SERVICE INNOVATION POLICY BENCHMARKING

SLOVENIA

Metka Stare[1]

Centre of International Relations, Faculty of Social Sciences,
University of Ljubljana, SLOVENIA

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[1] stare.metka@guest.arnes,si;

CONTENTS

EXCUTIVE SUMMARY

Development Strategy of Slovenia (2005) has recognised the important contribution of innovation activity for the competitiveness and growth of economy. Slovenia ranks among European innovation followers (Innovation Union Scoreboard 2011) with an observed gap between the country's overall inputs and economic effects of innovation activity. Innovation system is highly complex with a number of measures administered by different government agencies. Public policy support to innovation is based on sector neutral measures and focuses on technological innovation. Rather then service innovation, policy stakeholders refer to non-technological innovation and new business models. Structural shifts of the Slovene economy towards the service sector, which have been taking place in the last two decades, were so far insufficiently translated into the realm of innovation policy shaping. In addition, the composition of service sector dominated by traditional services is not conducive to higher innovation intensity.

Innovation policy design focuses on supply-side support mechanisms while the evidence on demand side policy is scarce. At present there are no measures targeted at service innovation even though most measures could in principle be applied by service companies. It depends on the eligibility criteria of individual mesures to what extent can they be used by service companies or/and for non-technological innovation. Support for training and mobility has the longest tradition among innovation policy instruments and has significantly increased the pool of researchers with PhD in public research institutions and the University, but lately also in the business sector. A number of new measures were introduced since 2010 that could impact service innovation as well, such as competence and development centres, innovation vouchers and mentorship vouchers. Preliminary evaluation shows that service companies are the major beneficiaries of vouchers schemes. R&D tax incentives are in place since 2006, however the criteria for eligibility are more appropriate for non service companies. While one can hardly identify any direct demand-side policy in the present innovation system in Slovenia, there could be some measures indirectly affecting demand for innovative services (e.g. competence centres). In future the Decree on Green Public Procurement enacted in 2011 could encourage demand for innovative services in the areas covered by the decree. Supporting framework conditions refer to measures for raising the awareness on service innovation and providing relevant information. In 2010 the award for service innovation and for innovative business models was introduced at the major innovation event. Nevertheless, service innovation remains rather invisible in current innovation policy, reflecting on one hand the incremental nature of the phenomenon and the bias toward technological breakthroughs on the other hand.

The Resolution on Research and Innovation Strategy of Slovenia 2011-2020 adopted by the National Assembly of the Republic of Slovenia in June 2011 envisages a number of horizontal support measures that could accelerate service innovation as well. For the first time services innovation and non-technological innovations are explicitly mentioned in policy documents. Planned measures range from the support to increasing the innovation activity in services (technological and non-technological innovation), the integration of innovative services to all public procurement (particularly services referring to aging population, environment, renewable energy), support to design and marketing of new products to enhancing innovation in business models. It remains to be seen how the proposed measures will be implemented under the austerity programme and severe budget cuts to be carried out in 2012.

1. NATIONAL POLICY CONTEXT

1.1. Positioning service innovation within national innovation system

Slovenia experienced a continous progress in the last couple of years in its innovation performance measured by the improvement in Summary Innovation index of Innovation Union Scoreboard. R&D spending increased from 1.45% of GDP in 2007 to 2.1% of GDP in 2010 as a part of programmes to mitigate the effects of the crisis. Since 2009 Slovenia ranks among European innovation followers and reveals relative strength in human resources while major weaknesses refer to intellectual assests and economic effects of innovation activity (Innovation Union Scoreboard 2010, 2011). There seems to be a gap between country's overall inputs to innovation activity and economic effects raising the issue of the effectivness of innovation policy. It may be expected that in the longer term increased inputs to innovation capacity in different areas will also result in improved outcomes.

It needs to be observed at the outset that the term service innovation in Slovenia is not only very rarely used in the discussions among major stakeholders, but also very poorly understood. More often non-technological innovation, organisational innovation and new business models are referred to when aspects that go beyond technological innovation are mentioned. Even if the awareness of non-technological dimensions of innovation is growing very slowly and innovation policy largely neglects service innovation the latter is taking place in the service sector and in manufacturing. Available evidence confirms tha individual instruments of innovation support are increasingly used by service companies that reflects dominant share of services in Slovenian economy. In the absence of targeted instruments to promote service innovation this suggests that support to service innovation is fairly invisible.

Strategic policy documents[2] that deal with innovation have recognised the important contribution of innovation activity to the competitiveness and growth of national economy. As observed some years ago innovation support in Slovenia is largely based on horizontal or sector neutral approach (Stare, Bučar, 2007). Within this context, the Action plan for the implementation of Development Strategy of Slovenia proposed also some measures that could enhance services development and indirectly stimulate innovation, such as to improve the SMEs access to quality support services within a single network; establish the mechanisms to boost investment in service industries by promoting SMEs activities; encourage the use of advanced managerial techniques to manage change and develop business model for business excellence of Slovenian firms; enhance the development of specific know-how related to the process of service innovation, service marketing and international transactions; develop instruments tailored to stimulating innovation in services; support the establishment and activities of innovative groups, accelerate the outsourcing of different services from the public sector controlling for the quality of services and the maintenance of high standards, etc. The implementation of the above set of measures that could enhance service innovation was significantly delayed, partly also due to the lack of understanding and knowledge on how the design

[2] Development Strategy of Slovenia (DRS) for the period 2006-2013 (2005) and the Resolution on the national research and development programme for the period 2006-2010 (2005).

of support measures should be shaped. Nevertheless, a number of respective measures were introduced as illustrated in section 2.

