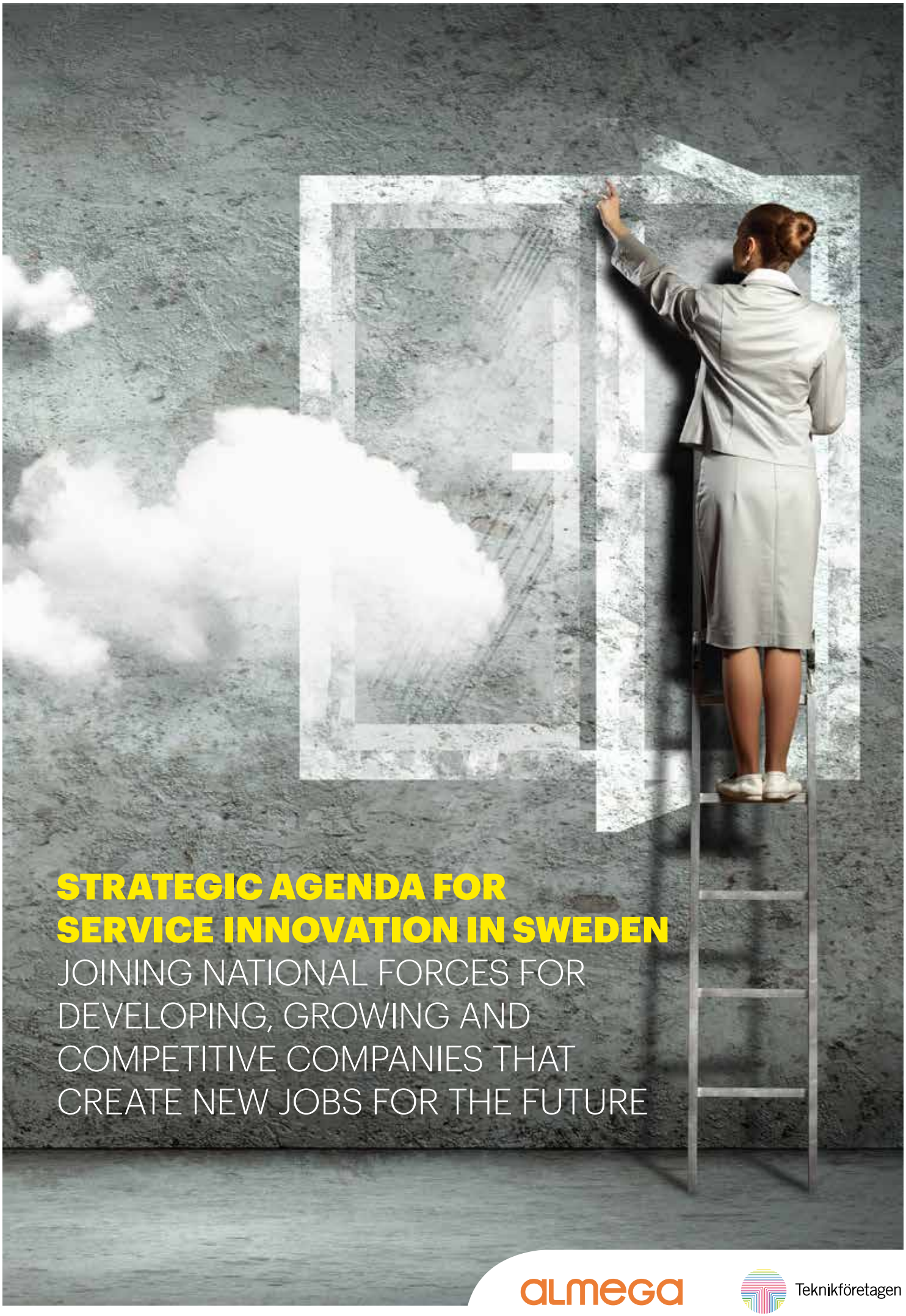


STRATEGIC AGENDA FOR SERVICE INNOVATION IN SWEDEN

JOINING NATIONAL FORCES FOR DEVELOPING, GROWING AND COMPETITIVE COMPANIES THAT CREATE NEW JOBS FOR THE FUTURE

almega

Teknikföretagen

Table of contents


W
N
S
E

Joining national forces for service innovation

The significance of developing services has increased both nationally and internationally as a result of the changing structures of both business and society. Developing services has been a premise for business, both for competitiveness and for being able to meet the demands placed by the markets, customers and owners.

Innovation within services is also a unique opportunity for meeting global societal challenges, as it is based upon tailoring to the customer/market, as well as co-operations and the management of complex systems within changing environments. Within these areas, both Swedish research and entrepreneurship are international leaders.

The members of Almega and Teknikföretagen are companies from both the service and industrial sectors. These companies have a strong common interest in developing knowledge and co-operation within service innovation. There is a need to join national forces concerning service innovation by involving companies, the Academy, the public sector and research institutions. Teknikföretagen and Almega therefor have jointly taken the initiative to this agenda.

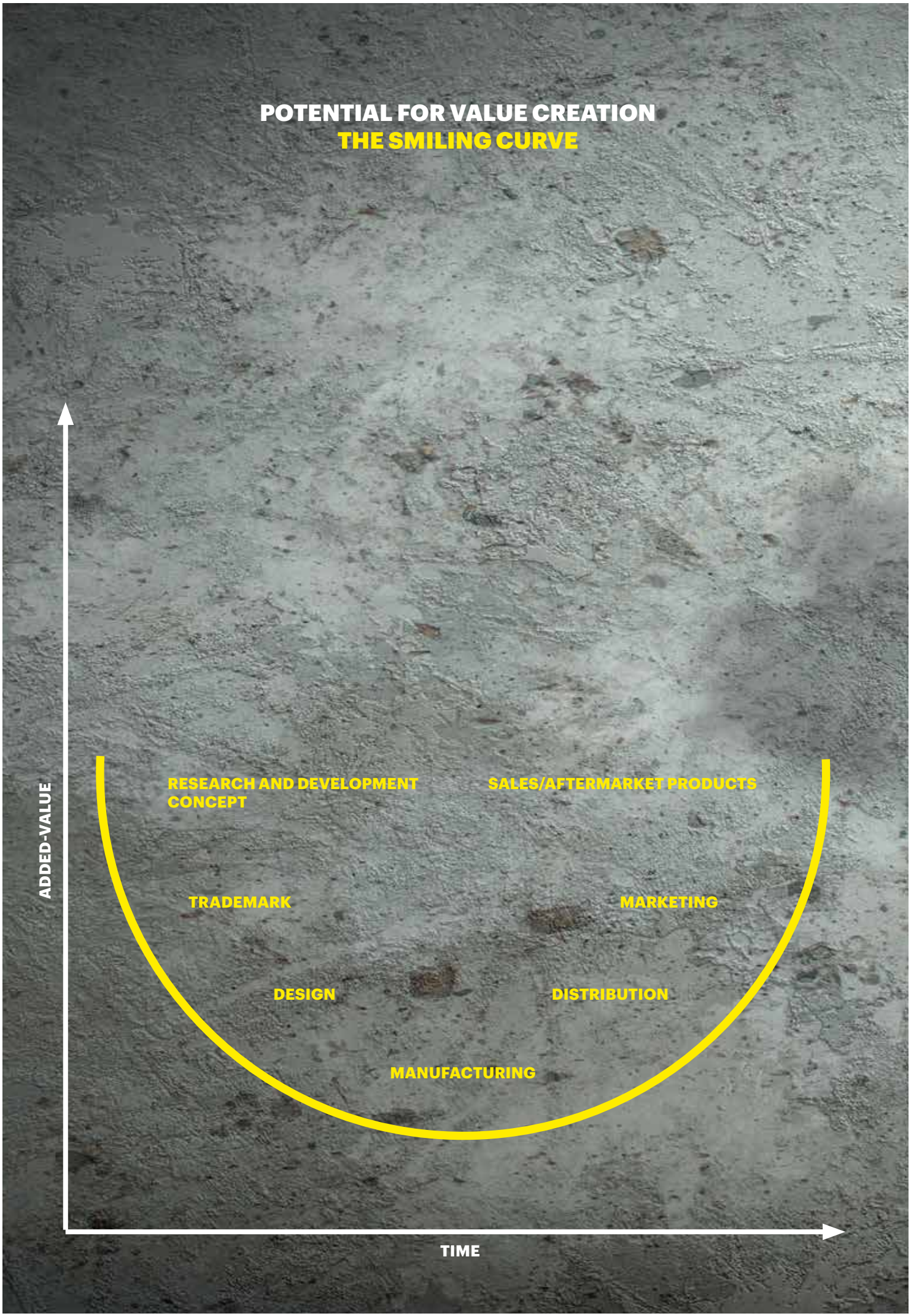
The contents of this agenda have been developed together with a reference and a strategy group consisting of member companies of Teknikföretagen and Almega, the Academy, research institutions and intermediary organizations, in order to as far as possible reflect the actual needs existing within the nation's companies and exploit the knowledge and expertise existing within the Academy.

