



Innovation Policy Project in Services

Mapping study of Sweden

2007-02-01

VINNOVA
Ulf Eklund

FBA Holding AB
Christina Johannesson
Hanna Wiik
Andreas Johansson

Content

CONTENT	2
SUMMARY	3
CHARACTERISTICS.....	3
REFLECTIONS.....	5
PROPOSALS.....	7
1. BACKGROUND AND PURPOSE	10
2. METHODOLOGY OF THE STUDY	11
CHOICE OF ACTORS AND SOURCE	11
USE OF TEMPLATE AND DATABASE	11
3. SERVICES TYPOLOGY	12
THE SWEDISH SERVICE SECTOR.....	12
DIFFERENT KINDS OF SERVICES	12
DIFFERENT KINDS OF STATISTICS	12
4. "CLIMATE" FOR SERVICES IN SWEDEN	16
POLITICAL CLIMATE	16
INNOVATION CLIMATE.....	17
5. GENERAL OVERVIEW OF POLICY ACTORS	19
NUMBER OF ACTORS	19
COMMENTS ON NUMBERS AND SELECTION	20
6. OVERVIEW OF PROGRAMMES AND MEASURES	23
HOW DO THE ACTORS ADDRESS THE ISSUE?	23
BUSINESS SECTORS.....	24
SUPPLY-SIDE MEASURES	29
DEMAND-SIDE MEASURES	31
INTERNATIONALISATION MEASURES	33
FRAMEWORK MEASURES	34
HORIZONTAL MEASURES	35
7. OUTSPOKEN NEEDS FOR INNOVATION POLICIES	37
SPECIFIC CONDITIONS	37
R&D PROPOSALS.....	38
INTERPRETATION OF GENERAL THEMES	38
OTHER PROPOSALS.....	39
SOME IMPORTANT, GENERAL VIEWS.....	40
SUMMARY OF INFORMATION COLLECTED	41
APPENDIX 1 - CODE LIST	43
SSCODE.....	43
FINANCE MEASURES.....	43
SERVICE	43
APPENDIX 2 - DATABASE WITH ALL ACTORS FROM THE MAPPING STUDY INCLUDING CODES	45

Summary

Characteristics

Sweden has a model of governance based on a thin ministerial layer charged with policy formulation. Powers of Implementation are transferred to a complex array of agencies, who are also responsible for the design of policy instruments. In recent years, there has been a growing policy debate about the status of the innovation system, which has stimulated a change in the policy mix in favour of Innovation.

A national innovation system can be described in terms of important actors, e.g. large and small companies, universities, institutes, access to risk capital and the design of some legislation and regulation. The government often plays an important role in the national innovation system. One also speaks about sectoral innovation systems, where one wants to stress the distinctive features and needs of a specific sector, and regional innovation systems, where the geographical area considered is different from that of a nation. Examples on factors that are unique for a certain place or area can be the existence of specialised knowledge, local social networks and trust between parts concerned. Innovation systems thus could also be considered as innovators in their infrastructures for innovation with complex patterns of relations in a Triple Helix structure, i.e. built on patterns of partnerships between organisations in the public, profit oriented and university sectors. VINNOVA's focus is R&I environments characterised by a strong research related innovation dynamics preferably in networks with other similar environments nationally and internationally.

The mapping study over the service field covers **109** actors whom are dealing with (innovation) policies and development policy measures.

It should be noted that, because of the limited time for the study, we have not been able to go through all organisations on all levels. Therefore, the policy actors on local government level who are included in the study are to be seen as examples. However, the range of local policies is considerable, especially on e-government and the outsourcing/ deregulation of public sector services.

As for local authorities we have not made an inventory of all institutional organisations since every labour and employer group that could be said to be part of the service sector, and their representatives, is of potential relevance. Instead we have tried to find some representative examples on a comprehensive level.

Most policy actors are regional

The Government together with the *government authorities* is the main category (21%) followed by *partnership organisations* (19%) and *regional government organisations* (16%). All but one of the partnership organisations are innovation systems/clusters on regional level. That means that the majority (1/3) of policy actors in the study are to be found on the *regional level*, followed by actors on *governmental level* (21%) and *institutional level* (13%).

Programmes/projects are the most used measures

The absolute majority of initiatives are made in the form of *programmes or projects*, which are measures used by all actors. *Policies* though, seem to be formulated mainly by the Government and government authorities, professional organisations and trade unions.

The majority of actors address private services, and IT-based services

In the study we have divided between three kinds of services. The majority of actors (76) are concerned with policies for *private services*, followed by actors addressing *public services* (43) and *industrial services* (36). We could see that *region level actors* constitute the majority of policy actors addressing private and industrial service policies while *actors on the central level* are focussing public services.

The sectors given most attention are the *ICT sector* (hardware infrastructure and soft infrastructure) addressed by almost half of the actors (49) and the *Health and social work sector* (30). A second group of actors are the ones who address the *Manufacturing sector* (26), *Environment based services* (23), *Public administration* (20), *Transportation* (19) and the *Creative industry* (14).

Least represented are Finance (9), Education (8), Construction (5), Wholesale (4), Agriculture (4), Activities of households (2) and, by none, Hotel and restaurants and the Extraterritorial sector.

All actors are supply-side oriented

The study gives us the picture that all actors and their initiatives could be identified as *supply-side oriented*. The category *service measures* (information and networking support) is slightly bigger than *financial measures*. The differences are more to be found among subcategories in the latter, where we can see that very few actors address equity support and fiscal measures.

Almost all actors are demand-side oriented too

The absolute majority of actors (85%) are *demand-side oriented* as well, focussing mainly on *systemic policies* (84 actors) in terms of relationships between actors, promotion of cluster etc. The second issue in rank, represented by 30 actors, is the *end user/consumer awareness* where all but a couple of actors is focussing on the use of IT and e-services in different aspects. Regulation and procurement are addressed by 26 actors, which are government/government authorities on

one hand and lobby organisations on the other illustrating two aspects on the issues: law and ordinance and lobbying.

Half of the actors promote Swedish values on the international market

Half of the actors (55) in the study are concerned with internationalisations measures, and especially *export promotion*. Almost 2/3 of the actors are linked to the regional level.

Close to 2/3 of the actors are concerned with developing the framework

A great part of the actors (62%) are concerned with framework measures, especially in terms of *science base* (42 actors). Two and third in rank is *human resources* and *regulations* represented by around 25 actors. *Culture/attitudes* and the *fiscal environment* are addressed to a much less extent (10 and 5 actors).

Almost 1/4 of the actors have identified the need for horizontal measures

Nearly 30 actors could be said to have identified the need for a horizontal view on the development of the service sector. The *recognition* (25 actors) of the issue is quite spread among the actor categories, while the *action* (10 actors) seems to be a cause mainly for the government and its agencies.

Reflections

Apart from the characteristics presented above the study also have given rise to reflections on patterns appearing.

The ICT sector is the most addressed

The *ICT sector* is the most addressed sector. Even in other sectors a vast majority of the initiatives have close links to IT as a facilitator and springboard to service innovation, for example e-business, e-government, e-learning etc. This means that more than half of the actors are involved in policy measures with connection to the ICT area, concerning all kinds of services: private, public and industrial.

More "soft" measures than "hardware" illustrates the Swedish situation

There are many more actors involved in "*soft*" measures:

- service support like information and networking, human resources training and employment condition, and organisation
- co-financing efforts together with the industry and the public sector in different kinds of partnerships

rather than in "*hardware*":

- standards, regulation and procurement
- equity support and fiscal measures

This also goes hand in hand with the picture that the action is taken on regional and local level and in the form of programmes and projects, while policy measures by the government and the government authorities are scarce and, where

appropriate, mostly directed towards e-services. We may see two explanations why this situation.

One is that it might be presumed that the relatively big occurrence of partnership organisations illustrates the far-reaching implementation, since the mid 1990's of the triple helix concept for dealing with the complex development of innovation systems and growth. It has become more and more common as a complement to traditional hierarchical ways of developing and implementing policies and policy measures.

The second explanation might be that the situation illustrates the Swedish Government's hands-off attitude in the areas of market-priced services. The market players should set rules and policies and only sector research funding could be used for development of new levels of service quality. However, the hands-off tradition has had its exceptions in the IT-usage field, which is clearly illustrated in the study.

The EU directive on European services

The Swedish government policy about the *EU directive on European service market* is clearly in favour of an open European market for services. At the same time one is keen to secure the Swedish labour market rules in Sweden, including collective agreements regulating service work done in Sweden. However, the framework for employment conditions are, from the study's point of view, addressed only by the institutional level (employers and employees organisations), except for issues concerning public sector employees (health care sector) and (VAT on) household services which is of concern to the Government and its authorities.

Support for public sector research

Nearly 40 actors (35%) in the study are addressing *support for public sector research*. About 25% are focussed on services, while the rest have services innovation and development as one (small) part of their mission. This maybe illustrates the industrial, and technical, tradition among the financiers. But, for service companies, innovations do not in the first place involve technical research, but are a question of entrepreneurs, new business models, concept development and of understanding how value is created and how companies can take advantage of that value.

The co-financing approach

Networking is a crucial part of the innovation and growth theory and practice, and therefore a common "tool" frequently used to support business and regional development. Close to half of the actors (51) are involved in industrial R&D, or rather co-financing industry development, individually or in the shape of consortia and triple helix partnerships, together with the industry itself. However, the *co-financing approach* (rather than "hardware" as equity support and fiscal measures) is very much focussed on mixed innovation systems and

clusters. This may illustrate the “pure” private service sector difficulties to co-finance R&D in the same way as industrial companies.

End-user/consumer orientation

In the study we added three new categories to the template: end-user/consumer awareness, test beds and competitions/challenges. All three represents a frequent type of Swedish policy measures focussing on the citizens and the consumers’ possibilities, and rights, to get information and to interact with authorities and companies. 1/3 of the actors (36) do address these issues of which 70% make the link to ICT.

The horizontal approach

The *horizontal approach* is yet more of the recognition kind than concrete action, even if the development of triple helix partnerships on national, regional and local level could be assumed to be a “tool” to meet with the need for horizontal action.

Industry statistics

Using traditional *industry statistics* makes it difficult to capture new service structures. Therefore, in every mapping of the service sector the need for reclassifying the industry code statistics occur. In this study as well, where we have tried to use a division between private, public and industrial services, and also to make visible cross-sectorial businesses as environment based services and the creative industry. These are new areas for innovation R & D which seems to be more and more policy addressed.