In 2009 the exploratory research study "The Starting Points and Guidelines for the Design of Strategy of Non-technological Innovation in Slovenia until 2020" was commissioned by the Ministry of Higher Education, Science and Technology and Slovenian Technology Agency. The results of the study[3] suggest that there is a need for mobilization and synergy of different actors of the innovation system (government, public research institutions, education system, public opinion makers') in order to make progress in the non-technological innovation capacity and accordingly identify a large set of support measures that need to be introduced. According to available information few recommendations were taken into account so far in the design of support measures that could have an impact on service innovation. This gap in innovation policy design is echoed in the latest OECD assessment on Slovenia where the support for non-technological innovation is seen of utmost importance in modernising Slovenia's economy (OECD, 2011).

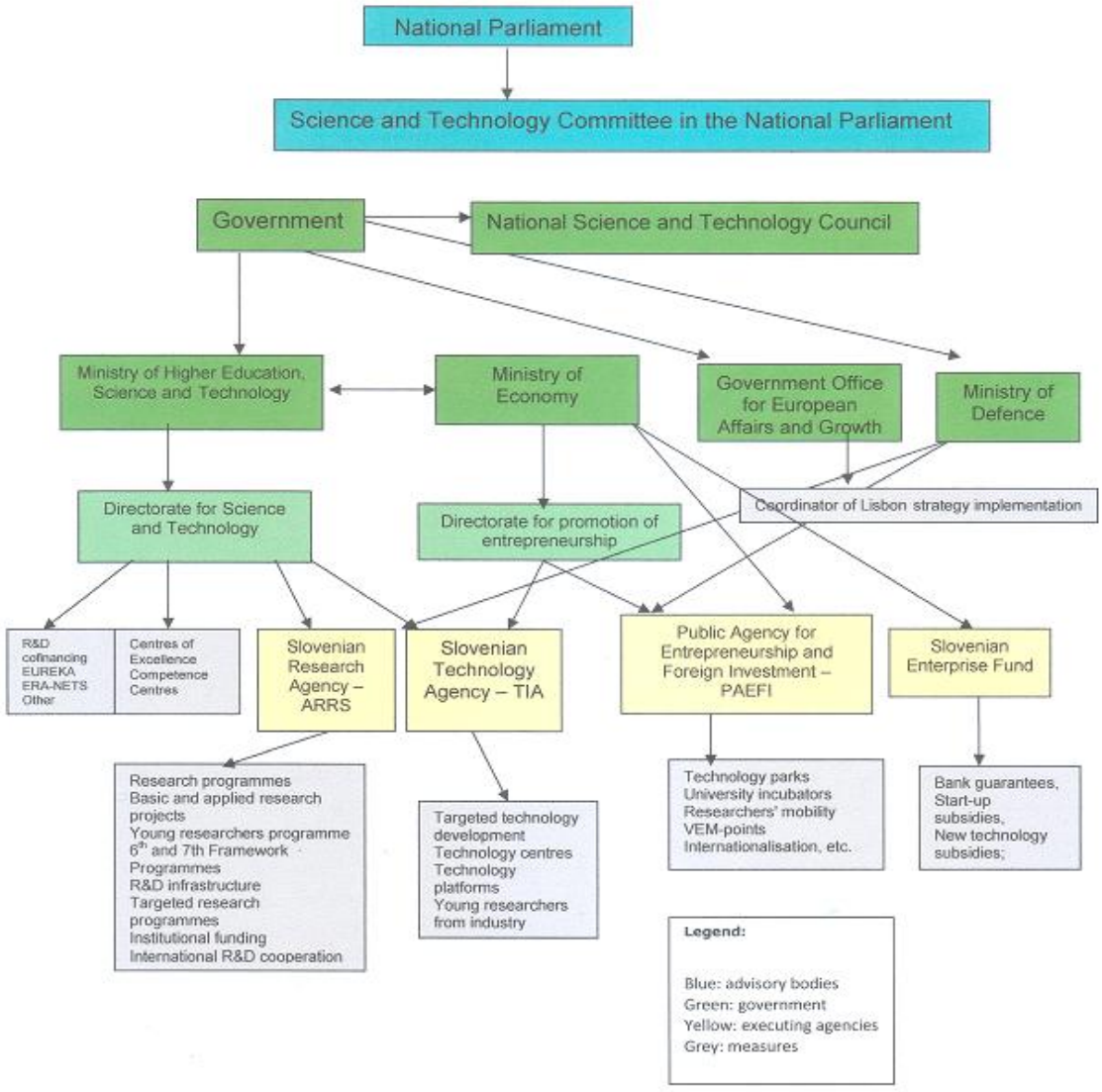
The variety and complexity of innovation system[4] and its actors is displayed in Figure 1. Key role in designing innovation support measures is played by the Ministry of Economy (ME) and Ministry of Higher Education, Science and Technology (MHEST)[5] while the measures are being executed by the agencies of two Ministries. Basic orientation of MHEST in the field of technological development and innovation is defined by the *Programme for Enhancing Technological Development and Information Society in the period 2007-2012* while ME follows the *Programme for the support of entrepreneurship and competitiveness for the period 2007-2013*. Figure 1 reflects the status of national innovation system as of December 2011 with the exception of innovation vouchers, Development Centres and Strengthening of development units, the latter replacing and merging three existing measures for the support of training and mobility. The figure does not take into account the restructuring of Ministries introduced by the new government in February 2012 (see footnote 5).