The joining of national forces, for example in the form of an area of strategic innovations, can contribute to developing new knowledge with respect to service innovation in co-operation with the Academy and companies, providing increased opportunities for the transfer of knowledge and expertise between different branches and with the Academy.

Sweden is in a unique position and has the potential to create an internationally competitive environment for expertise concerning the development of service offerings. A national joining of forces can accelerate this process which we consider to be a necessity.

Ulf Lindberg
Head of Business Policy
Almega

Eva Wigren
Head of Industrial Development
Teknikföretagen


POTENTIAL FOR VALUE CREATION
THE SMILING CURVE
ADDED-VALUE
RESEARCH AND DEVELOPMENT
CONCEPT
SALES/AFTERMARKET PRODUCTS
TRADEMARK
MARKETING
DESIGN
DISTRIBUTION
MANUFACTURING
TIME

Service innovation, important for Swedish competitiveness

Swedish competitiveness depends on our ability to develop a dynamic business sector and create a sustainable society. The global economy entails that we must develop the capacity to meet evermore complex needs in an entirely different manner than previously. Requirements as to efficiency have increased, at the same time as quality aspects have become decisive, and innovation has received an increased significance as a strategic instrument.

The basis for the work with this agenda is that service innovation is to be seen as an integrated system in which the core is the value delivered to the user.

Service innovation is interdisciplinary, spanning several sectors, with a user-centered focus in which goods and services often complement each other in order to create the best offering for the customer. This requires new skills and knowledge, work methods and co-operations.

Goods are becoming more and more "servicified", and services in their turn are often tied to a technical solution in order to meet the user's needs and expectations. The traditional way of distinguishing between goods and services no longer reflects reality, as today these are often tightly intertwined. The boundaries between the producer and customer, as well as between sectors and the Academy, are dissipating to a higher degree, without for this reason disappearing or having less significance. The demands of customers, or users, are becoming more and more combined as he or she expects a greater selection, higher quality and unique offerings precisely fitting his or her needs. The customer expects not only high technological quality or material value, function and experience have also become ever increasingly more important. Service offerings therewith need to be developed and scaled in an entirely different manner and to a much higher degree than at any time previously.

There are several reasons why goods and services are more and more intertwined and that the boundaries between these areas that previously once were clear, today easily run into each other, creating a system rather than a linear process. Society and technological developments are changing at an all the more rapid pace and often it is difficult for customers to distinguish between different goods from a technological perspective. The customer more often is focusing less on technological performance, instead that which is central now is how well the solution meets needs and expectations. Customers more and more often require total solutions, and not in the least due to the Internet, the selection of choices has increased, as different offerings can be quickly compared. Goods tend to have shorter life cycles and become more generic, and value is now moved towards the use and experience of goods. This entails new approaches for companies as they need to change their selections to meet the altogether more complex demands in order to ensure sustainability in their business and competitiveness at the same time as they have a need to find more effective solutions.

This perspective has also been raised in several newly published books concerning service innovation:

> *"Service innovation for our successful Swedish companies is based on a very good understanding of what the customer wishes. The starting point for this type of service innovation is ideas as to new value creating processes, which can then be compared with the starting point of product innovation that often is new technology or a better use of resources. A key with respect to product innovation is often patents, while the key to service innovation often concerns knowledge as to needs not yet fulfilled. Open innovation processes are a requirement for being able to ultimately invite customers and other parties as needed in order to facilitate service innovation as a value creating process."*[1]

1 Kristensson, Gustafsson and Witell, 2014.

THE SIGNIFICANCE OF SERVICES FOR THE ECONOMY

Sweden has been a service economy for several decades, today more than two-thirds of commercial added-value is created in companies that the official statistics classify as service companies. At the same time, many researchers and analysts argue that the categorization of business in the statistics entails that the evermore complex relationship between the production of services and goods is rendered invisible. Therefore, this depiction ought to be complemented by an analysis of the global value chains. In Sweden, as in a series of other OECD countries, production has become more efficient with a higher added-value thanks to increased specialization. This in its turn has led to that the manner by which we traditionally measure exports can give a distorted picture of our production chain as the largest added-value that is created.

The gross domestic product, GDP, can be measured based on who produces goods or services, in other words, the production side, and by who consumes that which is produced, in other words, the user side. Looking from the production side, Swedish business is responsible for approximately 80% of the added-value in the GDP, and the remaining 20% primarily comes from the public sector through welfare services.

If one then looks at who is consuming goods and services, approximately one-half are exported and the remaining 50% is consumed by households. In addition, the public sector consumes approximately 25% and approximately 20% goes to future investments. This is possible as Sweden also imports goods and services.[2]

The Swedish export of services constitutes roughly 30% of the total export trade when exports are measured in the traditional manner. If one instead measures the export of business added-value arising from service production, approximately 36% of Sweden's exports consist of services produced within the country. This statistic includes both added-value from services that are directly exported as well as services used as components in the production of other export products.[3]

If one goes down to the company level and wishes in a comparable manner to measure the premises for and significance of service innovation, with today's available methods this is more difficult.