Proposals

During 2006 the players on the Swedish service market have taken steps to promote research within the service sector. It is felt that such research has been neglected, but it is necessary and it can strengthen everyone's understanding for mechanisms on the market as well as companies' conduct on it. The actors high-light some factors of specific importance to bear in mind in further development measures and R&D strategies:

- The special logic of services and the need of the customers ought to be addressed, rather than the underlying technology
- The entrepreneur, not the researcher, push innovation and development within the service sector.
- The close connection between innovation, development and research, based on the needs of the market and of the customer/consumer.
- Service research calls for more emphasis on interdisciplinary approaches since the service sectors are too complex to be organised within one single discipline.

The service sector dialogue did also result in certain conceptually more comprehensive themes¹ summarised below. These themes cover issues relating to consumers, market, organisation and structure.

- A. **Consumer issues:** such as questions of service consumption, consumer perspective, customer relations and consumer studies.
- B. **Internationalisation of services:** such as export of public and private services, international comparisons and global business intelligence.
- C. **Development of services:** such as productivity increases in the private and public sectors, the role of entrepreneurs, financial development, factors affecting growth, business models, business logic etc.
- D. **Qualifications issues:** such as professional roles, skills issues, training issues, personnel supply and the influence of structural change on work content.
- E. **Growth issues:** What creates growth? Can growth factors for the development of services be identified? Financial and economic growth etc.
- F. **Organisational issues:** organisational structures within service companies, logistics issues, cooperation, relations between players, work organisation, working hours etc.
- G. **Structural issues:** such as taxation issues, legal issues, structural change, sectorial functions and the borderland between private and public services.

From the study's point of view we think that Swedish policy actors do have competitive knowledge and experience in terms of consumer issues, qualification issues and organisational issues (A, D and F). These could be areas for *contribution to knowledge* exchange, especially in ICT-linked areas and service sectors as environment, public administration, health care and social work, transportation and geographical data.

Other areas, especially the development of services and structural issues (C and G) is of special interest for *gaining knowledge* when joining forces with other European countries.

Growth issues and the internationalisation of services (B and E) are for sure areas of great overarching interest and topics of extensive importance to the service sector as a whole. Swedish analyses and experiences have to be compared

¹ It should be noted that generalisation is only possible on an abstracted, overall, conceptual level.

and merged with knowledge from other countries to become as qualified material as needed for strategic decisions and measures.

1. Background and purpose

The European Union is funding the one-year project Innovation Policy Project in Services, coordinated by Tekes in Finland. The project includes the formation of an expert focus group, mapping studies in selected Member States, workshops and a blueprint report. The service innovation policy mapping study is part of the preparation for a future INNO-Net, Specific Support Action (SSA), aiming at joint activities at a trans-national level.

As a preparation for a future INNO-Net, the mapping study is also aiming at:

- Identifying and analysing service related innovation policies, programmes, instruments and activities,
- Identifying the scope for possible trans-national cooperation.

Mapping studies of a larger scale have been carried out in Germany, Ireland, the Netherlands, Norway, the United Kingdom and in Finland. This memo concerns the study that has been carried out in Sweden.

The mapping studies will be presented at the mid-term workshop in February 2007. As a result, a draft of a policy blueprint report will be prepared, which will be discussed at a feedback workshop in May 2007. The following final report is the base for the INNO-Net proposal with the key objective to advance service related innovation policy and programme development in the EU.

2. Methodology of the study

This study has been carried out by VINNOVA, the Swedish Governmental Agency for Innovation Systems, with assistance of the Swedish consultancy firm FBA Holding AB.

Choice of actors and source

The systematic search has had its starting-point in the wide range of policy actors: the Government, Governmental authorities, Regional government, Local government, Professional organisations, R&D organisations, Education organisations, Technology Centres, Advisory organisations, Partnership organisations, Foundations, Trade unions, Non-profit associations and Cooperative organisations.

Vinnova and FBA met twice to make a first knowledge-based inventory of relevant actors. FBA then used the Internet as the main source for the mapping study, both for to find information about the actors from the inventory and to find new ones. The look for other actors than the already known was made by using different key words, both general as for example “service innovation”, and more specific, according to different service sectors, for example financial services, e-services etc.

Use of template and database

Based on the IPPS Policy Mapping Template, a database was constructed (using File Maker), following the logic of the different aspects and examples given in the template. Each theme and example in the template was given a code (see appendix 1 Code list) in the database with the purpose to facilitate the coordination and streamlining of the mapping results.

The aim has been to create a generous overview of existing policy actors and their activities. From this broad – although probably not complete – overview, a selection of the most relevant policy actors and measures can be chosen for deeper analysis and categorization.

3. Services typology

The Swedish service sector

The Swedish service sector can be described from the production side and is around 70% of GNP in 2000. It has been growing steadily since long, both from the GNP point of view and as a percentage of employment.

A Swedish report "Ekonomi och Politik för Tjänster" (translation: Economy and Politics for Services), SNS Förlag 2006, by Jan Owen Jansson points at the fact that the GNP figures does not show the value or results of the economic activity. Looking at services, which normally are very customer centric, Jansson also looks at services from the consumption side, namely consumption of different goods types, which amounts to 50%, different price/market based services to 17% and taxed financed services to 33%.

These figures are from year 2003, but appear rather stable over time. One remark is that all production services are included in the service sector even if the users are companies and the whole trade sector are also included in the service sector. From a consumption value perspective goods and services are playing, in broad, the same signification.

Different kinds of services

For practical innovation policy matters it could be relevant to distinguish between public services, industrial/production services and private services. Public services are collective or individual. There is also a fourth category called social or merit wants or goods. The latter are individual but supplied by social criteria to the consumer. Innovations in the design, value and production are important for all these types of services. Policies on how to direct and reach such innovations will be further explored in the study.

In Sweden employment in services play a significant role. Business services and knowledge intensive services counts for nearly 15% of the employment. Infrastructure and communication count for around the same share, which is also the case for the trade sector. Public services, education and other services amount to nearly 40%.

Different kinds of statistics

Using traditional industry statistics (manufacturing oriented) makes it difficult to capture new service structures. Examples of such new services are brokerage services in different areas, artistry and experience production, renting/hiring production, distant support services, subscription services and knowledge in-

tensive businesses. Due to a faster and faster knowledge development services of this kind will be more difficult to keep in-house and instead necessary to acquire on the market. It is in part possible to reclassify industry code (SNI) statistics to capture these new structures.

The following examples are taken from the book *Kompetens för Tillväxt [Knowledge and Skills for Growth]* by Erik Giertz, and are also described in Regional Business Development, Government Commission (SOU) 2007:87. This classification comprises six main categories or groups of activities: raw material production, manufacturing, distribution of goods, basic common services, service production and network-related activities. The six categories are broken down into 24 different types of business activities, of which 19 are different types of service production (see table below).

The business activities are grouped according to similarities in management, expertise and marketing. For example, such widely differing business types as car repairers, sheet metal workers, cleaners and home services belongs to one category that includes all manual services that must be performed on the local market where the services are required.

Table: New divisions of the business sector – Types of business activity

A1 Raw material production	
B Manufacturing	B1 Contract manufacturing B2 Labour-intensive processing plants B3 Capital-intensive processing plants B4 Assembly
C Distribution of goods	C1 Freight forwarding C2 Transshipping C3 Retailing
D Basic common services	D1 Government authority functions D2 Institutional service production D3 Subscriber-related service production
E Service production	E1 Local manual service production E2 Knowledge-intensive contracted activities E3a Local service establishments (part of E3 Site-based consumer service) E3b Care (see above) E3c Health and medical care (see above) E3d Passenger transport (see above) E4 Rental services E5 Teaching E6 Distance support E7 Artistry
F Network-related activities	F1 Contracting F2 Organising chains F3 Brokering

The following is an explanation of the new types of business activities taken from the report *Några ögonblicksbilder över den regionala utvecklingen [A Few Glances at Regional Development]*, published by the Swedish Agency for Economic and Regional Growth (NUTEK) analysis unit:

A1 Raw material production is used as a concept to classify all activities involving the extraction and sorting by quality of both renewable and non-renewable raw materials. The extraction is strongly linked to the geographical location of the raw material. Examples of raw material production are arable and pastoral farming, forestry, fishing, mining and drilling for oil.

B Manufacturing refers to businesses that process goods of different types. This sector includes everything from abattoirs, breweries, printers or carpentry companies to engineering companies, ironworks or pharmaceutical companies.

C Distribution of goods is used here for businesses whose activities include the transport and distribution of goods. Generally speaking, the need for transport has increased over time due to greater internationalisation and specialisation. Examples of distributors are haulage companies, shipping companies, transport terminals, central warehouses, and retailers.

D Basic common services are activities that can be said to be common resources that cannot be dimensioned or directed by the needs of individual users. Examples of basic common services are public authorities, employer and employee organisations, stakeholder organisations, fire services, basic research, heating plants and data centres.

E Service production involves businesses that provide services of different types. This type of activity includes manual production of services (cleaning companies, security companies, etc), services in social care and health and medical care, rentals (property rentals, car rentals, etc), teaching (universities, study organisations, compulsory schools, upper secondary schools, etc.) distance support (call centres, taxi switchboards, telephone banks, etc) and artists (actors and actresses, musicians, professional sportsmen and sportswomen, etc).

E2 Knowledge-intensive contracted activities are used here as a group for miscellaneous professional consulting services. The type of activity is really part of the service production category, but it has been moved to a separate and expanding business group comprising professional services, regarded by many as being important for economic growth. Knowledge-intensive contracted activities are services that are based on the use of professionals' intellectual capacity to find solutions to the clients' specified needs or problems on a contract basis. Examples are technical consultants, architects, accountants, solicitors, computer consultants and web agencies.

F Network-related services involve the commercial network building of the modern business world, and form the basis of the activities of many virtual companies and imaginary organisations. These “networkers” are important components in the modern service society, as they form links between players. Examples of these players are general contractors, book publishers, property and insurance brokers, credit companies and travel agencies.

4. "Climate" for services in Sweden

Political climate

Law and ordinance

Services come into the Swedish politics in different ways. Firstly, in some areas a minimum quality of how to deliver services is granted by law or ordinance by sector agencies. Secondly, prescriptions on services have been developed through the steering of publicly financed or part financed merit services, for example in local authority support to elderly. This is a tradition in Sweden.