[3] The study was prepared by ATKEARNEY, Institute of Economic Analysis and Vibacom (2009).

[4] Complexity is increased further by frequent changes in individual support instrument name, scope and eligibility making it very difficult to assess the impact of instrument in a given period. Detailed description of the role and tasks of individual actors of the Slovene innovation system is provided in Bučar et al. (2010).

[5] The reorganisation of ministries was introduced by the new government in February 2012. MHEST was discontinued while tertiary level of education, science and research were moved under the single roof of Ministry of education, science, research, culture and sports. Technology field was moved to the Ministry of economy and technology; the areas of electronic communication and of information society were aligned to Ministry of infrastructure and space.

Figure 1: Key elements of national innovation system



Source: Bučar et al., 2010.

1.2. The weight of service industries in economy

As in other EU economies services dominate the economic landscape in Slovenia. In the period 1995-2010 the share of services in value added increased from 61,0% to 67,6%. Notwithstanding the fact that market services account for almost 47% of total value added traditional services, such as distributive services and transportation, maintain the largest share. This is also reflected in Table 1 which confirms that knowledge intensive market services still have a lot of catching up ahead.

Table 1: Top ten service industries*share in value added in 2010, %

1	Wholesale trade	5.7
2	Retail trade	5.3
3	Financial services	4.0
4	Land transport	2.8
5	Consultancy services	2.3
6	Architectural and engineering services	2.0
7	Warehousing	1.9
8	Telecommunication services	1.7
9	Computer and information services	1.6
10	Distribution of motor vehicles	1.6
	Total 1-10	28.9

* 2 digit NACE-Rev.2.

Source: Statistical Office of the Republic of Slovenia – National accounts, 2011, http://pxweb.stat.si/pxweb/Database/Ekonomsko/Ekonomsko.asp

In recent years R&D investment increased substantially in Slovenia to reach 2.1% of GDP but the share of the service sector remained fairly low and accounts for approximately 14% of the total R&D expenditures. Innovation survey for Slovenia (2008)[6] shows that service firms lag in innovation activity behind manufacturing firms (46.1% vs. 54.6%). While it is difficult to directly compare the results of the previous periods when only technological innovation was captured in innovation surveys, it seems that the gap in innovation activity between manufacturing and services has significantly narrowed. In both sectors the majority of innovation active firms introduce technological and non-technological innovations reflecting their complementary nature and the need for a more balanced combination of innovation policy measures. In addition, it needs to be observed that there is a large gap in the share of service (5.8%) and manufacturing (11.7%) companies that introduce only technological innovation. This might also point to deficiency in eligibility criteria of horizontal support measures.

[6] Methodologically aligned with Community innovation survey (CIS) that takes into account technological and non-tecnological innovation.

Referring to the innovation activity in the service sector data for 2008 indicate the top position of two industries. Insurance, reinsurance and pension funds take the lead with 86% of innovation active enterprises, followed by computer programming and related consultancy services where 83 % of firms are innovation active. Fairly behind the two leading service industries, but still highly innovation active are firms supplying information services (67%), telecommunications (65.7%), auxiliary financial services (62.8%,) and publishing services (62%). The lowest innovation activity among service activities surveyed is registered in land transport (28%). Comparing the innovation record with the data from Table 1 it becomes clear that only few highly innovative service industries are ranked among the top ten service activities concerning value added. Recent analysis suggests that only 2.1% of innovation active service firms belong to innovation leaders[7] while the share amounts to 7.5 % in manufacturing (Likar et al., 2011). Overall, the above data illustrate that the composition of service sector in Slovenia is not conducive to higher innovation intensity and that the lack of support to service innovation may have hampered exploitation of innovation potential in services.

It appears that the structural shift of the Slovene economy towards the service sector, which has been taking place since the establishment of a sovereign state in 1991, was so far insufficiently translated into the realm of policy shaping. This could be an important obstacle for Slovenia to align with innovation leaders. Even if majority of the support measures are sector neutral and can be used by any firm innovation policy continues to focus on technological innovation, where many service firms are put at disadvantage. It is fair to admit though that some of the recently introduced measures (e.g. voucher schemes, development centres, development units in enterprises) could have a bigger impact on service innovation than other horizontal measures in the past.