We can certainly see that the sales of services is responsible for the increase in turnovers of manufacturing companies, but today there is an absence of suitable indicators for explaining this increase, such as innovation activities in service companies. This is the case both within a company - the absence of relevant key performance indicators in order to steer work with service innovation is one of the challenges that repeatedly is brought up by companies – as within an aggregated analyses of innovation activities within branches, sectors and at the national level. For several years, work has been conducted within the OECD, EU and specific countries in order to develop measurements and indicators with respect to service innovation.

The objective of the proposed agenda is to strengthen the competitiveness of Swedish companies, regardless of size or branch, and contribute to a long-term sustainable development in which future jobs can be created. The focus consequently is on identifying the challenges and needs from a company perspective as well as how research and knowledge can contribute to meeting these needs and challenges.

SERVICE INNOVATION, A PATH TO SUSTAINABLE GROWTH

Sweden is successful in developing services with high value for customers, regardless of where they are in the value chain. In recent years, many companies, both traditional industrial companies as well as more purely service companies, have quickly become world leaders by offering solutions creating added-value for the user. That companies in Sweden excel at developing attractive service concepts for the user can be tied to a tradition of good co-operation between the public and private sectors and between research institutions and companies. Swedes generally are seen as being relatively open to novel ideas, and together with the fact that the number of Internet users is very high, good premises for service innovation are created.

WORLD-LEADING COMPANIES

There are many good examples of companies that develop, and continue to develop, the capacity for service innovation. Klarna, H&M, Tyréns, Bonnier and several health and care companies are several that can be mentioned. There is also a series of examples within the manufacturing sector where a transformation towards an increased customer-based and service-content orientation is occurring, such as in ABB, Atlas Copco, Alfa Laval and several companies within the automobile industry. Both Volvo and Scania manufacturer trucks, but sell a service concept, a transportation solution.

Ericsson has worked strategically for over a decade with service innovation, and the sale of services is approximately one-half of its revenues. By offering customers a combination of technology, hardware and operative knowledge, Ericsson has become one of the few companies in the world that can meet the demands placed by customers seeking long-term partnerships with companies that can work with all aspects of operations. Ericsson therefore offers the customer everything from business and technological advice and network design to system integration, network operations and support. SKF is another example of a Swedish Company

2 http://www.ekonomifakta.se/sv/Fakta/Ekonomi/Tillvaxt/BNP---detaljerat/
3 http://www.oecd.org/sti/ind/TiVA_SWEDEN_MAY_2013.pdf

that methodically works with developing new service offerings by involving the customer in the process. SKF can offer "integrated maintenance solutions" in which they create a strategy for optimizing infrastructures and contribute to its implementation together with the customer. SKF then also becomes a part of the customer's operative work.

The security branch is experiencing great changes, from previously offering traditional security services to today offering complete solutions requiring advanced technology combined with well-trained security personnel. Securitas focuses on delivering services that meet the customer's needs "from axes to bread" and including preventive efforts where the customers are present when prioritizing that which needs to be done in order to prevent and avoid crimes affecting operations and employees. Securitas works actively with combining training, technical development, customer care and market analysis in order to develop its operations.

In recent years, designed-base methods such as "customer journey mapping", "co-design", and "user experience" have received increased attention within customer and user-centered innovation work. Even here, Sweden is on the edge internationally with design companies, for example such as, Doberman, Transformator and Ocean Observations. Electrolux is another company that bases its development work on studies of users in daily situations.

WORLD-CLASS SERVICE RESEARCH

Swedish research concerning services, customer experience and value creation is well-respected internationally. Sweden and Finland were among the first in the world to begin with researching services already during the 1970's.[4] During these years, several world-leading Nordic institutions for service research were founded. At Karlstad's University, there is the *Centrum för Tjänsteforskning* (Center for Service Research), CTF, established in 1986 and today one of the world's premiere research institutions focusing on services and value creation. Important service-related research is also being conducted at KTH and Chalmers, Linköping's and Stockholm's universities.

These different universities and higher education institutions have differing research profiles, demonstrating the breadth and interdisciplinary knowledge being developed around the country. As example can be mentioned that at CTF and Stockholm University, service research is tied to political science while at KTH, Chalmers and Linköping, it is more clearly tied to processes and technology.

Service-related research is conducted in several research institutions, for example, SP Sveriges Tekniska Forskningsinstitut (Sweden's Technical Research Institute), has established operations with a focus on service research and service innovation in Karlstad and Swedish ICT has several different activities with significant service content. Research concerning service design can be found at several universities and university colleges, and even within research institutions.

The breadth within Swedish service research is a strength upon which it is important to build. It provides the possibility for an interdisciplinary approach and can be adjusted in order to meet the challenges within different branches and organizations as well as efficiently being able to contribute to finding solutions with respect to societal challenges.[5]

There is great potential in increasing the attractiveness of the Swedish research and innovation systems by a focused effort on service innovation. A broad and strong initiative as to service innovation would make it possible to draw further use of the investments made in the form of specific research within different branches, areas of technology and developmental projects. Through co-operations within the different disciplines and by combining technical research and development with knowledge as to that which creates customer value or successful business models, companies, but even also public actors would be able to develop attractive offerings in a significantly more effective manner.

THE CHALLENGES FACING COMPANIES

The image emerging during the work with this agenda as to those challenges, needs and possibilities companies experienced, was consistent regardless of branch or company size. This concerned questions touching upon everything from understanding that which creates customer value to new business models, organizations and leadership, or how to better understand and utilize development in and through systems.

Naturally, there were specific differences, but the majority of questions arising were shared. The companies also expressed a strong ambition to develop their operations in the direction of a more explicit service logic, while experiencing that it was difficult to find effective forms, knowledge and expertise.

The overall challenge for companies is focusing throughout the entire value chain on the value one can deliver to the customer in order to meet the customer's needs. This requires, for example, new ways to lead and organize within the company and to create co-operations spanning over branches.

The issue of leadership is a specifically important chal-

4 Christian Grönroos, Evert Gummesson and Richard Normann were a afew of the pioneers within the area and built the basis for that which is called the *"Nordiska Skolan"* (The Nordic School).

5 See further the section on Mobilization within the Academy.

lenge the majority of companies experience when they wish to increase their capabilities with respect to innovation in general. Such can be the case, for example, when trying to be effective at the same time as creative, or how the entire organization can be involved in the work with innovation. Service innovation has as its starting point the needs of the user and to create value for him or her, and therefore, those working closest to the customer need to be participatory in the process as well as the customer. Innovation work does not belong to any specific function within organization, but rather is something that is owned by everyone as innovation occurs most successfully when knowledge from the entire organization is involved. Innovation work encompasses everything from idea to transaction and successful service innovation requires a leadership that can lead groups with multidisciplinary backgrounds, at the same time as one works with other branches and often involve the customer in the process. One of the areas that companies identify as urgent as to expanding the knowledge of is how to lead and organize in order to take advantage of the expertise of resources of both customers and employees.