Hands-off tradition

In the areas of market-priced services most often Swedish Government has a "hands-off attitude". The market players should set rules and policies. Only sector research funding could be used for development of new levels of service quality. This is a tradition in the sector prioritized Swedish applied research programs.

The hands-off tradition has had its exceptions in the IT-usage field. The Swedish Administrative Agency (VERVA) has since many years performed many guidance procurements of ICT-systems for different administrative services, which can be used for purchasing by governmental agencies. This policy method was motivated by the need for high competence when specifying requirements for IT-systems, which are often complex. However, viewed in the light of new European procurement rules, this is now questioned for limiting competition. New ordinances are on their way to prevent this.

IT-guidance policies

There has also been a lighter type of policy method in IT-guidance policies formulated to promote better use of IT in services in the Swedish society. IT has been recognized as a very important technology for economic and knowledge growth.

A special policy area is infrastructure for broadband carried IT-based services. Sweden has an historical background in municipality based public utility estate owners built up to secure good and cheap dwellings for citizens. This estate movement and the municipalities have, with the help of public grants, invested in fibre networks independent from the operators and the service content providers. This policy and investments are considered important for growth and competition in net-based services, municipality services and to stimulate business acquisition to the municipality.

"In the current situation there is a strong policy push to more effective public administrations from authorities to Swedish citizens and organisations delivered mainly by e-services." Two authorities that have reached far are the Swedish Tax administration and The Swedish Customs. Some reorganisation during 2006 has generated new key stakeholder in the policies towards public services to citizens and organisations – the Swedish Administrative Development Agency (VERVA). VERVA provides policies for the development of the central government services, as well as governmental agencies. Moreover the agency gives concrete recommendations and guidelines to the public administration in general. An important task is to coordinate e-identification and standards for secure services.

The newly elected (autumn 2006) Swedish government (Ministry of Finance) has clearly declared what should be made in digitalizing the administration, the back office. This is supposed to not only improve the administrative work as such, but also as a building block towards better public services."

Innovation climate

As mentioned above policies to promote innovation in services are very close to the market. Around 1990 the first programs to promote innovation in services by IT-development started at The National Swedish Board for Industrial and Technical Development (NUTEK). The aim was to increase productivity in service activities using IT and to improve quality in services production by creating IT-support for increased professional skills among service-sector personnel. Later on there was more concentration on methods and tools and IT-use research and demonstrations.

Sweden has got a new government alliance since the autumn 2006. The policy is to create more jobs in small businesses and to promote more "outsourcing" from government agencies/county councils and municipalities.

The Swedish government policy about the EU directive on European service market is clearly in favour of an open European market for services. At the same time one is keen to secure the Swedish labour market rules in Sweden, including collective agreements regulating service work done in Sweden.

Since the year 2000, when the Swedish Agency for Innovation Systems

(VINNOVA) was formed, there have been more dedicated actions promoting Swedish innovation systems on all levels, both national, regional and sectorial. There is much more analysis and pressure on combining and securing the actors role-playing in innovation processes in all types of systems. For example, in order to promote regional innovation systems, VINNOVA has invented and further developed competitive instruments for choosing and financing such win-growth initiatives.

A very good example of a regional innovation system is the regional growth initiative in the County of Östergötland called "New tools for health".

The main motives are a great and growing market potential and a suitable regional profile with roots in the academic society, the business environment and public organisations. Primarily focused product areas are sports, personal health, distributed care and personal care. The primary objective is to generate growth in the region through a successive introduction of the new products on the great and growing international market.

The operations are co-ordinated in a member association with currently some 70 member organisations - companies as well as public organisations. The companies are coming from very different sectors and research areas and are partners in different innovation projects. Examples are *The environment of health and security, Selfservice-care, Care at home, User archetypes for product development, Employee based product development, Sport-based prevented health care, Health in school and Creative cottages and Demonstrations of health promoting technology on big scale.* New tools for health is an example of regional partnership organizations that is included in the mapping study.

Another service-innovation area is what is sometimes called the experience industry. The Knowledge Foundation are supporting platforms for boundary-crossing knowledge exchange between eight national places and service areas:

Piteå	Tourism, music, media
Hällefors	Repast, design, tourism
Stockholm	Fashion, design
Trollhättan	Cinema, media
Hultsfred	Music, media, tourism
Karlshamn	Computer gaming, design
Malmö	New medias, design

The network grounds new innovation policies in these areas. Computer gaming for education and training, an expanding field, is promoted by the Swedish Defence, companies and University of Skövde.

Regional actions on innovations in foods and functional foods are analysing and developing regulatory policies in these areas.

Discussions are starting about policies for expanded dialog processes to support service innovations for female corporate management. Female entrepreneurs are common in the service sector.

5. General overview of policy actors

The mapping study covers 109 actors whom are dealing with (innovation) policies and policy measures for the development of the service sector.

Number of actors

The figure shows the breakdown of the total sum of actors in different categories according to the code list (see appendix 1). The different kinds of actors are presented more into detail in the next section. Please also see appendix 2 for more information about the actors and their specific policy areas and measures.

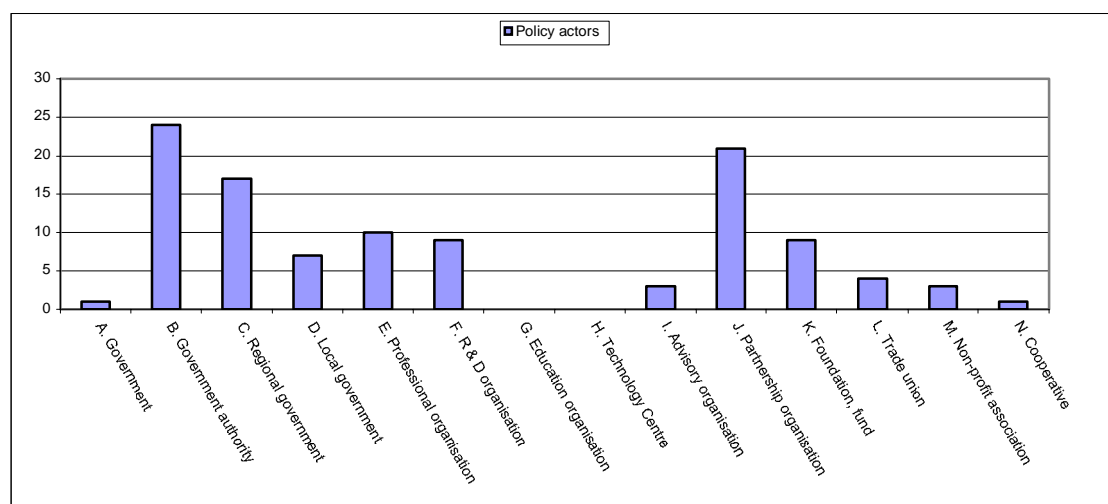


Fig. 1 Number of actors per category

The Government together with the *government authorities* is the main category (21%) followed by *partnership organisations* (19%) and *regional government organisations* (16%).

If we look to the number of actors on different levels the *regional level* is the main category (35%). County Administrative Boards, Regional Councils, Basic region organisations (NUTS) and regional partnerships constitute this category. In order follows actors on *governmental level* (21%) and *institutional level* (13%). The latter category is a combination of professional organisations and trade unions.

Comments on numbers and selection

National level

Policy actions on national level have been looked through thoroughly. The choice has been to limit the investigation to actions from recent years (approx. from 2002-03 and forward).

We have found a wide spread of actors, both in terms of ministries and authorities, from all sectors of the society who are concerned with service innovation policies, some in general and some in specific parts of social life and business.

At the moment, the change of government (from left to right) in the autumn 2006, "complicates" the mapping since we do not yet know the full plans on the service innovation area, and not to what extent, if any, the suggestions formulated by the previous government will be implemented. The uncertainty will hopefully be sorted out shortly.

Partnership organisations

All but one of the actors in this category are innovation systems/clusters on regional level. And most of them are co-financed by governmental agencies and/or EU programmes.

It might be presumed that the relatively big occurrence of partnership organisations illustrates the far-reaching implementation of the triple helix concept for dealing with the complex development of innovation systems and growth.

Due to the Swedish membership in the EU, together with a paradigm shift in view on regions and the development of growth, partnerships (innovations systems) have, since the mid 1990's, become more and more common as a complement to traditional hierarchical ways of developing and implementing policies and policy measures.

The regional level

On the regional level we have chosen to register mainly two kinds of policy actions, besides partnerships as described above. One is measures financed by the EU programme Innovation Actions. The other one is the very recent basic region (NUTS) work with Regional Operational Plans within the new Framework 2 (ERDF 2007-2013).

Apart from these activities all regions have several kinds of plans for regional development and growth, in business area mainly the Regional Development Programme and the Regional Growth Programme. Since much of the priorities and objectives in these programs are referred to in the ERDF plans we have only presented the latter.

The local level

The local government category is rather small and the conclusion should not be that they are not concerned with service policy issues – on the contrary. However, the time limit for the mapping study didn't allow us to dig deeper into the more than 300 municipalities and county councils.

Therefore, the policy actors on local government level who are included in the study are to be seen as examples. The range of local policies is considerable, especially on e-government and the outsourcing/deregulation of public sector services. According to our experience many municipalities finance research to the value of 5-10 million Swedish kronor per year.

The institutional level

The trade unions develop policies concerning their members' employment and working conditions, competence development etc. A lot of the trade unions are organizing employees with professions related to services. The same is valid for professional organisations, who look after the employers' interests, often concerning competitive power, taxes and business development (both goods and services).

As for local authorities we have not been able to go through all organisations that could be of relevance for the study. Instead we have tried to find some representative examples on a comprehensive level.

R&D organisations

This category holds mainly R&D institutes. We have chosen to also include *the Service research centre (CTF)* at Karlstad University, since this is a big (the biggest) research site for research on services. There are of course more university departments and individual researchers concerned with this topic, but they are not included since we have not considered them as innovation policy actors in this study. However, we would like to make some supplementary comments on the category R&D organisations.

There is a tendency among Swedish technical research institutes to move into service innovation issues. A pronounced example is IVF (Industrial Research and Development Corporation), which is the Swedish engineering industries' research institute. The institute and a group of quite different companies have organized service research in cooperation with the former mentioned service research centre in Karlstad, CTF. During the period 2003-2006 they together have managed the project "*Value-adding services*" where so called functional products are developed and evaluated as a new kind of customer offerings. A functional product consists of hardware, software and services with customized functions tailor-made for different user situations and behaviour.