[7] Firms that earn 11 € in revenues per one € invested in innovation.

2. POLICIES PROMOTING SERVICE INNOVATION

Given the variety of measures and mechanisms for the support of research, development and innovation on a horizontal basis we focus on those that could have important effect on service innovation as well. In 2007 the mapping study on service innovation policy in Slovenia it was found out that the supply-side approach underlies the most important support mechanisms to research, development and innovation while the evidence on demand side policy is scarce (Stare, Bučar, 2007). Unfortunately, there seems to be no major changes to this imbalance since then.

2.1. Supply-side policies

There is a wide range of horizontal instruments aimed at supporting innovative capacity of firms. They are administered and executed by the Ministry of Economy (ME) and its agencies, most notably Public Agency for Entrepreneurship and Foreign Investment (PAEFI) and Slovenian Enterprise Fund (SEF) and by the Ministry of Higher Education, Science and Technology (MHEST) via Directorate for Science and Technology (DST), Slovenian Technology Agency (TIA) and some other actors, such as SID Bank (Slovenian Export and Development Bank).To the best of our knowledge there are at present no measures/instruments that would target service innovation directly. We refer to those support measures that in our view have a bearing on service innovation as well and, provided the evidence is available, indicate to what extent service innovation benefits from those mechanisms.

Competence centres are aimed at strengthening the capacity to develop and use new technologies for new competitive products, services and processes in priority technology areas. In 2010 MHEST selected seven Competence centres in modern process technologies, biomedicine, biotechnology in food and health area, cloud computing, open communication platform in ICT, systems for effective use of electricity and in sustainable construction technology. These centres focus on applied research and are founded and led by business consortiums, even though public research organisations and universities are partners in research as well. Approximately 45 million € is available for the period 2010-2013. 85% of finance will be provided by the European Fund for Regional Development and the rest (15%) by Slovenian Government. It is too early to give any assessment as to what extent could the competence centres enhance service innovation and deployment of new services.

The most recent mechanism that is to contribute to innovation capacity of Slovenia refers to **Development Centres** that were launched by the ME in 2011 and represent a novel approach to innovation support mechanisms. The difference is not only in the volume of funds available for the support measure (approx. 180 million €) and longer term effects, but more so in the shift regarding the expected outcomes. Unlike in the past when technology related R&D projects were at the core of the supporting policy instruments development centres are much more about “close to the market” research and development of new products, processes and services. The latter necessitate good management of processes along the value creation, including the marketing, besides technological excellence. With this in mind, development centres could have a bigger impact also on service

innovation that occurs in all business processes and contributes to better business results. 17 Development Centres were approved for co-financing in 2011 with the total value of projects exceeding 425 million €). Development Centres will be established in the following industries:

- New Materials
- Electro Industry and Electronics
- Energy
- Wood processing industry
- ICT
- Automotive
- Pharmacy and Biotechnology

Innovation voucher (pilot) was introduced by PAEFI in 2009 with the objective to enhance the cooperation between companies and external suppliers of services. It provided for the co-financing of eligible costs (60%) of external providers of services or consultants that help companies to prepare and execute research or development projects[8]. The application criteria substantially narrowed the range of potential beneficiaries by limiting the eligibility of vouchers only to firms that intend to file a patent application. 21 micro and small enterprises (9 from the service sector) were selected with the total support amounting to 87.000 € (individual applicant could obtain between 900 to 4.200 €). After evaluating the results of the pilot the call for innovation voucher was revised in 2010 and the objectives broadened so as to encourage companies for a more active approach in marketing new products and protection of industrial design. The applicants could use the voucher for activities that result in patent application, protection of intellectual property for industrial design or brands. The number of innovation voucher recipients in 2010 increased to 59 enterprises out of which 41 were service firms that on one hand confirms their interest in innovation activity and on the other hand the need to adapt innovation support measures to special features of service innovation. The amount of funds for innovation voucher was almost doubled in public call for 2011/2012 to reach 1.5 million € for both years. In the first call in 2011 74 enterprises were eligible to obtain the voucher (70% from the service sector). In general, enterprises showed the biggest interest in the field of trademarks and patent protection while intellectual property for industrial design was of a lesser interest.

Two additional vouchers were introduced in 2011 by PAEFI to complement the innovation voucher. The first one, ***Mentorship voucher*** is aimed to enhance the growth and development of young enterprises. Business mentors provide expertise and holistic assistance to young enterprises related to establishing new business links, entering new markets and in securing access to new financial

[8] Slovenia has long tradition with vouchers that were introduced in 2000 to support entrepreneurship and are still ongoing. Vouchers are aimed at providing consultancy and training to SMEs related to marketing, human resources management and internationalisation.

resources. 600.000 € is available for mentorship voucher in 2011 and 2012. Eligible costs for the mentorship voucher apply to consultancy costs of business mentors[9]. In 2011 approximately 300.000 € were disbursed to 18 enterprises that qualified for the mentorship voucher, out of them 14 are service enterprises.