Another challenge is that the majority of the supporting structures existing today are based on the more traditional view of innovation development, as a linear process often grounded on a smart idea cultivated in accordance with more or less given patterns in order to hopefully reach the customer. Service innovation is based on a logic different from the more traditional manner of viewing innovation processes, which entails that new support structures must be developed. These ought to be based on a good understanding of the fundamental philosophy underlying service innovation, with supporting structures to which knowledge transfers, incubator operations and financing can then be tailored.[6]

In order to create new, exciting companies, more service incubators need to be established. One of the few examples of service incubators is LIFT run within Nyföretagarcentrum (Center for newly started companies) in Lund.[7] Another similar example is an incubator for innovation in commerce, Handelns Hus (Trade House), a start-up in Linköping.[8]

Demonstrators for service concepts are another priority so that companies can test the services being developed. Experio Lab, a national center for service innovation close to patients, is run in Karlstad. There, health services are to be formed creating value for those involved by including relevant actors in the development process. The lab is a co-operation between institutions, the Academy, public actors as well several companies.[9] Another example is Living Labs, which are run in several places in the country. One such lab can be found at SICS, Stockholm Living Labs and Medea in Malmö.[10]

Access to financing with respect to new value offerings is a further difficulty for developing services. The reason is that service development follows a logic different from that which we are accustomed to, and in the early stages, it often is not clear exactly how value for the customer can be transformed into revenues. Newly-started companies in the early stages, the "sowing" phase, are often characterized by uncertainty, as well as valuation and information problems. With respect to financing, service-dominated operations are often seen as uncertain and therewith risk is often assessed as great, among other things as patents are often lacking and it is question of intangible values. State risk capital then is an important complement to private risk capital.

SERVICE INNOVATION IN AN INTERNATIONAL PROSPECTIVE

The importance of service innovation and the movement towards an increased value creation are clearly international trends. Companies focus more and more on offering solutions instead of individual goods or services. IBM and Rolls-Royce are two examples of companies that have succeeded with this change.

On the policy level, both the OECD[11] and the European Commission[12] have noted the growing importance of service innovation for sustainable growth and new jobs. Innovation Union, Europe's strategy for sustainable research and innovation systems, has a broad and holistic view of innovation commencing from the needs of users.[13] In Horizontal 2020, Europe's framework program for research and innovation, projects proposals including different forms of service innovation, for example such as new business models, are positively received.[14]

The General Directorate for Enterprise and Industry, the European Commission, has taken several initiatives with respect to service innovation, for example "European policies and instruments to support service innovation", EPISIS, with the objective of giving recommendations as to how service innovation can be supported in order to increase transnational co-operations between decision-makers and innovation authorities.[15]

6 https://www.skane.se/Public/Naringsliv/Dokument/Rapporter/policy_for_tjansteinnovation_lagupplost.pdf
7 http://www.lnc.ideon.se/lift-kan-ge-ditt-foretag-en-flygande-start/
8 http://www.mynewsdesk.com/se/nulink/pressreleases/handeln-hus-unik-moetesplats-utvecklar-handeln-i-linkoeping-954637

9 http://experiolab.se/
10 http://medea.mah.se/living-lab-the-factory/
11 http://www.oecd.org/sti/inno/innovationinservicestheroleofrdandrdpoliciesinnoserv.htm
12 http://ec.europa.eu/enterprise/initiatives/esic/
13 The Innovation Union, a EU 2020 initiative. http://ec.europa.eu/research/innovation-union/index_en.cfm
14 http://ec.europa.eu/research/horizon2020/index_en.cfm?lg=en&pg=faq&sub=details&idfaq=42705
15 http://ec.europa.eu/enterprise/policies/innovation/files/proinno/episis-final-report_en.pdf

The European Commission has also established a European platform for design innovation with the objective of contributing to the implementation of the action plan for design-driven innovation. This platform builds upon the work that the Design Leadership Board presented in September 2012 to the Commission.[16]

A report[17] was issued in March 2014 by the European Research and Innovation Advisory Board, ERIAB[18], one of the European Commission's three expert groups with the task of giving advice in order to reach the Innovation Union's goals. Support is given in one chapter of the report for an increased focus on service innovation with the motivation that:

> *"[s]ervice innovation in itself holds an enormous potential that simply cannot be ignored by Europe."*

ERIAB therefore recommends that:

> *"The European Commission and member states ought to develop a better factual basis in order to be able to develop policies around service innovation and create new business models."*

The European Commission has also taken the initiative as to how one can strengthen the forces of innovation through trade as a part of "The Retail Action Plan."[19] An expert group presented its report in February 2014 with recommendations to the European Commission as to how trade can better utilize research results and innovation measures.[20]

The European Commission established a high level group in March 2013 with respect to company services in order to contribute to an increased understanding by decision-makers as to the challenges the sector is facing and to give recommendations in order to increase productivity and innovation with respect to company services. The final report was delivered in the beginning of April 2014. One of the conclusions of that report is that:

> *"A critical question is how to create further profits from service innovation and increase productivity so that Europe can take advantage of the great possibilities existing in the global market and insure a sustainable European society."*[21]

The Swedish government took a decision in July 2010 as to a national strategy for service innovation, "A strategy for increased service innovation", in order to demonstrate the significance of services for the Swedish economy.[22]

Ireland, Great Britain and Finland have preceded Sweden by adopting policies and strategies for service innovation.[23] Our neighbors in Finland were also leading in the European Commission's initiative EPISIS as well as with the work by Design Leadership Board.

SERVICE INNOVATION FOR SUSTAINABLE COMPETITIVENESS AND FUTURE JOBS

Sweden has a great potential to become a world leader within service innovation through strong research and knowledge bases and proactive companies. The majority of companies however desire more knowledge as to how one can work in a more systematic and structural manner with value-creating processes in order to meet the needs of users in an optimal manner. The Swedish labor market has radically changed with a significant decrease in the number of employees within the traditional manufacturing industry. On the other hand, a dramatic increase in new job opportunities within knowledge intensive companies and advanced business-related services has occurred.[24] This development entails that it is more interesting to focus on service innovation. If we do not continue to develop knowledge and research around services and value creation, as well as strengthen co-operations with companies in order to incorporate this into actual offerings meeting or exceeding the expectations of customers, Swedish companies will quickly risk losing competitiveness. The risk also increases that entrepreneurs and companies will move their operations to locations where the climate for service innovation is more favorable. We need new jobs both in numbers and in content. In order for new and existing companies to grow and develop in Sweden, our ability to develop value-creating offerings must be strengthened.

