche nature of their products. High growth, innovative service firms face two main difficulties when seeking to launch the introduction of new, innovative service products.

1) Firstly, such service products frequently originate from offering a unique, innovative service solution to a particular customer and the needs and demands they have. It is often difficult to then turn these bespoke service products or solutions into more generic service offerings.

2) Secondly, because of the specialised nature and size of the market, or because the market may not be fully developed or properly formed yet, the service firms is faced with trying to amortise the cost of development over a wider a geographical areas as possible and this effectively means that the firm has to develop an international sales and marketing presence at the outset of the product development phase which is risky[104]. Although developments in internet trading may have reduced such a problem it is still identified as a major hurdle for new fast-growth firms[105].

On this basis, there is a need for a targeted initiative to support the launch of new, high risk innovative service products within Europe (Box 13). Again national governments can have a direct role to play here by being a lead user, through demand and procurement practices (Section 3.5) for such services

Box 13 High Risk, Innovative Service Product Support Initiative

On the basis of the above, the Expert Group invites the Commission to consider:

1. Financially support by the market testing, marketing and overseas expansion of new innovative service products.
2. Providing support for the overseas launch of innovative service products.

104 This latter point has been identified for some time; see, for example, Carman, J. M. and Langeard, E. (1980) 'Growth Strategies for service firms' *Strategic Management Journal* 1, 7-22.
105 Innovators Alliance (2006), op. cit.

4.6 Conclusion: Where to Now?

For Europe to compete effectively and generate the growth it requires for sustained social and economic development it needs a healthy and innovative service sector. No longer can Europe afford to neglect services and its innovative potential in policy terms. Such a policy initiative is, moreover, not to detriment of manufacturing, but rather will help buttress and re-energise manufacturing industry in its own growth trajectories.

At the core of this report, therefore, has been a set of policy prescriptions and recommendations that seek to further encourage, harness and fully exploit the innovative potential of services to lever such growth and development. However, as has already been noted we also need to be more informed and innovative in terms of generating new policies for service innovation and to make the most of such growth potential. Above all, there is a crucial need for the development of new indicators will require long term funding for the generation of a new conceptual and methodological research framework. Without it, much of policy will remain 'in the dark' and perhaps of little relevance to the real world through which it could enhance Europe's competitive position.

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Annex II Expert Group Panel Composition

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Mr Pim den Hertog – Dialogic, Netherlands
Mr Hugo Hollanders - MERIT, University of Maastricht, Netherlands
Mrs Corinna Schulze - IBM Europe, France
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