The objective of the **Process voucher** is to encourage continuous improvement of business processes in enterprises. It applies to co-financing of services provided by external consultants and fees for training the employees engaged in a project group for the implementation of business process improvements in enterprises with at least 20 employees. Overall, 600.000 € is available for 2011 and 2012. Individual enterprise could apply for 3.000 €-25.000 € of co-financing depending on the type of expenditure (e.g. for training, external consultancy). In the first call in 2011 process vouchers were granted to thirteen enterprises, mostly to non service companies and the total amount of funds disbursed was approximately 250.000 €.

Fiscal and finance related measures

R&D Tax incentives: in 2010, the government increased the tax subsidy on corporate income tax[10] for investment in R&D from 20 % to 40 %[11]. In addition to the purchase of equipment and new technology for R&D purposes, the eligible costs include also costs of labour and IPR. The evidence on the beneficiaries of tax subsidy by sector reveals that service companies do apply for this mechanism, albeit they are highly concentrated on few industries such as pharmaceuticals, automotive manufacturing and the manufacturing of computer, electronic and optical devices (IMAD, 2011). Accordingly, only 20% of firms benefiting from R&D tax incentives are service firms.

Direct subsidies for joint development investment projects were introduced by the ME for the period 2008-2011 (approx. 155 million € as a total amount of co-financing) with the objective to boost the introduction of new technologies as well as development of new or improved products and services. The measure also supports investments in experimental production of new products and/or services. The eligible costs apply to equipment, external expertise, labour costs. The programme is partly supported by the European Regional Development Fund (up to 85%) and partly by Slovenian Government (15%) and executed by TIA.

Co-financing of innovative start-up SMEs within business or university incubators or technology parks for less than 12 months that have not yet entered the market. The main objective of ME in launching the instrument (2008) was to help innovative start-ups finance further development. The eligible costs for the subsidy refer to labour costs, infrastructure, training, external expertise. The number of beneficiaries increased from 81 in 2008 to 183 start-ups in 2011. The maximum amount of

[9] Business mentor have to participate in regular joint activities with the entrepreneur at least once per week.
[10] It was first introduced in 2006.
[11] In less developed regions the incentive on corporate income tax for investment in R&D increased from 30-40% to 50-60%, depending on the lag behind average GDP/per capita in Slovenia.

subsidy disbursed by the administering agency (Slovenian Enterprise Fund - SEF) varies from 30.000€ in 2009 to 20.000€ in 2011. The results of the call in 2011 indicate that a large majority of start-ups (approx. 90%) benefiting from the measure are service enterprises, most notably those engaged in research and development activities in the field of natural sciences and technology. Start-ups from computer programming and other ICT related services are the second most represented service activities that secured subsidies.

In 2010 ME introduced the instrument **Enhancing the process of knowledge transfer** (VALOR 2010) backed by the subsidy of 1 million € to be disbursed in 2010 in 2011. The minimum subsidy amounts to 50.000 € for individual project and maximum 150.000 EUR. The instrument provides co-financing for the transfer of knowledge developed at universities and public research organizations (PRO) to research and development projects of start-ups. In addition, it promotes the employment of highly skilled personnel, growth and development of enterprises, development of new business models and transfer of intellectual property rights from universities and PRO to private enterprises. Eligible costs apply to costs of researchers and project support staff, contracted research, patents, consultancy services and other operational and administrative cost related to the project. The ratio of project co-financing ranges from 35 % to 75 % of total costs depending on the size of the enterprise and type of costs (industrial or experimental development, feasibility studies). 26 applications were submitted to the first call in 2010, however only 6 projects met the requirements for co-financing after two stage evaluation. The projects approved represent specific fields of ICT, biotechnology and alternative sources of energy. Almost all available funds were disbursed for those projects so no furher calls were published by the administering agency (TIA) in 2011.

Slovenian Enterprise Fund (SEF) provides ***guarantees for subsidized bank credits*** to SMEs to improve their access to favourable debt financing. Annual calls are published for two types of guarantees; one more general to encourage SMEs to expand in crisis time or to improve their market position (58 million € in 2011); and the bigger one for innovative technology projects (126 million € in 2011). The aim of the latter is to support the commercialisation of new solutions, products or services that enter the production phase or market phase. In 2011 guarantees were given to 198 SMEs in total and while the majority of them were from different service industries it is impossible to assess the impact of guarantees on innovation in general and even less so on service innovation.

In cooperation with the MHEST Slovenian Export and Development bank (SID) provides **Credit lines** (State-aid) to enterprises **for financing technology and development projects** in the period 2011-2013, whereby the activity is carried out via commercial banks. To be entitled for the credit beneficiaries need to perform industrial research, experimental development or invest in tangibles/intangibles with the objective to foster market entry of new products, introduction of new solutions to business processes within the enterprise or entry into new markets. Eligible costs range from personal costs of research staff, research equipment, costs of external researchers, IPR and consultancy services to costs of premises.