16 http://ec.europa.eu/enterprise/policies/innovation/policy/design-creativity/index_en.htm
17 http://ec.europa.eu/research/innovation-union/pdf/expert-groups/ERA_STRESS_TEST-Placing_excellence_at_the_centre_of_research_and_innovation_policy.pdf#view=fit&pagemode=none
18 http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=expert-groups
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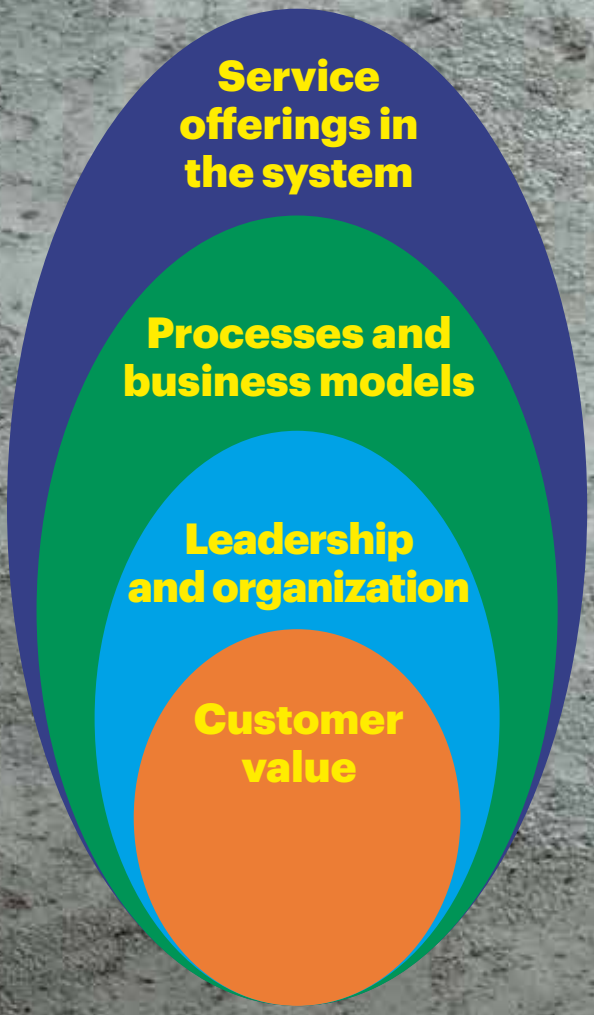
A MODEL FOR VALUE CREATION



Service innovation in Sweden – Strengths and challenges

As mentioned previously in this agenda, service innovation is not always easy to define. In order to concretely and pragmatically be able to face the challenges, needs and opportunities existing with respect to service innovation and prioritize efforts, we have chosen to describe service innovation from four different perspectives:

- Customer value
- Leadership and organization
- Processes and business models
- Service offerings in the system

We must underscore that this is a simplification of a relatively complex system in which these four perspectives, or areas of strength, constantly interact and often can be difficult to distinguish from each other. The interactions between these four different areas of strength are not linear, have no apparent hierarchy and easily glide in and out of each other.

The focus in service innovation is on the user or customer and their interaction with the organization delivering the expected value, the process controlling the delivery and how these components co-operate and are integrated in a system that also includes society as a whole.

It is important to highlight again that this depiction is a broad simplification and should not be interpreted as that one strength is based on another, but rather that the areas cannot function without the others.

We have also chosen to use the word "customer" in order to describe the user who has a known or possible future need. The customer can be a paying client in a business transaction, a user or interested party in the public context or another organization or company.

Based on these four different areas, the strength of Swedish companies and organizations in the capacity to expand is described below, as well as several of the challenges existing in order to become world-leading within service innovation and value creation.

CUSTOMER VALUE

DESCRIPTION AND STRENGTHS

Globalization, new technology and a generally higher level of knowledge than previously have changed our expectations with respect to goods and services. Today we expect to receive entire solutions delivered and not simply an individual goods or service. The Internet contributes to that we can very simply compare different offerings and then choose the one that best fits our needs, or even tailor solutions to meet our respective unique preferences.

Regardless of whether a company sells to other companies or directly to the end customer, the customer's experience of the offering, the combined value (economic, functional, emotional, valuation, etc.) is entirely decisive for the transaction. Customer needs in addition have become all the more sophisticated, and companies must meet, and even predict, those unexpressed needs more quickly in order to get ahead. Customers and organizations must be able to adapt at an increased pace to changing market customer needs. This entails that innovation work becomes all the more interdisciplinary and global. Those companies not prioritizing this as a starting basis in their offerings in the long run lose customers and competitiveness.

The ability to genuinely understand customer needs and premises, and also to be able to meet such, preferably in co-operation with the customer in order to develop attractive offerings, is today a necessity. In this manner, the loyalty of customers can be won and the company's competitiveness increased. A further aspect is that customer value is not only created with the final user, but often along the entire value chain. In order to

Electrolux' strong behavioral science-based work with the consumer perspective, among other things through anthropological studies of the customer's daily life in the home, is something that today permeates the entire organization. The challenge the entire time is to transform the knowledge developed into new solutions. It is not sufficient to simply ask customers – cutting-edge solutions must be developed within the company, together with overall knowledge as to global trends and in co-operation with other actors in the value chain. International studies show that we humans are relatively alike throughout the world when it comes to the core values we seek in life: the desire to together with friends and family participate in a community, and an existence that often revolves around food, can be found in individuals everywhere.

Mats Ekblad, Director Advanced Development, Global R&D Food Preservation, Electrolux, on working with customer-centered innovation work

As a pure service company and vendor of care services, the added-value and quality in Capio's offerings are directly determined in relation to the patient. The issue of developing customer offerings ties together the challenges of users and patient involvement to questions as to organization and leadership – as the premise is that the care is provided with the patient. The responsible physician and nurse for the patient therefore are essential to the quality developed.

Henrik Brehmer, Information Director Capio, on working with customer-centered innovation work

create high customer value, it is not sufficient to simply focus on the final phase, but rather the entire process for value delivery must be included in order for customer value to be high. Service innovation here differs from technologically-driven innovation, with the consequence that complexity increases significantly.

Attempting to predict customers' unexpressed needs, whether for tomorrow or in five years, is a great challenge, which the experiences from the different branches demonstrate. Individuals often have difficulties in envisioning their future wishes, what technology will be available, what will be possible in several years and how different solutions concretely could be used in order to meet future needs. Here design methodology needs to be further developed and integrated in the company's strategic work in order to facilitate a mapping and scenario creation.[25]

Research in this context can contribute by increasing knowledge, for example, with respect to customer value creation processes, a starting point for service innovation, developing methods for how and when to involve customers, how cultural backgrounds affect experience or by developing methods for scenario creation. Research concerning value creation and customer understanding is being conducted, for example, at Centrum för Tjänsteforskning (Center for Service Research) in Karlstad, Linköping University, KTH, Chalmers and Mälardalen University College. Important expertise can also be found in the research institutions, SWEREA, SP and Swedish ICT with respect to customer experience and value creation.

CHALLENGES

To increase the ability to analyze customer needs and the capability of utilizing and transforming knowledge and expertise as to that creating unique values for customers into new solutions that meet, and even exceed, the needs and expectations of customers.

25 http://designagenda.se/

In a commission performed by the service design company, Ocean Observations, for Karolinska Institute and Stockholm County, a net-based screening service for early arthritis/rheumatoid arthritis was to be developed. The underlying problem to be resolved was that the time from the symptoms to the diagnosis was too long for many patients, causing patient suffering. There was also a risk for permanent impairment if treatment was commenced too late. This entailed significant costs for society and the individual. Would a screening service on the web allow individuals with rheumatoid arthritis to reach primary care more quickly, as well as facilitate primary care making a diagnosis? And if this was the case, how should it appear and function?

Ocean began by analyzing the users' fundamental, often unexpressed, needs through interviews with existing RA-patients as to their experiences of care as well as other contacts they used in order to attempt to find answers as to why they had so much pain. This was seen to be a complicated course of events, with different incorrect diagnoses and incorrect treatments during the way.