Also University of Linköping has made movements into more service-oriented manufacturing research, of which some together with MTC, the Marketing Technology Centre. The latter is a foundation working as a research-strategic

intermediary between market researchers and service researchers and groups of companies, who wish to innovate their market communication with users. One of the most recent projects are “*Developing Industrial Offerings*” focussing on the industrial companies shift from the manufacturing and marketing of products to the provision of functions, solutions, and offerings with life-long service commitments and support. The consequences on profitability, competitiveness and the need to understand the customers are supposed to be far-reaching.

In Sweden the research institutes on the ICT-field have been concentrated by the owners into Swedish ICT Research AB. This will mean that the base financing of research will be strategically coordinated by the owners and there will be both deepened and broader applied research for IT-based services. Acreo, SICS, Santa Anna and Viktoria will be parts in a new group of institutes.

It could also be of relevance to mention some new education programmes concerning the service sector, though they are not included in the database, since there are many more examples:

- *The Institute for Service Management* at Campus Helsingborg (University of Lund) was established in 2000 and is the first university department dedicated to service management. The department is cross-scientific and focussed on customer intensive services, especially health care, hotel & restaurants, retail trade and tourism.
- *Umeå Center for Interaction Technology* is a research platform at Umeå University focussed on user-motivated IT research in the following areas: Embodied Interaction Design, Human-Computer Interaction Design, Mobile Interaction Design, New Media Interaction Design, Social Interaction Design. The Center addresses the manufacturing industry, the health care sector, medical devices, the service sector and the creative industry.
- *The Nordic Retail College* at Campus Norrtälje. The study programme, and a new campus in Norrtälje dedicated to the programme were developed in 2001 in close collaboration between the retail trade industry, the municipality of Norrtälje and Stockholm University. (Note: the education is under structural change).

6. Overview of programmes and measures

In the overview of programmes and measures we stick to the structure in the policy- mapping template.

How do the actors address the issue?

The overview in this section is divided into two areas: type of measures and business categories (see appendix 1 for categories). The type of measures follows the template with some supplements. We have also added business categories that follows the industry code (SNI) used by Statistics Sweden, the central government authority for official statistics and other government statistics.

Type of measures

The figure below shows the number of actors divided into the different kind of measures they use. Many (more than half) of the actors address more than one measure, especially when it comes to programmes and projects. It could also be a question of definition even if we have tried to keep them separate and not duplicate if not evident that the actor explicitly uses both measures.

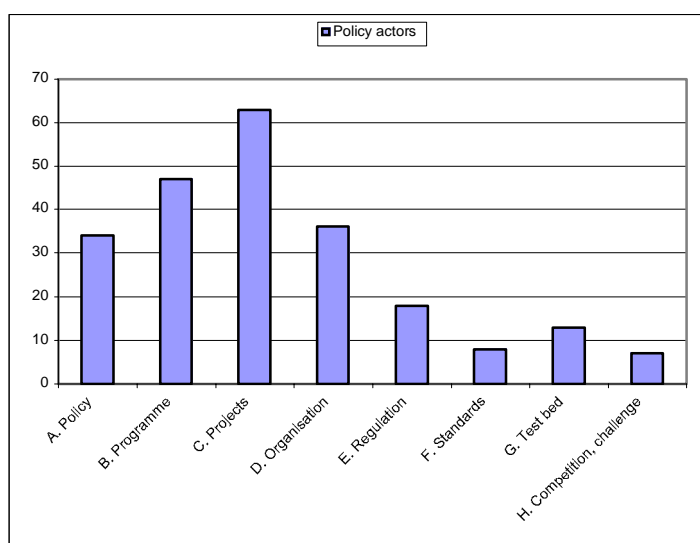


Fig. 2 Number of actors using different kinds of measures

A. Policies

The actors using policy measures (34 in total) are to be found mainly in two categories: the Government and government authorities (1/2) and professional organisations and trade unions (1/3).

B and C. Programmes and projects

The absolute majority of initiatives are made in the form of programmes and projects. Of the total number of actors using programmes (47 in total) are 2/3 the government, government authorities, regional organisations and research foundations. The number of actors using projects (63) represents all categories in accordance with their relative size of the total population.

D. Organisation

The category is about actors offering or financing organisational platforms for the development of service innovations. The platforms act in many different sectors: environment, e-services, robotics, health care etc. and are mainly innovation systems on regional and local level and

E. Regulation

18 actors are concerned with regulation. Of the actors is 3/4 to be found on national level (the government and governmental authorities).

F. Standards

In total 8 actors are concerned with standardization of data in order to facilitate the development of services in the areas of GIS, environmental data and health care. One actor is dealing with standards in banking (e-payment) and one with IT-standards (systems, information). The Swedish Standards Institute is the centre for work on standards. In the service sector for example environment, safety and health care.

G. Test beds

Some of the innovation system platforms on regional and local level are offering test beds where both producers and consumers are offered to test digital infrastructure in terms of devices and services. In total 13 such actors are represented in the study.

H. Competition/challenge

A few initiatives (7) contain an element of prize-winning competition. The advertised challenges addresses three areas: IT-solutions/e-services (4), tourism and design.

Business sectors

We have used the national industry code to illustrate what sectors the initiatives are *addressing*. That is to say the code is not used to identify the branch of the actor itself.

One problem though, is that the industry code still reflects the industrial society. The code list offers 14 subdivisions (which also have subdivisions) to describe the D sector (Manufacturing). That is three code levels. This is not the case for any other sector, since all of them are given only two levels. Furthermore, the service society (or information society or knowledge society) gives

rise to new businesses that combine elements from different sectors. The environment industry (technique, systems, management etc) is one example, the creative industry another.

The debate on this problem has been going on for quite a long time (see also chapter 3), and there have been attempts to revise the industry code to make it more suited to the new economy (services, value chain, value stars etc). The attempts have failed so far in affecting the code structure.

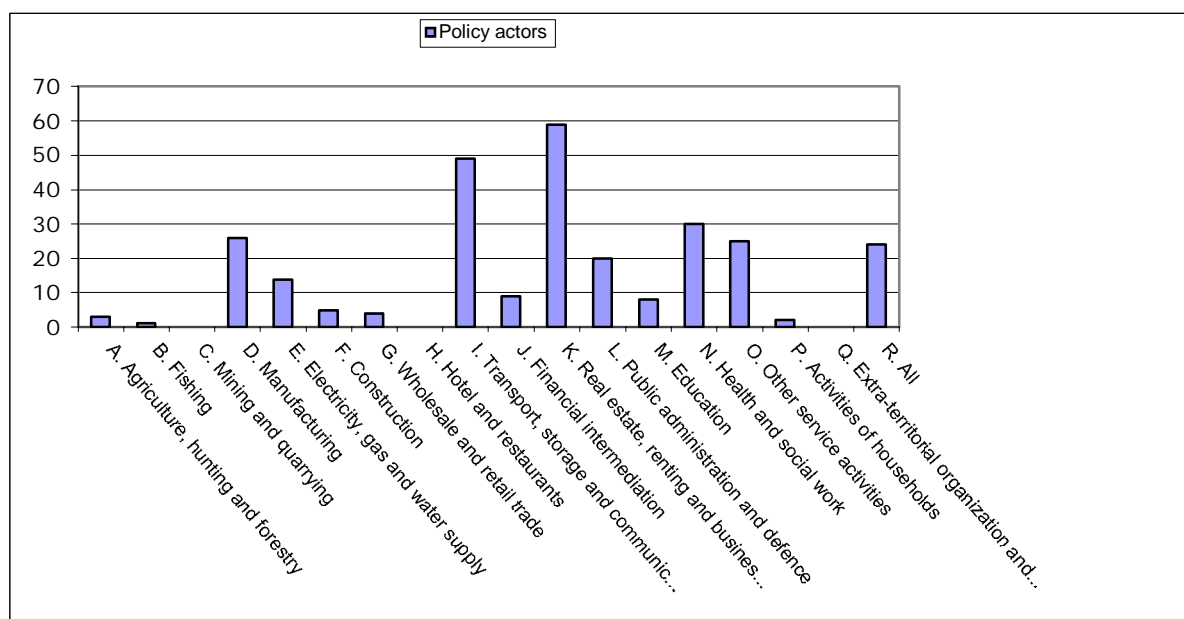


Fig. 3 Number of actors addressing different business sectors

Three kinds of services

In this study we differ between private, public and industrial services. We have chosen to cluster the following sectors into *Private services*: G, H, I, J, K, O, P, Q and the following into *Public services*: L, M, N. The remaining sectors, A-F, we refer to as *Industrial services*. This dividing up is not science based but an attempt to show where the policy actors have put the emphasis. For example, the division between private and public services could differ with political decisions. So, there is no distinct border between the three categories of services when clustering the sectors on the basis of industry code.

Please also note that 24 actors address all sectors (cat. 3). The group is constituted mainly by governmental and institutional organisations.

Anyhow, if we look deeper into the categories the mapping gives us the following results.

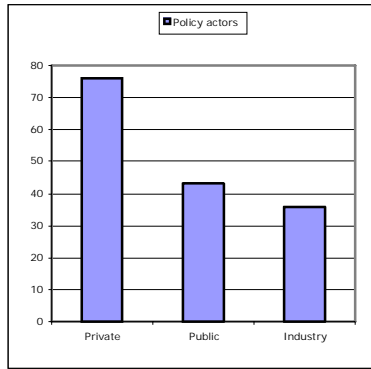


Fig. 4 Number of actors addressing different categories of services: private, public, industrial

We could also see that *region level actors* constitute the majority of policy actors addressing private and industrial service policies while *actors on the central level* are focussing public services. In the latter category all but two of the central agencies in the study are involved.

Private services

The majority of actors (76) are concerned with policies for private services. Within this category two sectors (I, K) are addressed by 92% of them, which is almost 2/3 of the total number of actors in the study.