Support for training and mobility:

Young researchers programme was broadened in 2001 so as to include a special window for young researchers coming **from business sector**. The programme's objective is to foster employment of highly educated people in business sector and enhance its R&D. It covers the costs of PhD studies, including the salary, tuition and mentorship costs. Until 2006 the programme was executed by the Public Agency for Research and Development and onwards by Slovenian Technology Agency. The majority of young researchers that benefit from the programme are enrolled in S&T studies, while the proportion of postgraduate students from other disciplines (e.g. social sciences, humanities) is rather limited[12]. This suggests that companies interested in upgrading the knowledge of their employees to a PhD level focus on S&T studies while overlooking the potential of highly educated personnel trained in non-technological disciplines that prove to be complementary in innovation processes. The programme as such was discontinued by the end of 2011, nevertheless young researchers from business sector will be eligible to benefit from the support for PhD studies via another measure introduced by public call in 2011 by MHEST (see below Strengthening of development units in business sector).

In 2006 the ME introduced a measure to foster the **transfer of researchers from public research institutions to business R&D units**. It provides for co-financing of the salaries of the researchers who have been working for at least three years in public R&D as well as a set amount of funds for additional training abroad. The specific criteria is that the researchers eligible are those with engineering or natural science background and that they will continue working in the same area of research. The success rate of the uptake of such mobility scheme was modest notwithstanding several modifications introduced in the period 2007- 2009 that allowed also for the transfer of researchers from large corporations to small and micro firms (ERAWATCH Slovenia, 2010).[13]

In addition the ME launched another instrument in 2008 to support the establishment of **interdisciplinary teams for technology development projects in SMEs**. The measure enables formation of research teams on a project basis. Main eligible costs apply to external expertise, labour costs and training. 57 project were granted in 2009 and 10 million € disbursed. The measure is co-financed by Structural funds and managed by PAEFI.

In 2011 MHEST and published a public call for **Strengthening of development units in enterprises** with the aim to strengthen the capacity of research and development units or research groups (existing or new) in enterprises. The call pools together the content of three instruments mentioned earlier (Young researchers from business sector, transfer of researchers from public research

[12] Out of 386 PhD candidates enrolled in the programme in the period 2007-2010 approximately 15% came from social sciences and humanities and 9% from interdisciplinary studies.

[13] http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/si/country?section=PolicyMix&subsection=HumanResourcesPolicies

institutions to business R&D units and interdisciplinary teams). The instrument should contribute to increasing the share of researchers in business sector, encourage the mobility of researchers from public to business sector and raise the number of interdisciplinary research groups in the business sector. The measure applies to:

a) employment and training of researchers;
b) employment of researchers from Slovenian public research organisations / researchers from public or private research organisations from abroad;
c) employment or contract with top national or international expert and
d) transfer of employed researchers to interdisciplinary research group.

The share of co-financing is the highest for the first category (85%) and lowest for the last category of beneficiaries (25%). The implementation of this instrument will be carried out until the end of 2014 with the funding of 20 million € (85% provided by European Social Fund). Even if four deadlines for the call application were scheduled it turned out that the interest among the companies was so huge that almost total amount was granted already at the first deadline. In addition to 20 million € of state aid the companies will contribute approximately 33 million €. It is encouraging to observe that out of 64 beneficiary companies approximately 60% are from the service sector, mainly the suppliers of ICT services, research, engineering and consulting services. The instrument could contribute to increasing the innovation capacity of selected companies and also enhance interdisciplinary approach to innovation, where non-technological innovation could to a larger extent complement technological innovation. The instrument follows the objectives of The Resolution on Research and Innovation Strategy of Slovenia (RISS) 2011-2020 adopted in June 2011.

2.2. Demand-side policies

It appears that Slovenian innovation system is fairly late in complementing the supply-side measures with the demand-side support to innovation. There has been some academic discussion on public procurement and the need to have an innovation component built in as a selection criterion. Yet, public procurement is still struggling with the basic legal framework and is criticized for being overly administrative and bureaucratic. Moreover, no side finds adding innovation component in the procurement an advantage, since it is felt that in Slovenian context it could lead to additional subjectivity in selection processes (Bučar, 2011). While one can hardly identify any direct demand-side policy in the present innovation system in Slovenia, there could be some measures indirectly affecting demand for innovative services. As observed by Bučar (2011) case in place might be Competence centres where government supports the establishment of consortiums thereby strengthening the capacity of businesses to develop and use new technologies for new competitive products, services and processes in priority technology areas.

In future the Decree on Green Public Procurement enacted in December 2011 could encourage demand for innovative services in the areas covered by the decree, especially in engineering, construction and maintenance of buildings, cleaning services and bus transport.

Finally, a specific innovation enhancing mechanism in the area of tourism needs to be mentioned since it fits into both the supply and demand side innovation policy. Slovenian Tourist Board and the Directorate for Tourism at the Ministry of Economy promote innovation in tourism since 2004 by annual competition for the best innovation in tourism. Based on the initiative of the members of the selection committee for the award both institutions dedicated limited resources (approx. 20.000€) in 2006 to experiment with a different approach to promoting innovation in tourism. Bank of Tourism Potentials in Slovenia (BTPS) was established with the objective to encourage idea generation and implementation of innovative products in tourism on a continuous basis.[14] BTPS is a web based portal where individuals, tourist boards, public institutions and companies contribute ideas, financial resources and knowledge for tourism development and directly interact among themselves in implementing the innovation. Since its establishment the BPTS developed dynamically and attracted actors from university, businesses, local tourism boards and municipalities.