Insights from different interested parties, such as patients, primary care physicians, health care advisors and specialists, were collected and compiled in a patient journey – a visualization of the different contacts between interested parties and their experiences of such, both emotionally and based on their reception and the information they received. Through this visualization, the principal received entirely new insights as to the patient's entire situation. The greatest bottlenecks in the journey could be identified, which entailed that one received better insight into where efforts needed to be prioritized in order to shorten the time between the first symptom and the diagnosis. Meaningful advice as to the type of functionality that ought to exist with the screening was given, and one understood that the other processes in care, for example referrals to experts, ought also to be reviewed.

Everyone can agree as to the importance of starting with the customer and the user and in designing the organization, business models and development work after this in accordance with an overall plan. However, in reality it is often difficult even for those companies believing they have a good check on their customers to identify unexpressed needs. Hesitation exists with respect to relying on one's own feelings for that which is a good idea based on an understanding of needs – instead one relies on the customers developing the services they wish based on that which they explicitly state.

Maria Barthelson, Designed Strategy, Ocean Observations, on working with customer-centered innovation work

OBJECTIVE
By 2030 to have world-leading knowledge and research concerning how to best capture customer needs and understand customer behavior, and in an effective manner, convert this into new offerings and high quality solutions that create value for the customer and therewith increase companies' competitiveness, consequently creating new jobs.

LEADERSHIP AND ORGANIZATION

DESCRIPTION AND STRENGTHS

In studies on that contributing to an increased innovation capability, organizational cultures and climates are clearly shown as keys to success. These in their turn are governed by the fundamental values and behavior in the organization.

In line with changing customer needs and demands, companies need to adjust their organization and corporate structure in order to be able to deliver and create profitability based on the values intended to be offered. This often also requires new knowledge and expertise in leadership and in employees. An important part here is the capacity for effective customer interaction and communication. Employees in all parts of the Company, not in the least those having direct customer contact, are the company's most important assets in order to conduct and develop a value-creating operation. The need increases for new expertise combining extensive subject expertise within a specific area with the ability to communicate and co-operate with individuals in other fields of expertise. In addition, business knowledge and relations as well as the ability to co-operate are sought to a high degree. The boundaries between professional, corporate, and social networks are decreasing. Leadership, organization and working life must therewith develop in order to meet these challenges and needs.

It is maintained fairly often that our tradition of a non-hierarchical culture based on reaching consensus and short decisional paths can give competitive advantages. That understood as typical Swedish leadership can be described as giving a balanced space for individual initiatives and at the same time, ensuring the needs of jointly-produced solutions. This means that leadership is based on respect for the equality of individuals, pragmatism and the significance of the group as a unit. Studies show that we have a type of leadership that is based on humanism, equality and openness for new ideas, which for decades has constituted a strategic resource for innovation and growth.

The challenge today for Electrolux is creating a globally integrated company that co-operates over functional boundaries. The company traditionally has been organized by region followed by functional area, in other words, for example product development, marketing and purchasing. The development towards a globally integrated company is necessary, where customer solutions combine both technology and services. The integrated working approach is now the main focus in expertise and organizational development. It no longer is sufficient to only see the daily key performance indicators for one's own area of function, and this work must be conducted over the long-term and in the perspective of the entire company.

This development also affects the premises for external co-operation. The co-operations between Electrolux with the Academy and research institutes to the greatest extent have occurred on the technical side and more seldom on the business side. Several exceptions exist, however, among others through a co-operation with Uppsala University with respect to open innovation. Companies can act as catalysts for increased interdisciplinary research within the Academy and institutions. By way of example, a research group starting with Electrolux' actual needs ought to include expertise from behavioral sciences, information technology and national economy.

Mats Ekblad, Director Advanced Development, Global R&D Food Preservation, Electrolux, on organizing and leading service innovation

In TeliaSonera's innovation work, technology and service development are combined, as the products more and more are becoming combined communication systems with integrated services. At the center exists a good understanding of the customer's operations – when TeliaSonera is very cutting-edge, the customers become more effective.

In order to continue strengthening TeliaSonera's innovation work, all parts in the innovation process need to be developed, such as the possibility to interact with external parties and to create incentives for a company's employees and units.

One challenge for the organization and leadership work is being able to take care of all types of ideas – both those that are new and radical as well as those that are more incremental, which can contribute to continual improvements. Certain types of ideas are difficult to organize and develop within existing business. They need a period in a "sheltered workshop" in order to develop, and later be reintroduced into the ordinary operations. Here is a possible role for the company's existing horizontal corporate venture function, even if new structures can also come into question. Key performance indicators of the character "to implement X number of new ideas" can also affect behavior in the organization and create incentives for innovation.

When switching from improvements of some dimension of a product as a focus for innovation work to understanding that innovation potential exists in many different dimensions, such as in business models, trademarks, distribution channels, etc., the needs for expertise increase. The company needs employees who can create an overall understanding for entire network of the parameters affecting the final offering. One needs to form the company so that it has the knowledge and expertise within all parts of business affecting the offering. Employees need to have a great understanding of business throughout, not in the least when the significance of Internet-based business models and social media increases continuously.

At the same time, there is a balance between creating new combinations of expertise and taking care of a well-functioning process existing in today's operations. It is one thing to mix expertise in an idea-generating process, it is another thing to be good at taking care of ideas developing in mixed groups.

Eyo Eyoma, Head of Communication Solutions at TeliaSonera on organizing and leading service innovation

Developing the capacity for service innovation is in itself a project concerning change and requires knowledge, expertise and even courage. Several aspects that are tied to leadership work here include how to lead and organize both radical and incremental innovations, how they will be handled in the same organization and how to utilize these new constellations of employees.[26]

26 http://www.piep.se/wp-content/uploads/2013/06/Leading-Innovation_rapport.pdf

Developing care services by developing work organization and leadership is a specific challenge in an operation such as care, where different work groups and professions meet. That new care methods and work approaches are applied is central for the quality and result in care. In a company such as Capio, it is not primarily about developing new methods, but rather about implementing them. The implementation of new methods today takes an unreasonably long time – sometimes up to 15 to 20 years of implementation is mentioned for a new method. The reason for this can be that the operations to a large extent are formed by a professional corps educated in a certain school and within a certain school of thought.

Capio endeavors to create a quality-centered changing culture in the entire operations in which questions on how one can improve things for patients and increase quality is a part of daily life. As one starts from the premise that care is provided with the patient, responsible physicians and nurses around the patient are central in quality development. Culture is built from the bottom up – it is the front line chief who is driving change. No directive from the top can achieve this.

In order to maintain a culture of change, the right people are required at the right levels with both responsibility and authority. Within Capio, responsibility is measured through follow-up of monies, production results and quality. Capio speaks about the "Local leadership", as it is essential that the front line chiefs have this view so that the daily decision-making strengthens this culture.

The basis for the work with quality and changing culture within Capio is sound values with a clear focus on the objectives of the operations. No cost issues can set limitations as to quality – there are no shortcuts around quality. Employees are trained in the company's basic values, in a common language and a common nomenclature, so that everyone has the same information and is working towards the same key performance indicators.