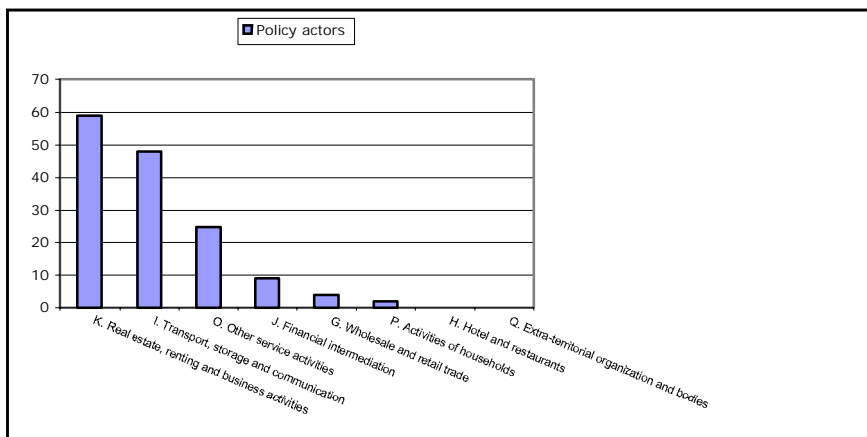


Fig. 5 Number of actors addressing private services

This could be seen as a natural result deriving from the alignment of the mapping study: Many of the private service companies are to be found in these two sectors. And, of course, service innovation policies address service sector companies.

But, that is not the whole truth, since there are service companies also in other sectors. The explanation seems to be that 49 actors in total have chosen to focus on ICT, in the respect of “*hardware infrastructure*” (42), belonging to the sector I, as well as the “*soft infrastructure*” (44) i.e e-services, tools for data analysis etc, belonging to the sector K.

In the sector I, except ICT, two more subdivisions are represented: *Transportation* and *Tourism*, addressed by, respectively, 19 and 9 of the actors. These actors are all into ICT too, and often combined also with each other.

In the sector K, except ICT, the other substantial subdivision is *Environment based services* (management, data analysis, standards etc), addressed by 20 actors, which is 1/3 of the actors addressing sector K. More than half of them combine Environment and ICT.

The third sector in rank is Other services addressed by 25 actors, mainly (18) region based. The two areas addressed here are the *environment* and the *creative industry*. The majority (18) attend the environmental area, i.e handling of waste and similar activities for a sustainable society, and almost as many (14) address the creative industry (film, media, adventure and culture events etc).

The remaining five sectors in the category private services are scarcely attended: Finance by 9 actors, Whole sale by 4 actors (e-business), Activities of households by 2 and Hotel and Extraterritorial organisations by none.

Public services

Policies for the development of public services are announced by 43 actors (39% of the total number). The majority (73%) are addressing the *Health and social work* sector.

In second place comes *Public Administration* with 20 policy actors. They are mainly (15 in total) addressing e-government issues. In many cases the policies and programmes also address the infrastructure for the use of IT in the society as a whole and actors and there initiatives therefore turn up also in the category Private services (see above).

The third category, *Education*, are addressed by 8 actors equally divided among e-learning, education/learning as a part of the professional role, and finally the more broad perspective i.e education as a part of the welfare system.

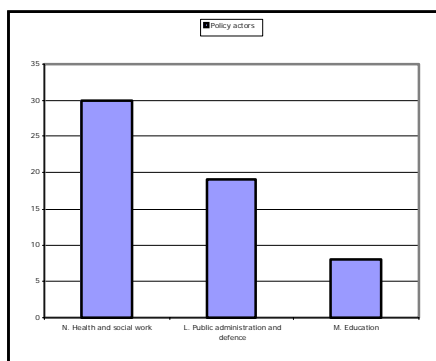


Fig. 6 Number of actors addressing public service

The actors are to be found at all levels. If the mapping had gone deeper into the policies of Regional Councils and local municipalities these actor categories would presumably have been much bigger since the public service mandate in Sweden is decentralized to a high degree.

Industrial services

The innovation part of the industry sector is much about developing services, and systems combining goods and services, aiming at value added products and competitive advantages. Of the actors 36 are addressing industrial services, however not specifically but as a part of the development of the industry as a whole

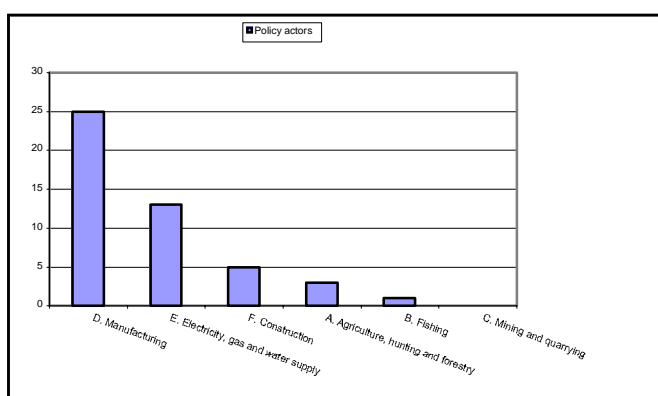


Fig. 7 Number of actors addressing industrial services

The majority of the actors addressing industrial services (72%) focus the *manufacturing sector*, covering a wide spread of manufacturing: food, vehicles, drugs, wood and paper pulp, space equipment, robots, optic fibre, medical devices, textile, environmental technique. In short, the policies cover the whole Swedish manufacturing industry. Since the actors are mainly to be found on the regional level, the alignments of the policies is linked to the industry profile in the different regions.

The *energy sector* is addressed by 14 actors, all but three on the regional level. The policies are part of the sustainability programmes that could be found in every region, as a political wish and responsibility, and a business opportunity. If we had dug deeper into the central level we presumably have found some more central agencies concerned with the energy/sustainability issue, also in the terms of services.

In the *construction sector*, which has 5 representatives in the study, we find two directions: sustainability and customer needs, both are goals claiming the development of knowledge and services in the sector.

Finally, the *agriculture sector* and fishing are addressed by 4 actors, all in the terms of tourism and outdoor life as an important part of the business development.

Supply-side measures

Given the structure of the mapping template we have used seven categories to identify the actors' measures in terms of supply-side focus and support. Of the categories five are of financial character and two are about service and intermediary support.

The study gives us the picture that all actors and their initiatives could be identified as supply-side oriented. That is to say that possible differences show when using the other labels available (see the following sections).

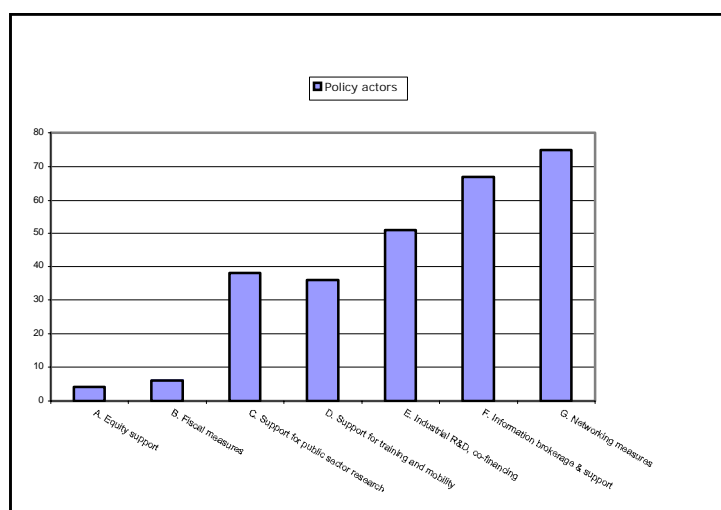


Fig. 8 Number of actors addressing supply-side measures

Equity support

We have not mapped the arena of private actors but only public and institutional ones. This will probably be the reason why the number of actors giving equity support/financial loans is few.

Even in the public/institutional sector we have not included everyone since there are none focussed specifically on the service sector. In this study we have included four organisations, which we find representative.

- *Almi AB*, a state-owned company distributed in every region, which offers financing and business development
- *Innovation Bridge*, which is responsible for the national incubator programme and seed capital support
- *Invest in Sweden Agency*, which is a government agency assisting foreign investors about business opportunities in Sweden

- *Coompanion*, a partly state financed organisation of advisors who are supporting cooperative businesses to raise financial capital on the local level.

In general, equity supporters and alike are open to everyone, but the majority of their clients are to be found in the industry, and few in the service sector. The reason why is debated from time to time, and often it is claimed to be the “industrial/manufacturing tradition” influencing the supplier and the support handling procedures, which in turn makes the service sector actors reluctant to apply for support.

Fiscal measures

In this category we find six actors: two on the *governmental* level (Ministry of Finance and the National Tax Board) and four on the *institutional* level (two professional organisations and two trade unions). They are addressing the following issues to promote the service sectors ability to contribute to growth.

- Reduction in taxes (on labour, domestic services, education).
- The utilisation and harmonisation of taxes (e-business, financial services).
- The simplification for people to start and to run businesses (and to pay tax).
- The future financing of the welfare system (private/public services).

Support for public sector research

Nearly 40 actors (35%) are addressing support for public sector research. They are mainly of three kinds:

- research councils,
- research foundations,
- public agencies and R&D institutes with sector responsibility, for example environment, roads, real estate etc.

One agency, VINNOVA, has the nation-wide responsibility for support of innovation R&D embracing all sectors.

In the category we also find the national member organisation for Swedish municipalities and County Councils and two professional organisations.

Of the actors about 25% are focussed on services, while the rest have services innovation and development as one part of their mission, when dedicating the Swedish business environment conditions.

Support for training and mobility

Almost as many actors (36) are involved in support for training and mobility. The two major categories are the governmental agency level and the regional level. The regional level is represented very much because of the administration of the European Social Fund, used for competence mapping and development.

As we have indicated earlier the actors are supporting kind of training and mobility depending on the agencies responsibility or the regions priorities (see previous sections for an illustration of most represented areas). There are (of course) no training programmes for the service sector in general.

The Swedish association of ICT-companies has developed and proposed a new policy for education based on 30 different skills-profiles, so called e-skills. These serves as a proposed policy tool for universities and schools and for the students to plan their carieers.

Industrial R&D, co-financing

Close to half of the actors (51) are involved in industrial R&D, or rather co-financing industry development, individually or in the shape of consortia and triple helix partnerships, together with the industry itself.

In this category we especially find the two agencies VINNOVA (Swedish Governmental Agency for Innovation Systems) and Nutek (Swedish Agency for Economic and Regional Growth) together with some foundations and a lot of regional authorities and partnerships.

Information brokerage and support

Most of the actors have a responsibility to inform about their doings and results, why actually all could have been included in this category. However, we have chosen to register only them who have a special mission or one or more programmes aiming at information brokerage, entirely or partially. Even then more than 60% do fit in, representing all kind of actors.

Networking measures

The biggest category is Networking measures where 70% of the actors are involved. They represent mainly innovation agencies, regional partnerships and institutional organisations.

