IASP International Association of Science Parks and Areas of Innovation

35th IASP World Conference

on Science Parks and Areas of Innovation 2018

Isfahan, Iran

Service Innovation Labs –a tool for STP's and AOI to help build sustainable cities and reach SDG's

Parallel session 6:

The 'Lab factor': Living Labs, Fab Labs and STPs

Authors:

Björn Westling

Maria Ådahl

Hosted by:

ISFAHAN SCIENCE & TECHNOLOGY TOWN (ISTT)

ISBN: 978-84-09-17612-0

Service Innovation Labs – a tool for STP's and AOI to help build sustainable cities and reach SDG's

Authors:

Björn Westling, Johanneberg Science Park, Sweden

Maria Ådahl, Johanneberg Science Park, Sweden

Executive Summary

The service economy has grown tremendously over the latest decades in the industrialised economies. Services account for about 75 % of GDP (Gross Domestic Product) in developed countries and some 50 % in developing countries. However, innovation in services is lagging behind, leaving many service companies struggling with poor profitability and slow or inhibited growth. Innovation research, methodology and tools have mostly been developed with the traditional manufactured product in mind. This is also reflected in the organisational structure of service companies, who often lack formal processes for innovation. A recent Swedish study concluded that 70 % of service companies find it difficult to run innovation processes in their businesses.

This paper describes how a Service Innovation Lab will be developed by collaborating Science Parks to strengthen innovation capabilities in small and medium sized enterprises (SME) that offer knowledge-intensive business services (KIBS).

Background

The service economy has grown tremendously over the latest decades in the industrialised economies. Of the 500 largest companies in the United States, a large part is now service companies as opposed to manufacturing companies. Services account for about 75 % of GDP (Gross Domestic Product) in developed countries and some 50 % in developing countries.

There is also a move to increase the service component in manufactured products in order to increase revenues and better fulfil customer needs.

Typical sectors offering services today include civic services, financial services, ICT (Information and communication technology) services, hospitality and tourism, retail, health, human services and education. It is clear that services have a great potential to help build sustainable cities and communities.

However, innovation in services is lagging behind, leaving many service companies struggling with poor profitability and slow or inhibited growth, making the positive impact of new, innovative services smaller than it might have been. The reasons for this are diverse, but seem to originate from a lack of a coherent body of knowledge about the nature of the service innovation process, its properties and prerequisites. Innovation research, methodology and tools have mostly been developed with the traditional manufactured product in mind. This is also reflected in the

organisational structure of service companies, that often lack formal processes for innovation. A recent Swedish study concluded that 70 % of service companies find it difficult to run innovation processes in their businesses.

Innovation is regarded as a necessary factor in the development and survival of businesses. However, the concept of innovation is largely restricted to product innovation in companies offering physical products, and it's this type of company that has primarily introduced structured processes for innovation. Even though the share of service companies is steadily increasing and competition in the market for services is getting harder, many companies lack knowledge about business logic and how innovation efforts should be conducted to achieve increased competitiveness. This paper describes how Johanneberg Science Park has set out to design a platform where knowledge can be accumulated and practical activities can be implemented to strengthen the innovative capacity of small and medium-sized service companies. The design process will seek answers to questions about how the platform is to be built, which actors should participate and what activities should take place within its framework. The platform aims at service companies that deliver knowledge-intensive business services and are competing on a wider market.

Target Group

The selected target group of the Service Innovation Lab consists of the so-called KIBS (Knowledge Intensive Business Services) companies. Some characteristics of KIBS companies are listed below.

1. The company has a strong feature of knowledge. Employees in KIBS companies often have high levels of education and the services produced cannot be manufactured by machines. Important factors such as experience, skill and contact network exist with employees in the company, rather than with the company itself.
2. KIBS products are sources of information or knowledge. KIBS companies often base their products on new technologies, such as ICT (Information and Communication Technology).
3. Customers are usually other companies or public sector. Because the products are costly to produce, they are usually not aimed at consumers.
4. The above target group definition also implies that KIBS companies do not largely operate in a local market (eg hairdressers, restaurants, etc.), but are more or less globally competitive.