BTPS presents a novel approach to spur the innovation in tourism in Slovenia in several respects. First, it provides for a permanent supply of new ideas by harnessing people's creative potential, enabling them to share and develop their ideas from the concept to the entrepreneurial undertaking. Second, it creates the demand for new tourist products not only by the government (via Directorate for Tourism), but also by enterprises and municipalities. This is exemplified via the call published in 2011 for "synergies" where, in addition to funds provided by the Ministry of Economy, funds were secured by private and public actors. The latter create demand for best ideas that could be developed into new tourist products for the respective co-financer (e.g. municipality or enterprise). Last but not least, BPTS is an example of open innovation, the concept that is not sufficiently recognized and applied among innovation stakeholders in Slovenia. Thus, successful implementation of BPTS as an open innovation platform could also be perceived from the perspective of learning of different actors and transferring good practices and knowledge to other areas of cooperation between public and private stakeholders. Not surprisingly, in 2009 BPTS was awarded by the World Tourist Organisation (UNWTO) for the best innovative achievement in the field of tourism (www.unwto.org/edsco/index.php?op=0). Almost simultaneously, BPTS was selected among good practices in the framework of the European Year 2009 - Creativity and Innovation (www.create2009.europa.eu).

2.3. Framework conditions for service innovation

Access and use of information communication technologies is of utmost importance for service innovation. **Strategy of Information Society Development si2010** adopted in 2007 **and Strategy of Broadband Network Development** adopted in 2008 set the foundations for the uptake of advanced ICT and related services. Directorate of information society at MHEST coordinates broad spectrum of

[14] http://www.btps.si/Default.aspx?lng=en

[14] Recent analysis of innovation activity in high-tech SMEs confirms relatively low degree of open innovation patterns (Raškovič et al., 2011).

activities and programmes in various fields - from establishment of network of publicly available points, safe internet, support to e-content in Slovenian language, introduction of e- local government to computer literacy training. In July 2011 a large public call was announced by MHEST for co-financing of development of e-services and mobile applications with 4 million € available for 2011-2013 period. The priority is to support mobile applications and new services in the following areas: efficient use of energy, green ICT, smart cities, smart buildings and networks, protection of environment and management of traffic. By the end of 2011 the call was still not published.

Among framework conditions for enhancing service innovation education and training play a crucial role as illustrated by programmes for the support of training and mobility (see section 2.1.). Activities and measures that raise the awareness on service innovation or provide relevant information may also be added to supporting framework conditions. We briefly refer to some of them below. To create favourable innovation climate and enhance innovation activity MHEST provides ***Financial assistance to institutions supporting innovation activity***. Since 2006 open public call was issued annually and the instrument is administered by the Slovenian Technology Agency (TIA). The instrument provides co-financing of various activities, from innovation management and advisory services, awareness campaigns to innovation prizes. The beneficiaries are different institutions such as business associations, consultancies and other private service providers (non-profit). The budget for 2011 amounts to 1 million €. The programme as such terminated in 2011.

Due to insufficient understanding of service innovation among policy makers and other innovation stakeholders the campaigns and events that raise the awareness on these aspects of innovation could be helpful. Recently, some improvements could be observed and refer to the integration of non-technological and service innovations issues into the programme of the most prominent annual innovation event in Slovenia – The Innovation Forum. In 2010 the keynote presentation and some parallel sessions at the Forum were devoted to service innovation with the presentation of good practices of service innovation. Moreover, two additional award categories for service innovation and innovative business models were introduced at the Innovation Forum to complement product innovation award. Even if the number of applicants for the award for service innovation and for innovative business models in 2010 and 2011 was not as large as for product innovation these changes may gradually contribute to raising the awareness on service innovation.

The website portal "**Imam idejo!"** (I've got an idea!)[15] was established by PAEFI in 2008 as an interactive tool for innovation stakeholders seeking financial, technical, legal and other support related to their invention and other innovation activities. The website is "a one-stop shop" for inventors and a tailor-made problem-solver with a substantial educational component. Even if the portal is focused on technological innovation issues, it also contributes towards broader understanding of innovation via its monthly editorials that have in the last two years frequently reflected upon the importance of marketing, brands, service innovation, business models innovation, user driven innovation, etc. The portal could in future be upgraded so as to provide the users more

[15] http://www.imamidejo.si/

information about non-technological dimensions of innovation, particularly on those support measures that could be used for non-technological innovation.

Link to EPISIS project results and good practice in service innovation in EPISIS partner countries could serve as a useful learning platform for innovation stakeholders in Slovenia.