As has been mentioned earlier in this study networking is a crucial part of the innovation and growth theory and practice, and therefore a common “tool” frequently used to support business and regional development.

Demand-side measures

In identifying the demand-side measures we have used the mapping template but have also added one category: end-user/consumer awareness. This is a common Swedish perspective supported and pointed out from both the supply and the demand side.

The absolute majority of actors (85%) are involved in demand-side measures.

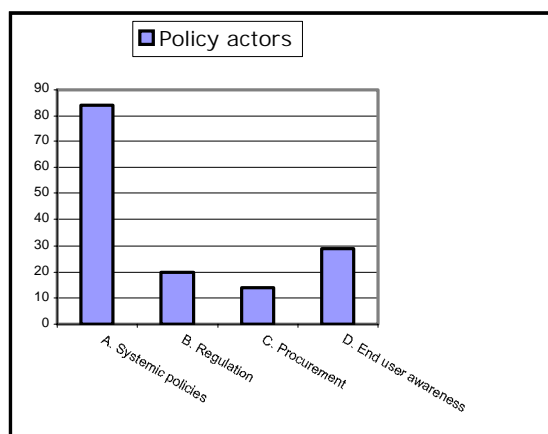


Fig. 9 Number of actors addressing demand-side measures

Systemic policies

Following the results in the last category on the supply-side, Networking measures, the number of actors addressing “systems” in terms of relationships between actors, promotion of cluster etc, are at least as many (84), and maybe even more depending on how to interpret the category.

The main reason why this category is even bigger numerically than Network measures is because we also include nation policies and strategies, which does not necessarily address delimited networks or clusters, but rather aiming at influencing (groups of) actors in a greater extent. Then, the category also is close to Framework measures (see below).

Regulation

Regulation issues concern 20 actors of which 17 are governmental or institutional representatives. The former are carrying out governmental and Parliamentary policies and the latter trying to influence the conditions for employers and employees through lobbying.

Regulations are about a wide range of issues: fiscal measures (VAT and other taxes), new ways of organizing and financing public services, regulation of e-business and e-communication, competition issues, product policies, collective agreements, services directive (European mobility), standardisation, IPR and consumers rights.

Procurement

Procurement measures are addressed by 14 actors, mainly governmental agencies in addition with The Swedish Association of Local Authorities and Regions (SALAR). The measures are among other things:

- procurement legislation
- criteria for services to be procured
- possibilities for SMEs to take part in public procurement
- the opening up of the public service market for private initiatives

End user/consumer awareness

The concern about end user/consumer awareness is widely spread among the actors. Some 30 actors address this issue and are to be found in almost all categories.

The concern apply to citizens in general (e-democracy, freedom of choice of how services are managed; public or private), IT for the disabled and elderly, consumers (e-business), customer-oriented GIS and environmental data, e-learning, ICT-infrastructure, public transport, (e-)health and mobile services. The absolute majority of initiatives (all but a couple) is focussing on the use of IT and e-services in different aspects.

Internationalisation measures

In the identification of internationalisation measures we have followed the mapping study template and received the following results.

Half of the actors (55) in the study are concerned with internationalisations measures.

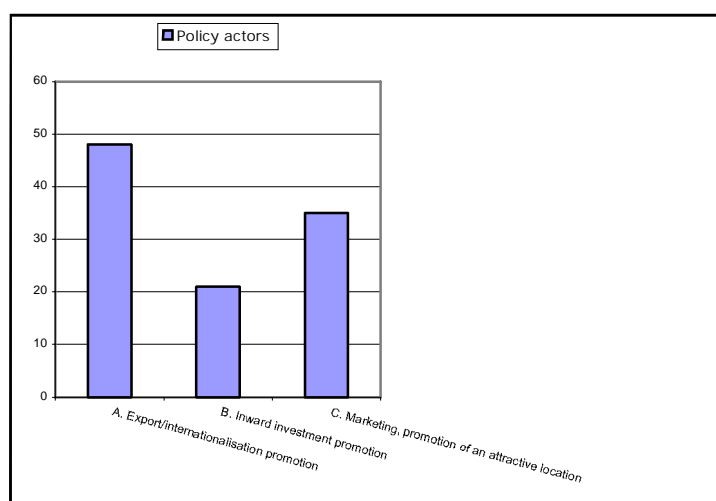


Fig. 10 Number of actors addressing internationalisation measures

Some 20 actors address all three categories. They are all to be found on the regional level (organisations, partnerships). That is also true for the actors concerned with inward investment, who are all but two (VINNOVA, Invest in Sweden Agency) out of 21 regionally located. As many are addressing export promotion exclusively (wide spread of actors) while six actors address location promotion solely.

The categorization is, as in the whole study, very much based on the quite limited written information that has been used. The relation between the categories, and the number addressing internationalisation measures are therefore in every way tentative. One hypothesis though is that, since the actors to a great

extent are regionally located, the three categories are very much different perspectives on the same effort.

Framework measures

A great part of the actors (62%) are concerned with framework measures.

Human resources and employment conditions, science base and regulatory framework are the three main categories with Science base at the top with more than 40 actors.

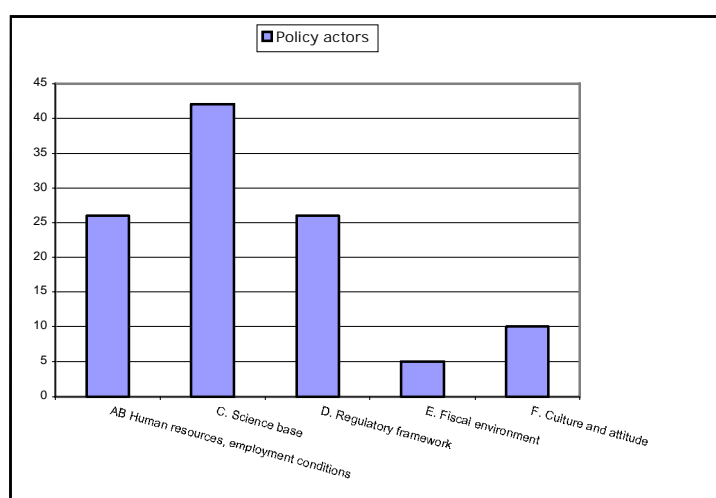


Fig. 11 Number of actors addressing framework measures

Human resources, employment conditions

More than half of the actors in the category A+B are organisations concerned with the occupational role of people and their competence development and certification, especially institutional actors. If we should have also included regional actors distributing the ESF fund (as in Supply-side measures, cat. D), the total number of actors would have been higher and the regional level more visible.

Science base

Actors addressing the development of a science base framework (42) are of course very much the same as in Supply-side measures, cat. C. That is R&D organisations and foundations, governmental agencies with general or sector R&D responsibility and science based regional innovation systems.

Regulatory framework

In this category we find mainly the government and its agencies because this is a task managed on this level to a very high degree. If we add also the institutional organisations and their lobbying activities, as for example in Demand-side measures cat. B, they will raise the number of actors in this category, and their share of the total population.

Fiscal environment

As we have shown earlier the number of actors concerned with a fiscal framework for services development are quite few (5), i.e. the Government and the National Tax Board and some institutional organisations.

Culture and attitude

There are 10 actors addressing the need for culture and attitude development. The initiatives cover many different areas where developed attitudes could make service development easier, for example:

- the public agencies need to be more citizen-oriented
- attitudes towards the public welfare and its future financing
- entrepreneurial attitudes among citizens and employees
- decision-makers attitudes towards disabled and their need for technical devices
- life-cycle perspective on products
- collaboration along the health care value chain
- the understanding of the importance of design
- the use of public transport instead of going by ones own car

Horizontal measures

Finally, the template gives us the possibility to identify if there are actors addressing horizontal measures, either as common recognition of services, or as coordinated actions where different policy areas take joint efforts.

Even if we have already brought up the problem with the limited written material basis for this study, we would once again make the remark that the mapping could be biased in terms of the measures "identity, and especially in the sense of how horizontal they are.

Anyhow, bearing in mind these reservations the study gives us the following picture. And, even if the total numbers of actors could be questioned, the relation between the two categories could be seen as reliable.

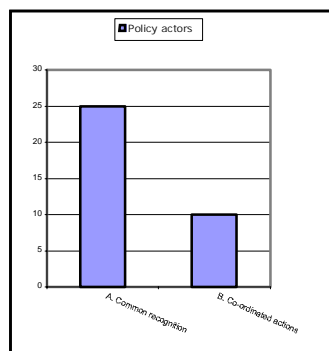


Fig. 12 Number of actors addressing horizontal measures

Close to 30 actors could be said to have identified the need for a horizontal view on the development of the service sector. The *recognition* (25 actors) of the issue is quite spread among the actor categories, while the *action* (10 actors) seems to be a cause mainly for the government and its agencies.

However, as we have mentioned a couple of times in this report, the purpose of developing triple helix partnerships, national, regional and local ones, is to meet with the need for horizontal actions. We could assume that a lot of the partnerships in this study are dealing with such issues, even if not mentioned in terms of programmatic measures.

7. Outspoken needs for innovation policies

The service sector is undergoing rigorous development and change and Almega, the service employers' organization, estimates that, during the course of the last 15 years, the private service sector has grown by more than 500.000 employees in Sweden. There are special conditions relating to services that differ from those involved in the industrial manufacture of goods. Development within the service related economy is not primarily concerned with product development but rather with productive activities such as market strategies, process development, organisational development and structural conditions.

International demand has also meant that the export of services has increased and, within many fields of business, Sweden is well to the fore. Focus is thus placed on the conditions within service enterprise in today's globalised world with regard to, for instance, taxes, freedom of trade, investment, controls, interaction with institutes of higher education and access to new technology. The importance of the service industry to Sweden, from a growth as well as an employment perspective, is supported by the EU's Services Directive in which the internationalisation of services is highlighted as being one of the cornerstones of EU strategy.

An innovative and competitive Sweden requires a long term strategy for development of the service sector.

Specific conditions

In Sweden there are a number of larger service companies but the sector as such is characterised by the existence of many small companies, often close companies. Furthermore, much of the private service sector is built up around network structures and temporary organisational solutions. This means that operations are often regulated by contract or by project employment. Almost all parts of the service sector are labour intensive; this applies not least to the public sector.