Capio has worked many years to create this culture. It is absolutely necessary that the values and culture are anchored even far out in the care organization. Therefore it is important, for example, that information as to follow-up results does not stay with the controllers and at the mid-level, but rather is returned to those delivering the services and activities that the follow-up concerns. Only in this manner can they learn and develop the operations further.

Henrik Brehmer, Information Director Capio, on organizing and leading service innovation

A great deal of the value for the customer is created in the interaction between the organization and the customer, and here, employees have an important role in order to be able to develop service offerings and insure quality. Relevant questions for the organization then become, for example, how can one best utilize the knowledge of employees with respect to the customer? What driving forces are there within employees

as to the willingness to develop business and remain in the company? How do you manage a company in an optimal manner in order to access its entire innovation capacity?

Knowledge with respect to innovation leadership can be found at three centers, Center for business innovation (CBI) at Chalmers, Knowledge Integration and Innovation in Transnational Enterprise (KITE) at Linköping University and Product Innovation Engineering Program (PIEp). The latter is a co-operation between five universities and university colleges. Research around organization and leadership can also be found at the country's different business schools. At Gothenburg University, there is a Business and Design Lab where research concerning leadership is combined with artistic research.

CHALLENGE

To develop a customer-centered logic in the entire organization. For many companies, this concerns a restructuring, which in itself requires leadership expertise with change from a production-focus to a solution-orientated focus. The development of services does not occur isolated in research and development departments, but rather involves and utilizes knowledge from employees in the entire operation, not in least with those having direct contact with customers and users. A significant challenge exists in creating a corporate culture where customer value and functional solutions are the focus and permeate the entire organization, which can entail co-operation over functional boundaries, interdisciplinary working groups and a changed role and responsibility of employees.

OBJECTIVE

That by the year 2030, Swedish companies and organizations are world leaders in leading and systematically organizing work with service innovation. The Swedish corporate culture creates attractive working places that facilitate development with a good and effective co-operations between the Academy and companies, contributing to the generation of new knowledge.

PROCESSES AND BUSINESS MODELS

DESCRIPTION AND STRENGTHS

A decisive factor for a company's competitiveness is its ability to change and adjusts its business model in order to differentiate itself from competitors, deliver the value the customer expects, and create profitability in its offerings. Successful business models are often of a system character and combine technology or product aspects with service aspects. Function, effect or value-based business models place the focus on aspects such as availability, flexibility and lifecycle costs. One example illustrating this well is the increased demand on carpool services in larger cities. Price-setting and revenue models need to be developed when the focus goes from production efforts to value creation for the customer. The development of information technology and the Internet, communicating units (the Internet of Things) that can manage large amounts of data (Big Data) are new interaction tech-

For Ocean Observations, questions concerning price-setting and business models are a challenge, not in the least with respect to transactions with public sector customers. It is the value for the final user that is often difficult to quantify and paying willingness is diffuse. Even the distribution of development and operational costs, such as intellectual property, are questions raised in such transactions, where the service developed can potentially be seen as a value creation for the entire world.

Maria Barthelson, Designed Strategy, Ocean Observations, on new business models and complex processes

Voddler was founded in 2005, and began as a technical idea – VoddlerNet, a patented solution for streaming large files over the Internet. This solution could have been applied in many different segments and business models. As none of the larger actors were interested in buying the solution or using it on a license basis, the founders chose to build a consumer-focused service in the form of films on the Internet.

This entailed needing to learn the film branch from the bottom up and develop a business model for this. Price-setting and access channels to films were several central questions here. In the middle of 2013, it was decided to change business models, as the profitability necessary in order to continue developing the technical platform was not reached. The increased competitiveness with respect to films on the Internet also contributed to this.

Voddler focused instead on selling stream-technology in combination with its knowledge concerning distributing films over the Internet to existing media corporations. This changed focus entailed certain changes for the company. Business relations became more long-term – successfully selling to other companies concerned to a great extent being a good partner for your customers. In addition, the needs for expertise in the company were affected, as one no longer needed expertise within price-setting and the licensing of films. On the other hand, one chose to recruit more traditional key customer representatives. The core in the company's development, however, is still the developers who worked with VoddlerNet.

Anders Sjöman, Vice President Communication, Voddler.com, on new business models and complex processes

nologies, creating entirely new possibilities to scale offerings than previously.

Innovative business models can play a particularly large role for companies whose offerings are easy to replicate and difficult to protect. At the same time, many studies show that in existing companies, relatively few resources are placed on the development of systemic business models. A reason for this can be organizational inertia in established companies – a new business model can entail that existing work approaches and valuations are turned upside down. New business models therefore are introduced relatively more often in newly-started companies. Many Swedish companies have demonstrated the capacity to "rethink", look at the offering with new eyes and therewith develop new ideas. IKEA, Spotify and Skype have, by developing new business models, changed our ways of purchasing furniture, listening to music and communicating. Swedish gaming companies, for example, Massive Entertainment, dominate the global market and demonstrate a further form of service innovation. Even within the more traditional industry, good examples of how to see new possibilities through new business models can be found. Sentient is a company within the automobile industry developing steering experiences. With the help of software, driving is experienced as more comfortable and gives among other things new possibilities to control a car spin.

There is a need to develop new knowledge as to business models and how one can scale offerings, willingly in co-operation with the Academy and companies. This can concern business models taking their characteristics from the actors' changing roles within services innovation with a focus on the value for the end-user and an increased participation of actors, "co-creation". The strong roles of customers and other actors in value creation entail that both the underlying processes and the actual development of services require approaches other than those that have been traditionally used when

IBM today is a service company with a turnover of which 60% consists of services. One works with a differentiated business model: in addition to the advanced business services, there are traditional IT transactions focusing on the IT department with components, software and technical services. Having three legs – a service leg, a software leg, and a hardware leg – increases IBM's sustainable competitiveness as service transactions often are less economically sensitive than primarily hardware transactions.

The transformation to a service company began approximately 20 years ago when one realized that the products IBM offered were becoming more standardized. The conclusion was drawn that the company needed to come up higher in the customer's business in order to be able to continue to be competitive. Today most of IBM's offerings are delivered as services.

Today's IBM customers are mature service purchasers demanding services, not goods. It is also the case that to a greater extent, customers are driving the integration of IBM in their own businesses. The reason for this development is among other things the advantage for the customer of being able to gradually grow into a service instead of making a large investment in advance. This is particularly relevant when the need for flexibility in the customer's business increases. One consequence of this relationship between vendor and customer is that they both share the risk over the longer period.

Andreas Lundgren, Marketing and Communication Chief IBM Sweden, on new business models and complex processes

goods or services have been produced. A further type of business model is when new actors co-operate in offering services. Research around such business models is being conducted, for example, at KTH, Chalmers and Linköping University.

Increasing the ability of companies to develop global, scalable business models is an urgent matter, something that today is possible to a greater extent than previously due to the possibilities existing with digitalization. To be able to scale and disseminate customer solutions are important for a company's growth, and this concerns being able to offer solutions both to new user groups and to an international market.