Examples of typical sectors where KIBS companies can be found include computer consultancies, data processing, architecture and engineering, marketing, advertising, recruitment, legal, accounting and management services, etc. According to studies, KIBS growth has a long-term positive effect on the overall regional economy. This confirms the claim that KIBS can play a key role in regional policies and that fostering innovation in KIBS companies is indeed a relevant endeavour.

Examples of Service Development

Mobility

In the automotive industry, for example, that for a very long time was concentrating on selling vehicles, there is a clear change and development towards the development of more and more solutions where customers can lease and rent their vehicles. Customers become more flexible and are also able to choose a more sustainable car or new feature when the need changes and profit from easier upgrade to new models when available on the market. There is an opportunity to offer a whole portfolio of services connected to the car according to unique customer needs. In Göteborg, a number of mobility services are being developed, among other things, within Campus Johanneberg, s Sustainable Mobilty as a Service concept run by a leading Swedish mobility consultancy, Trivector.

The service is also part of the Horizon 2020 project IRIS funded by the EU. In three Lighthouse cities and four follower cities, it is seen that these mobility services can greatly contribute to both more attractive mobility offered as service and also to reduce carbon dioxide emissions and contribute to sustainability goals.

Public transport is also strengthened by adding services and services, for instance WiFi access, route information, book lending or postal deliveries and much more are added to the usual traditional route that previously only contained a transport from A to B. By collecting data and information and sharing between cities more freely many companies and actors are able to develop these mobility services that contribute to attractiveness and more efficient travel. In SCORE InterReg NSE with Amsterdam as the leading city, 9 cities in Europe develop common standards that will make it easier for companies to develop transnational solutions for attractive and sustainable mobility, among other things.

Housing

In Gothenburg there is also Riksbyggen's partner development project Positive Footprint Housing. The project develops attractive housing for all ages and needs. As housing offers opportunities for the residents to minimise their impact on climate and environment, including the possibility to produce surplus electricity for further sales in the electricity market, the entire project has been developed from a service perspective. The residents will not have their own car, so there will be a number of mobility, delivery, and other services on offer. These are prerequisites for the accommodation being attractive. The homes are sold at market prices at the same levels as housing, where you are offered to rent a parking space in a traditional way and have more space to have your own storage room. The attractivity is not to own, but to share and to use the common areas if necessary. There are common spaces in the house for work, pleasure, gardening and workshops for wood-work and handicraft. Business models are being developed and Riksbyggen, which has a long tradition of cooperative housing, are developing new services for housing, which they can then roll out to their entire stock and housing associations with approximately 400,000 members in Sweden.

Energy

The energy area is also changing rapidly, and a move is going on from a few major players based on large plants and giant investments to a larger number of smaller players that can create small, local, flexible energy production facilities.The small players can adapt quickly to changing conditions, be innovative and develop business models that are more tailored to the end customer's needs. In the FED project of the Urban Innovative Action funded by the EU in Gothenburg City at JSP on campus coordinated by JSP, a market place for trading surplus energy is being developed, including service functions that enable property owners to buy and sell electricity between each other.

Vision and Goals

In the preliminary study we are looking for answers to the following questions: Overall: How should an innovation platform for small and medium-sized service companies be realized?

Specifically:

- What problems related to innovation can we identify with the target audience?
- What kind of skills / knowledge is needed to help solve these problems?
- How is delivery from the innovation platform to the target group?

- Which actors should be driving / participating / associated with the platform?
- What role should each player have?
- What resources are needed to run the innovation platform?

In the implementation, we anticipate that the following issues will be discussed

- Methods that involve the customer in the innovation process
- Methods involving employees in the innovation process
- Pricing models that pay for value and promote cooperation with customers
- Packaging of services to clear customer offerings
- Increased scalability, "Do not reinvent the wheel every time"
- Prerequisites for increased exchange of knowledge, ideas and experience between employees
- Leadership that promotes innovation and development
- Different forms of collaboration with other companies as well as academia to create and get acquainted with desirable skills

In addition, there is a need to convey knowledge of concepts such as value creation, "customer's customer", service logic, innovation methodologies and more.