Much of Sweden's established structures are adapted to the manufacturing industry. We live with an industrial inheritance and with ideas and attitudes that are adapted to industrial production. But another type of logic prevails for service companies. Many of them, for instance, work in non-linear, non-sequential networks. Other factors that are highlighted are the effects of the tax system on the service industry, intellectual property and issues of labour law. In addition, relatively few academics are found in service companies and they do not have established research units or research departments. Innovative work is often dispersed throughout the companies, using another form of logic.

On this basis, it is difficult for service companies to co-finance R&D in the same way as for industrial companies so it is important to find other forms of cooperation between service companies and research bodies. In this context, many have also focused on the importance of entrepreneurship. For service companies, innovations do not in the first place involve technical research, but are a question of developing new business models, of concept development and of understanding how value is created and how that value can be taken advantage of in the companies. Examples such as H&M and IKEA demonstrate the importance of this.

R&D proposals

During 2006 the players on the Swedish service market have taken steps to promote research within the service sector. It is felt that this has been neglected, but it is necessary and it can strengthen everyone's understanding for mechanisms on the market as well as companies' conduct on it.

Research and development within service related economy does not involve product development but is more a question of marketing, organisational and/or structurally aimed studies. Focus ought to be placed on the special logic of the services and on the needs of the customers, not primarily on the underlying technology. Many representatives of the industry are of the opinion that it is entrepreneurs, not researchers, who push innovation and development within the service sector. Another distinctive feature that is stressed is the close connection between innovation, development and research.

Furthermore, service development requires more emphasis on interdisciplinary approaches. There should, in addition, be collaboration between companies and researchers in order to place a stronger focus on that which distinguishes the service companies. Research, development and innovation work must, however, be based on the needs of the market and of the customer/consumer.

Interpretation of general themes

There is a certain danger in combining all the various parts of the service sector since there is a considerable difference between different fields within the sector. Tourism, trade, building services and transport services, for instance, all differ from each other with regard to business logic and structural conditions. We therefore propose that we work on the basis of functions rather than individual sectors.

When compiling the information collected, we looked for different categories. The essential element in the categorisation of data has been to identify sections or ideas/words/expressions that represented or exemplified some kind of general phenomenon.

Further categorisation and additional comparisons were made thereafter, which resulted in generalisation in certain conceptually more comprehensive themes² summarised below. These themes cover issues relating to consumers, market, organisation and structure.

- **Consumer issues:** such as questions of service consumption, consumer perspective, customer relations and consumer studies.
- **Internationalisation of services:** such as export of public and private services, international comparisons and global business intelligence.
- **Development of services:** such as productivity increases in the private and public sectors, the role of entrepreneurs, financial development, factors affecting growth, business models, business logic etc.
- **Qualifications issues:** such as professional roles, skills issues, training issues, personnel supply and the influence of structural change on work content.
- **Growth issues:** What creates growth? Can growth factors for the development of services be identified? Financial and economic growth etc.
- **Organisational issues:** organisational structures within service companies, logistics issues, cooperation, relations between players, work organisation, working hours etc.
- **Structural issues:** such as taxation issues, legal issues, structural change, sector functions and the borderland between private and public services.

Other proposals

Other proposals and areas that are highlighted are:

- **R&D, which is important and can make the service sector competitive:** logistics, business models, organisation and marketing.
- **Suggestions for possible cross-themes that refer to several sub-sectors:**
 - o The older generation (food, medicine, healthcare, IT, services, biotechnology, transport, work organisation, tourism, the experiences industry)
 - o Sustainable development
 - o “World class sales and service skills”

² It should be noted that generalisation is only possible on an abstracted, overall, conceptual level.

- Tourism (building, transport, infrastructure, events, experiences industry, hotel and restaurant, service industry)
- Concept development
- **Development of innovations laboratory - incubators adapted for service companies.**
- **Innovative public procurement:** the public sector as a significant engine in the system.
- **Character and form of the research:** due to the distinctive features of the service companies that have been focused on above, it has frequently been pointed out that research must be interactive and that companies, customers and researchers work in close cooperation in requirement-motivated projects. There must be a strong focus on results and research/action research – research is performed in close collaboration between the companies and the researchers.

Some important, general views

In addition to the prioritised research areas, the following general views have arisen during interviews and in other material that has been collected:

- Research within the service sector has been neglected, but it is necessary and it can strengthen people's understanding for mechanisms on the market as well as the companies' conduct on it.
- Research and development within service related economy does not involve product development but is more a question of marketing, organisational and/or structurally aimed studies.
- Focus ought to be placed on the special logic of the services and on the needs of the customers, not on the underlying technology.
- Many of those interviewed in this material mention that it is entrepreneurs, not researchers, who push innovation and development within the service sector.
- There is a certain danger in combining all the various parts of the service sector since there is a considerable difference between different fields within the sector. Tourism, trade, building services and transport services, for instance, all differ from each other with regard to business logic and structural conditions.

- Service research calls for more emphasis on interdisciplinary approaches since the service sectors are too complex to be organised within one single discipline.
- Firm collaboration with service companies is required if research is to have a strong focus on that which distinguishes those companies.
- Almost all of those interviewed mention that the conditions within service-oriented businesses distinguish themselves from those in the industrial sectors – *but it can be difficult to make this understood. As one respondent expressed it: “What we need to do is to describe for politicians, for example, the conditions of these entrepreneurs. If we point out that there are problems with the tax burden in the service economy, this is often regarded as whining.”*
- *“We are primarily interested in research that can be applied in practice”* is a comment that is not uncommon in the material collected – and that pinpoints a dilemma. Just because research is not *directly* applicable does not mean that it is of no value to practitioners. Would, for example, Einstein have received a single penny of a grant for his research with an attitude like that?
- Having reviewed all of the contributors’ websites, the conclusion is that all of the service sector’s unions and trade associations produce, or have access to and highlight, statistics regarding the significance of the sector. There are a considerable number of future-oriented surveys and trend analyses. There are, however, few academic reports/surveys on the websites.
- Since the service sector is differentiated, a definition of which industries are included and which are not included has been requested by some players.
- In the same way, some kind of simple summary of ongoing research in these areas would be welcome – a Swedish overview of existing research, in other words.

Summary of information collected

For the purpose of clarifying and structuring the material, the following is a summarised breakdown of the participants’ wishes and priorities in respect of R&D questions for the service sector.

<p><u>ALMEGA</u> More effective public procurement Service development within private industry Service export and growth factors The service sector as a growth factor in municipalities/regions Global business intelligence regarding research within service development</p>	<p><u>SIF (The Swedish Union of Clerical and Technical Employees in Industry)</u> Productivity within the service sector Service export Recruiting companies' and consultants' role on the labour market Work organisation and employee influence Innovations within the service sector Full-time and part-time</p>
<p><u>FINANSFÖRBUNDET (Union of Financial Sector Employees)</u> International comparisons Development issues Professional roles EU - Legislation The consumer perspective Internationalisation and relocation of services Education issues</p>	<p><u>SVENSK HANDEL (Swedish Trade Federation)</u> Supplier relations and goods' path from production Customer relations and consumer surveys Function and importance of trade Structure development The running of trading companies Trade as labour market</p>
<p><u>HANDELS (The Swedish Commercial Employees' Union)</u> Effects of structural change in the service sector Work organisation and work content Working environment surveys Organisation of the work Historical society-oriented research Working hours</p>	<p><u>SVENSKA BANKFÖRENINGEN (The Swedish Bankers Association)</u> The financial sector's economic significance for society The financial sector's development Financial development and economic growth The financial system The financial sector's functions</p>
<p><u>HRF (the Hotel and Restaurant Workers' Union)</u> Qualifications issues Conditions for growth</p>	<p><u>SVERIGES BYGGINDUSTRIER (the Swedish Construction Federation)</u> Industrial construction Energy utilisation Methods of purchasing Development of new logistical concepts</p>
<p><u>SACO (the Swedish Confederation of Professional Associations)</u> Develop the potential in the tourist industry Taxation issues Factors for growth and development Review of what needs-motivated R&D means for the service sector The significance of VAT rules for growth and development in the education sector</p>	<p><u>SKL (the Swedish Association of Local Authorities and Regions)</u> Potential if we develop the service sector? Structural issues How can entrepreneurship be developed within the service sector? Innovation system within the service sector Internet, IT and communication</p>
<p><u>SHR (the Swedish Hotel and Restaurant Association)</u> Economic and legal conditions for the industry Range of products, services and companies Skills and personnel supply Economic operational issues (economic control etc.) Tourism and cooperation</p>	<p><u>TCO (the Swedish Confederation of Professional Employees)</u> Export of public services Productivity increases in the public sector Increased consumption of services Export of private services</p>

Appendix 1 – Code list

Policy actor	Type	<ul style="list-style-type: none"> A. Government B. Government authority C. Regional government D. Local government E. Professional organisation F. R & D organisation G. Education organisation H. Technology Centre I. Advisory organisation J. Partnership organisation K. Foundation, fund L. Trade union M. Non-profit association
Industry code (SNI)	Secode	<ul style="list-style-type: none"> A. Agriculture, hunting and forestry B. Fishing C. Mining and quarrying D. Manufacturing E. Electricity, gas and water supply F. Construction G. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods H. Hotel and restaurants I. Transport, storage and communication J. Financial intermediation K. Real estate, renting and business activities L. Public administration and defence; compulsory social security M. Education N. Health and social work O. Other community, social and personal service activities P. Activities of households Q. Extra-territorial organization and bodies R. All
How do the actor address?	Acode	<ul style="list-style-type: none"> A. Policy B. Programme C. Projects D. Organisation E. Regulation F. Standards G. Test bed H. Competition, challenge
Supply-side	SScode	<p>Finance measures</p> <ul style="list-style-type: none"> A. Equity support B. Fiscal measures C. Support for public sector research D. Support for training and mobility E. Grants for industrial R & D <p>Service</p> <ul style="list-style-type: none"> F. Information brokerage & support G. Networking measures
Demand-side	DScode	<ul style="list-style-type: none"> A. Systemic policies B. Regulation C. Procurement D. End user/consumer awareness
Internationalization	Icode	<ul style="list-style-type: none"> A. Export/internationalisation promotion B. Inward investment promotion C. Marketing, promotion of an attractive location

Framework	Fcode	A. Human resources B. Employment condition C. Science base D. Regulatory framework (incl state aid, competition standards, IPR) E. Fiscal environment F. Culture and attitude
Horizontal	Hcode	A. Common recognition B. Co-ordinated actions