3. CHECKLIST OF POLICY MEASURES

In the Table 2 we summarise policy programmes and measures identified in previous sections and align them under the areas of EPISIS Strategy where we assess they could have the largest impact on service innovation. However some programmes may play a role also in other areas. Those areas concern: A) New types of innovative actors, novel types of innovative activities and innovative business solutions; B) Service innovation related competences and capabilities and C) Markets and infrastructure as a driver of service innovation.

Table 2: Programme relevance to thematic areas of EPISIS Strategy

Policy programme,measure	New types of innovation actors, activities and business solutions	Service innovation related competences and capabilities	Markets and infrastructure
Competence centres	X		X
Development centres	X		
Innovation voucher Mentorship voucher Process voucher	X X X	X	
R&D tax incentives	X		
Direct subsidies for joint development investment projects	X		
Co-financing of start-up of innovative SMEs	X		
Subsidy for enhancing the process of knowledge transfer	X	X	
Guarantees for subsidized bank credits to SMEs	X		

Credit lines for financing technology and development projects	**X**		
Young researchers from business sector programme		**X**	
Mobility of researchers from PRI to business R&D units		**X**	
Interdisciplinary teams for technology development projects in SMEs		**X**	
Strengthening of development units in enterprises		**X**	
Decree on Green Public Procurement			**X**
Bank of Tourism Potentials of Slovenia	**X**	**X**	**X**

4. FUTURE DEVELOPMENTS AND SERVICE INNOVATION POLICY NEEDS

The overview of support measures in Slovenia that could potentially encourage and facilitate also service innovation confirms that there is no targeted approach of innovation policy towards service innovation. By and large, measures are sector neutral and often favour technological innovation. Owing to a fairly diverse set of measures, frequent introduction of new ones, and sometimes overlapping with the existing measures one finds it difficult to assess more precisely which support measures could also suit the promotion of service innovation. However, it is clear from the selection results of some support measures that service firms do benefit from them, in particular from those introduced recently and identified in section 2. This suggests that while service innovation is taking place in companies it seems to be rather invisible or not well recognized as “service innovation”. In addition, companies that introduce service innovation are much less known and their success stories less publicized compared to companies with technological innovation. This reflects the incremental and invisible nature of service innovation on one hand and bias toward favouring technological breakthroughs on the other hand. The latter is further confirmed by the introduction of new services based on technology that are usually more visible and appreciated, while the technology gets the credit for the launch of new services.

The interviews with innovation policy makers concerning service innovation support reveal that the target to invest 3% of GDP into R&D activity as promoted by EU may have a deterring effect on innovation, in particular on non-technological innovation that relies on R&D expenditure to a lesser extent. Furthermore, it was observed that the Horizon 2020 pays too much attention to technology while the solutions to grand societal challenges can hardly be expected without social shaping of technology and related service and non-technological innovations. The drive towards 3% of GDP spending on R&D undelines innovation policy design in Slovenia as well, indirectly affecting the support for non-technological innovation. It was observed that financial incentives for innovation

are still directed towards visible outcomes, such as goods, and much less towards services, processes or business models, confirming the invisibility problem.

In view of the slow recovery in Slovenia it may be expected that the new government will introduce changes in the composition and structure of innovation system[16]. Pre-election programmes indicated that all major political parties call for the rationalisation of public administration and dissolution or merger of some public agencies to cope both with budgetary constraints and modest efficiency of administration. This could also affect ministries and agencies responsible for the design of innovation policy. The lack of coordination among innovation policy actors is repeatedly pointed out as a weakness of Slovene research and innovation system by national and international analyses (Bučar et al. 2010, OECD, 2011, IMAD, 2011). The need for improved coherence and efficiency of national innovation system is recognized and reflected in the new policy documents that were adopted by the National Assembly of the Republic of Slovenia in June 2011 - The Resolution on Research and Innovation Strategy of Slovenia (RISS) 2011-2020 and the Resolution on the National Higher Education Programme 2011–2020 (RNHEP). Here we see the improvement as RISS envisages a number of horizontal support measures that could accelerate service innovation as well. For the first time in policy documents innovation in services and non-technological innovations are explicitly mentioned. Planned measures range from support to increasing the innovation activity in services (technological and non-technological innovation), the integration of innovative services to all public procurement (particularly services referring to aging population, environment, renewable energy), support to design and marketing of new products to enhancing innovation in business models. It remains to be seen how the proposed actions will be translated into concrete measures and how efficient their implementation might be.

To conclude, stakeholders participating in the design of innovation policy should to a larger extent than before take into account the shifts in economy towards bigger role of services, of intangible investment, of emerging global trends and accordingly shape the innovation support measures. More attention needs to be paid to supporting the networks between innovation stakeholders from public, private and non-profit organisations, to demand driven instruments, to user-centric and open innovation approaches. The latter could be very instrumental in encouraging social innovation that is of utmost importance not only for coping with public budget constraints but also for providing solutions to challenges that Slovenian society is facing. Finally, systematic evaluation of innovation support programmes should become an essential part of innovation policy that would help in assessing the profile and composition of beneficiaries of support measures and in improving the efficiency of support mechanisms.

[16] New government took office in February, 2012.

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