Development of the Service Lab

We estimate that there is a considerable amount of expertise and knowledge in the Västra Götaland region concerning service innovation, while a mechanism for delivery, execution, resources and a single focus is lacking. Against this background, we considered it important to create a platform where knowledge can be gathered and from which practical efforts in companies can be implemented to strengthen the innovative capacity of small and medium-sized service companies. In order to elaborate in detail how such a platform could be built up, which actors would participate and what activities would take place within the framework of the platform, we will carry out a preliminary study. The platform is aimed at service companies that deliver knowledge-intensive services and are exposed to competition in a wider market than the purely local. Specifically, issues relating to "cleantech" (services that lead to reduced environmental impact), companies driven by women and persons that were born abroad, are to be taken into consideration. The study will provide detailed information on the conditions for the design and operation of an innovation platform for small and medium sized service company in the Västra Götaland region. The preliminary study will also result in a description of the intended solution, including budget, organization, participation, target groups and strategic processes. In the event that the preliminary study gives a positive outcome, i.e. shows a clear problem picture and a good potential for the proposed Innovation Platform to address these, the next step will be a major application to the Regional Fund and Västra Götaland Region for an implementation project. In the event that the preliminary study provides an unclear or difficult interpretation of the need and / or the potential to solve problems, supplementary studies may be carried out. In the event that the preliminary study gives a negative message, the project may be reformulated or abandoned.

Methodology

The preliminary study will be conducted in the form of a series of workshops - internal as well as with external participants. Between workshops, preparations and homework, editing of materials, analysis and summary. Workshop 1 (internal): Introduction, goal formulation, role distributionWorkshop 2 (external with companies): Problem and needs assessmentWorkshop 3 (internal): First sketch of the

proposed innovation platform Workshop 4 (internal): Final design of the proposed innovation platform

Final Report (External, Broad Target)

Participants will include personnel from all six regional Science Parks, regional incubators, research institutes and Gothenburg's Regional Development Agency. One workshop dedicated to sounding out the needs of the companies in the target group.

The results of the preliminary study will be disseminated in the form of a written report and by one dissemination seminar aimed at companies as well as innovation actors.

Structure of the projected Service Innovation Lab

The Service Innovation Lab is set up as a platform engaging knowledge providers as well as delivery partners. The list of knowledge providers may include theoretical and applied researchers from universities, research institutes or similar organisations. The platform will also have practitioners that interact with the target SME's in various way to increase innovative capacity. Experts should be recruited regionally and modes of interaction may include seminars, training, coaching programmes, etc, either in group or one-to-one format. A participation of policymakers could be a way of ensuring that the findings and results from the Service Innovation Lab are fed into mainstream business development policies. The

Service Innovation and the SDG's

Service for a whole life

In order to develop an attractive sustainable society based on people's needs and lives it's important to find more holistic solutions and new business models for an integrated development of cities and societies. Building, infrastructure, mobility and other areas must be connected with each other in many ways both physically, digitally and in new organizations models. Decision-making processes are more complex and the need of simulation and visualization will expand due to the complexity on all levels. This provides opportunities to create a new market for services in all areas, for example; living and housing, working, energy and mobility. It is evident that services have a great potential to help build sustainable cities and communities and make the life for people more attractive, smart, simple and sustainable.