Appendix 2 – Database with all actors from the mapping study including codes

Name	Type	Secode	Acode	Sscore	Dscore	Icode	Fcode	Hcode
The Government	A	L	A	F	AD	D	A	A
The Government	A	L	B		AD	F	AB	
The Government	A	LN	B		A		A	
Ministry of Finance	A	EIJLMNP	AE	BF	ABC	DF	A	A
Ministry of Finance	A	L	C	G	ABD	DF	A	A
Ministry of Agriculture	A	AIK	B	DEFG	A	AF	AB	AB
Ministry of Justice	A	R	E		B	A	D	
Ministry of the Environment	A	I KO	C	G	A		A	A
Ministry of Enterprise, Energy and Communications	A	G I K	ADE	F	AB	D		
Ministry of Enterprise, Energy and Communications	A	I	A	CDFG	A	C	B	B
Ministry of Enterprise, Energy and Communications	A	I K	A		AB	D	A	A
Ministry of Health and Social Affairs	A	NP	E		AB	ABD	A	A
24-timmarsdelegationen	B	L	AD	FG	AD		AB	AB
ALMI Företagspartner AB	B	R	C	A				
Banverket	B	I	B	CF		CD		
The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning	B	A D F K L O	BC	C		C		
Swedish Council for Working Life and Social Research	B	N	BC	C		C		
The Geodata Advisory Group	B	K	AF	FG	A	D		
The Swedish Handicap Institute	B	N	ACE	CDEFGCD	A	AB C D F		
Invest in Sweden Agency (ISA)	B	D I J K N R	C	AF		BC		
Swedish Institute for Growth Policy Studies (ITPS)	B	R	AC	F		AC		
Swedish Competition Authority	B	J N	ACE	CF	B	CD	A	A
The Swedish Consumer Agency	B	G I R	ACEF	CDEF	ABD	CD		

Lantmäteriet	B	K	ACEF	CDEF	ABD	A	CD
Swedish Agency for Networks and Cooperation in Higher Education (NSHU)	B	M	AC	CDFG	AD	AC	
Swedish Environmental Protection Agency	B	DKO	ABCE	CDF	ABC	CDF	AB
Swedish Agency for Economic and Regional Growth	B	R	B	DEG	A	A	
Name	Type	Secode	Acode	Sscode	Dscode	Icode	Fcode
Swedish Agency for Economic and Regional Growth	B	R	ABCD	FG	AC		
Swedish Agency for Economic and Regional Growth	B	R	B	EG	A	A	
Swedish Agency for Economic and Regional Growth	B	DKNO	B	EG	A		
Swedish Agency for Economic and Regional Growth	B	I	B	DFG	A	C	AB
The National Board for Public Procurement	B	R	E	F	BC	D	
The Swedish National Post and Telecom Agency (PTS)	B	GI	ABCE	F	ABCD	D	
The National Public Transport Agency	B	I	ACE	FG	ACD	D	B
The Swedish National Space Board, SNSB	B	DI	B	E		A	C
National Tax Board of Sweden	B	R	AE	BF	B	D	
The National Board of Health and Welfare	B	N	ABCE	CDF	B	ABCD	A
Swedish Administrative Development Agency (VERVA)	B	L	ACEFH	DFG	ABC	AD	AB
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	R	ABD	CDEFGA		C	
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	IK	B	CE	A	C	
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	R	B	E	A		
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	N	B	C	A	A	A
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	IK	D	CE	A	C	
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	I	B	C	A		
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	DIN	B	CDEFGA	ABC		
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	K	BD	C	A		
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	IK	BCD	CG	A		
Swedish Governmental Agency for Innovation Systems (VINNOVA)	B	KLN	B	CEFG	A	A	C
The Swedish Road Administration	B	IK	ABE	CE	AD	D	
Business Region Göteborg	C	IKO	C	FG	A	ABC	
The Blekinge County Administrative Board	C	DIKL	ABC	EG	A		
The County Administrative Board of Norrbotten	C	DIKN	BG	DEFG	AD	C	F

The County Administrative Board of Stockholm	C	IKLO	ABCG	DEFG	AD	AC	AF
Basic Region Mellersta Norrland	C	DEIKO	B	DEG	A	ABC	
Basic Region Norra Mellansverige	C	R	B	DEG	A	ABC	
Basic Region Småland och öarna	C	AEIKO	B	DEG	A	ABC	
Name	Type	Secode	Acode	Sscode	Dscode	Icode	Fcode
Basic Region Stockholm	C	DIJKO	B	DEG	A	ABC	
Basic Region Sydsverige	C	DIKNO	B	DEG	A	ABC	
Basic Region Västsverige	C	BDEIKNO	B	DEG	A	ABC	
Basic Region Östra Mellansverige	C	R	B	DEG	A	ABC	
Basic Region Övre Norrland	C	DEIKO	B	DEG	A	ABCAF	
Region Skåne	C	DIKLO	BC	DEFG	A	ABC	
Region Värmland	C	DEIKMNO	B	EG	A	ABC	
Region Västra Götaland	C	DIKO	BC	EG	A	AC	
Regional Council Kalmar County	C	IK	BC	EG	A	AC	
Östsam Regional Development Council	C	IKO	BC	EFG	A	AC	
Baltic Challenge Award	D	IKLMN	H	FG	A	ABC	
The Skåne Association of Local Authorities	D	LN	CD	CG	A	AC	A
Sambruk	D	L	CD	FG	AD		AB
Stockholm Business Region	D	DEIJKO	BGH	EFG	A	ABC	
Stockholms läns landsting	D	N	CD	DF	D		A
City of Stockholm	D	IKLM	CDGH	FG	AD	A	
City of Stockholm	D	I	CD	FG	ACD	F	
The Swedish Association of Local Authorities and Regions (SALAR)	D	IKLN	ABE	CEFG	ABCD	ABCDE	AB
Almega (forum for service companies anges som förklaring till namnet)	E	KMNOR	ABC	BCE	BCD	A	BCD
Dataföreningen	E	IK	CDH	DFG	A		A
Stockholm site of Banking	E	J	C	FG	AB	C	ADE
The Swedish Bankers' Association	E	J	AEF	BF	AB	A	D
IT-Företagen	E	IK	CD	DFG	A		
Swedish Public Transport Association	E	I	AC	FG	AD	F	
The Confederation of Swedish Enterprise	E	R	AB	AB	A	ABD	

The Swedish Construction Federation	E	F	AB	CE	AD	C		
The Swedish Public Relations Association (SPRA)	E	K	A	CEF		ABC		
The group of twelve (service sectors employers' and employees' organisations)	E	R	ADE	BFG	AB	DE A		
The Service Research Center at Karlstad University	F	R	C	C		C		
Name	Type	Secode	Acode	Sscode	Dscode	Icode	Fcode	Hcode
Dalarnas forskningsråd	F	KN	BC	CE		F	C	
The Swedish Foundation for Small Business Research (FSF)	F	KL	BC	CF			C	
The Research Institute of Industrial Economics	F	R	B	CF	A		C	A
Royal Swedish Academy of Engineering Sciences	F	DIKLN	B	FG	A	A	ACD	A
Swedish Design Research Network	F	K	CD	CG	A		C	
Swedish Environmental Research Institute Ltd (IVL)	F	EIKO	CF	CDF	D	A	C	A
The Swedish IT Institute (SICS Group)	F	DIKM	C	CEFG	A		C	
The Swedish National Road and Transport Research Institute (VTI)	F	DIK	B	C	A		C	
Finance Sector Advisory Board	I	J	D	FG	A		C	
Council for Competition Research	I	R	C	C				
Swedish Environmental Technology Council	I	EKO	BD	FG	AC	ABC		
Acereo National Broadband Testbed	J	IK	CG	EG	AD	BC		
Carelink	J	N	ABCDEF	FGG	ABCD	D		B
Fiber Optic Valley	J	IKN	G	EG	AD			A
Future Position X	J	IK	G	FG	AD			
New tools for health	J	DN	CDG	EG	AD	C	C	
Food innovation at interfaces	J	D	CD	CEG	A	A	C	
IT-forum Stockholm	J	L	D	G				
Kista Science City AB	J	IK	CDG	DEFG	AD	C	C	B
Living labs	J	IK	G	G	AD	AC		
Mobile City Initiative (Kista)	J	IK	G	DEFG	AD	AC		
Peak of Tech Adventure	J	IO	CD	EG	A	ABC		
Robot Valley	J	D	CD	CEG	A	AB	C	
SIRNET	J	K	D	FG	A			
Stockholm IT Region	J	IK	CD	DEFG	A	ABC		

Stockholm Mobile Connect	J	IK	CD	G	AC	
Stockholm Sustainable Region	J	EKO	CD	DFG	A	AC
Sustainable Business Hub	J	DEFKO	CD	FG	A	A
Sustainable North Sweden	J	EKO	CD	FG	A	A
Name	Type	Secode	Acode	Sscode	Dscode	Hcode
Sustainable Sweden Southeast	J	EKO	CD	FG	A	A
Sydsam	J	R	BD	FG	A	AC
Telematics Valley	J	IK	BD	CEG	A	ABCC
The Whole sale Business Development Board	K	G	B	C		C
Innovation Bridge	K	R	BC	AEG	A	E
Knowledge Foundation	K	R	BCG	CDEFGA		AC
The Foundation for knowledge development in the tourism sector	K	I	CH	CEF		C
Stiftelsen Marknadstekniskt centrum (MTC)	K	DILR	CD	CEFG	AD	A
The Swedish Industrial Design Foundation (SVID)	K	K	ACH	CDEFGA		ACF
Development Fund of the Swedish Construction Industry	K	F	BD	CDE		A
Trygghetsfonden	K	LN	B	CDEFGA		ABC
The Vardal Foundation - for Health Care Sciences and Allergy Research	K	N	CE	CE		AC
The Union of Service and Communication Employees (SEKO)	L	ELIN	AB	F		AB
The Financial Sector Union of Sweden	L	J	A	DFG	AB	A
The Swedish Confederation of Professional Associations	L	KMNR	AC	BFG	AB	ABCD
The Swedish Confederation for Professional Employees	L	LNPR	AC	FG	A	B
European Institute for Design and Disability (EIDD Sweden)	M	NK	D	FG	AD	AF
Swedish Standards Institute (SIS)	M	FDKNR	F	DFG	AB	D
The Swedish Development Council for Geographic Information (ULI)	M	K	D	FG	A	
Coompanion	N	N	CD	ADEFGA		