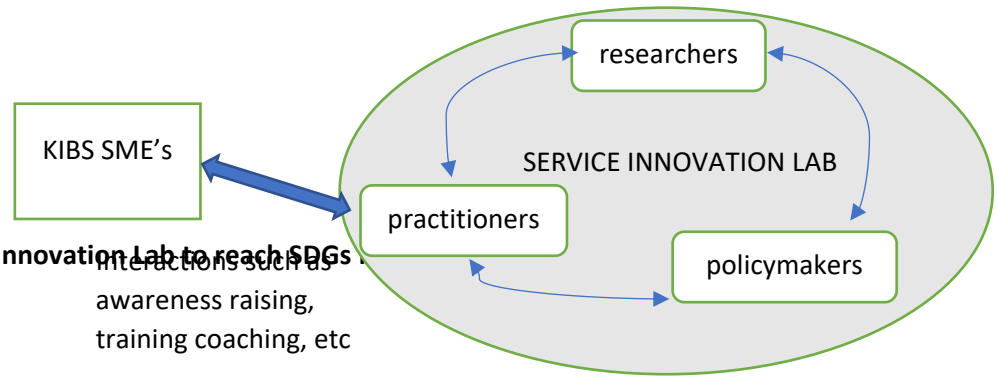

Figure 1 Principle of the Service Innovation Lab

More than half the world's population live in cities. By 2030, it is projected that 6 out of 10 people will be urban dwellers. Despite numerous planning challenges, well-managed cities and other human settlements can be incubators for innovation and ingenuity and key drivers of sustainable development.

The development of more service and service oriented companies is essential for ensuring and maintaining a good quality of life and raising the living standards for more people. We are now faced with a huge challenge as the population pyramids turn upside down in the richer parts of the world with the result of a big aging population, which means that fewer will provide for and take care of more people instead of the other way around. An aging population will also contribute to the need for more health care, with fewer individuals that can provide care. Innovative services therefore will become important to combine with the traditional offers of the future health care system.

In addition, another major challenge for the world's resources is that a larger number of people in developing countries strive for the living standards of the richer countries and the right to have access to the same conditions and opportunities as people in the developed world. This in combination with the fact that we are already consuming more than the planet can sustain will make innovative services that make use of resources in a smarter way crucial for overcoming this dilemma.

The development of Johanneberg Science Parks Service Innovation Lab will strengthen the activities and increasing the pace to reach the **SDG 11**; to make cities and human settlements inclusive, safe, resilient and sustainable. With developed service supporting urban development, fossil free and smart districts, smart mobility and smart buildings we can transform the existing environment, people's behavior and infrastructure without making expensive investments and without using resources for new infrastructure and products. For example, it is possible to help people changing their consumption with services that support circular economy. We can change the traffic flow in the city though digital services for better logistic and traffic improvements changes during the day. This instead of building new roads and manufacturing more products. It will be necessary to open more data to make it possible to develop more services and this will also make cities more transparent and inclusive to the citizens. More jobs created in this potential new service sector will itself be a way to reach sustainability , safer and more integrated cities with more satisfied citizens.

SDG 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development. Science Parks will have an important role to be the arenas for collaboration and link different actors so that they reach each other which is important for the innovation process to develop the service sector for sustainability. The mix of larger and smaller companies, academia, cities and already existing innovation platforms and projects will be a success factor to develop new service and new companies in the Service Innovation Lab. Also, the international perspective through for example IASP is important to quicker reach a bigger marker and enable implementation on a larger scale. Often the smaller companies can be quicker to adapt to a new market. Transnational exchange of services and concepts is a further possibility.

Conclusions

The market for services is expanding rapidly, there is also an ongoing move to attach service delivery to physical products, or to replace physical products with services, for instance by going from ownership of utilities such as cars to sharing and pooling resources.

Services such as this are also important for the shift to sustainable development, to reduce climate impact and resource depletion, reducing poverty, attaining equitable income distribution, building physical and human infrastructure, addressing market failures, ensuring consumer protection,

employment safety nets, providing enabling macroeconomic conditions and providing a sound regulatory framework, not least in developing countries.

However, innovation in service companies is relatively weak, hampering the opportunities for these companies to realise the potential of the increasing service economy. Johanneberg Science Park will address this gap by designing a Service Innovation Lab that will

- Establish a knowledge platform with state-of-the-art knowledge of service innovation
- Recruit stakeholders that are ready, willing and able to engage with SME's
- Design methods and tools for training /coaching/ awareness raising that will engage companies to work with improving internal processes and absorbing external expertise
- Achieve a continuity that will sustain improvement and development in the target group
- Operate with public/private funding, part of funding should come from the target firms

Johanneberg Science Park will use the full range of its project portfolio and extensive network among industrial partners, SME's academia and innovation ecosystem actors to bring this project to a fruitful conclusion.