There are several aspects to the globalization of services. These concern everything from being able to understand other cultures for value creation to knowledge as to insuring quality in the offering. This research is being conducted, for example, at KTH, Uppsala University and Lund University.

CHALLENGE

A significant challenge is adjusting business models to a changing demand and market. Even if each business area assumes a unique business model in order to be competitive, generic knowledge as to and systemic methods for developing this is needed in order to be developed and used based on the company's practical experiences. Business models in themselves can be determinative for the value creation for the customer and the possibilities to scale the offering. In order to scale offerings to new customer groups and new markets, the company must often be sustainably competitive.

OBJECTIVE

Swedish companies have a good capacity to develop unique business models in order to create added value as well as a good capacity to scale their offerings to new groups and to an international market.

SERVICE OFFERINGS IN SYSTEMS

DESCRIPTION AND STRENGTHS

Today's society is characterized by all the more complex systems in a global context, in which goods and services, customers and producers flow in and out of each other. In addition, the systems are also affected by the institutional factors in their environments, norms, culture, laws and regulations. Companies and organizations must be able to deliver solutions functional for the customer in a system, which entails being able to deliver goods and services together and organizing logistics and delivery in a global context. Innovation occurs all the more often in co-operative creative processes between several different actors, requiring the strategic ability to balance openness and protection.

The need for new types of co-operation, as well as the complexity in different service systems, has a further dimension. In many markets today, challenges exist that cannot be met by simple solutions, at the same time as no one single actor controls the initiative as to formulating the needs. These challenges – which often are designated as societal challenges – cannot be limited to a region or nation, but are by their character transnational. Examples of such are climate and energy questions, health and care in a demographic perspective and societal security. In order to find solutions to these challenges, new co-operations are required: between different disciplines and areas of knowledge, between different political levels and between actors from different segments of society. These challenges give rise to the possibility to develop new value offerings. Future innovation to an increasing degree occurs in areas with great societal relevance, and therewith is strongly affected by the political and institutional frameworks.

One dimension of this is that company transactions will be driven to an altogether higher degree by environmental and social considerations, which lead to new perspectives as to that which are resource effective processes. Building in ethical components and transparency in strategic business development is becoming all the more important for competitiveness and long-term profitability.

Compared to many other countries, companies and other actors in Sweden have a tradition of a holistic perspective and systemic view of different phenomena, which is fundamental for being able to develop service offerings. Much of the success we have had to date is based on a good co-operation between the public and

IBM's offerings involve to an ever increasing extent co-operation with both customers as well as competitors. The future lies in being able to be flexible, from one-day being a co-operation partner, to the next day being a tough competitor with a competitive offering – all with the customer at the center. One example is the work with Watson, a computer with artificial intelligence in a cognitive system that understands and can interact with common speech. There IBM co-operates with several universities, public actors and other companies.

The potential for service innovation in addition exists in the public sector. The application of the Lagen om offentlig upphandling (Public Procurement Act), LOU, however is not optimized for arriving at the best solutions for the users. Often the administration itself has contemplated the innovative content and then procured in accordance a specified product. This entails that one misses the potential to co-creation of new solutions with vendors and customers/citizens that a more open procurement could entail.

Andreas Lundgren, Market and Communication Chief IBM Sweden on delivering services in systems

For Electrolux, work with service innovation to a high degree means working with developing new value chains. The company over the years has made people's lives simpler with products that are today self-evident, such as the washing machine and vacuum. These products allow us to save enormous amounts of time. Despite this, the experienced lack of time for consumers has increased, for "time" is today's luxury item, and only to a certain extent can it be bought for money.

This entails that Electrolux' offerings to consumers no longer are complete if they only see to the actual goods. The focus must instead be placed on that which the item delivers, and there the service content comes in as a more important component. Electrolux' perspective must therefore also take into account how customers get their groceries home, as well as how they get inspiration and knowledge with respect to food preparation.

Delivering a function or experience, for example, of warm food on the table for the customer, renders it so that a greater amount of the value chain must be included in the offering. It is not possible to deliver without a connection to food and packaging producers, transportation firms and others. The greatest challenge for Electrolux therefore is developing co-operations and functioning business models with other actors such as food and packaging vendors, transportation firms and others.

Sweden has good premises for being a test market of this type of integrated offering. We are a small country with a high IT maturity and with residents who are fairly prone to test new solutions. There is also a good climate between companies in Sweden, even if to-date there are few examples of concrete co-operations. This can also be seen as a potential export possibility for Sweden. Can we package expertise and system-thinking to identify and develop ecosystems, for example, with public administrators, care and health actors, transportation firms and appliance companies, in order to deliver good meal experiences for the elderly, we also then have a good possibility to export it.

Mats Ekblad, Director Advanced Development, Global R&D Food Preservation, Electrolux, on delivering services in systems

private sectors. Trust and confidence are highly valued among Swedish actors.

Value creation in complex systems places new demands and the capacity to change perspective in order to create value in the entire value chain. Understanding and managing change in complex systems is central. This can concern, for example, knowledge as to how actors' co-operate in networks in order to together create value. In addition, it can concern the question of how one manages change in relation to different parties as well as how and when different co-operations should be created. Research concerning value creation in systems is being conducted at a large number of institutions in the country, for example, Handelshögskolan (Business School) in Stockholm, Linné University, Gothenburg University and Uppsala University as well as the

The telecommunications and care branches are two clear examples of how the innovation work and offerings of companies are affected by the public regulatory system. Issues such as Internet neutrality and roaming fees in the long run may have consequences for the future offerings and business models of telecommunication companies, and in care, the frameworks for operational development to a high degree are governed by the regulatory system as well as the societal system.

Eyo Eyoma, Chief for Communications Solutions for TeliaSonera, on delivering services in systems

Capio's operations in France, for example, have been strongly affected by the shift from closed to open care. For many years, the French compensation system was based on the number of care days. Therewith there was no incentive to work for better, quicker and more humane care. Five or six years ago, the same changes that earlier had happened in Sweden were enacted, with diagnosis-based price-setting. This has clearly put the focus on how the company manages its resources. One now sees the same development in France as had earlier occurred in Sweden, with an increase in less invasive methods that facilitate a quicker return home.

Henrik Brehmer, Information Director Capio, on delivering systems services in systems

Centrum för Tjänsteforskning (The Center for Service Research) at Karlstad University.

Questions concerning societal structure and everything from city planning to transportation logistics are relevant for value creating in systems. Knowledge about these questions exists at the majority of universities and university colleges as well as at several research institutions.

CHALLENGE

To an ever-increasing extent, service innovation concerns the ability to see the user's needs from a system perspective. This entails that value creation cannot always be understood isolated in a traditional value chain from the producer's perspective (raw materials – production – consumption). Instead, one must see the customer's requisites and needs from a holistic perspective. Which other actors, processes, regulations and preconditions affect the customer's ability to demand and partake of the value of the company's offering? This view places in part new requirements as to innovation work, among other things with respect to the ability to operate with actors outside one's own organization, branch, societal sector or academic discipline. New constellations need to find new co-operation forms and new ways to share knowledge and expertise.

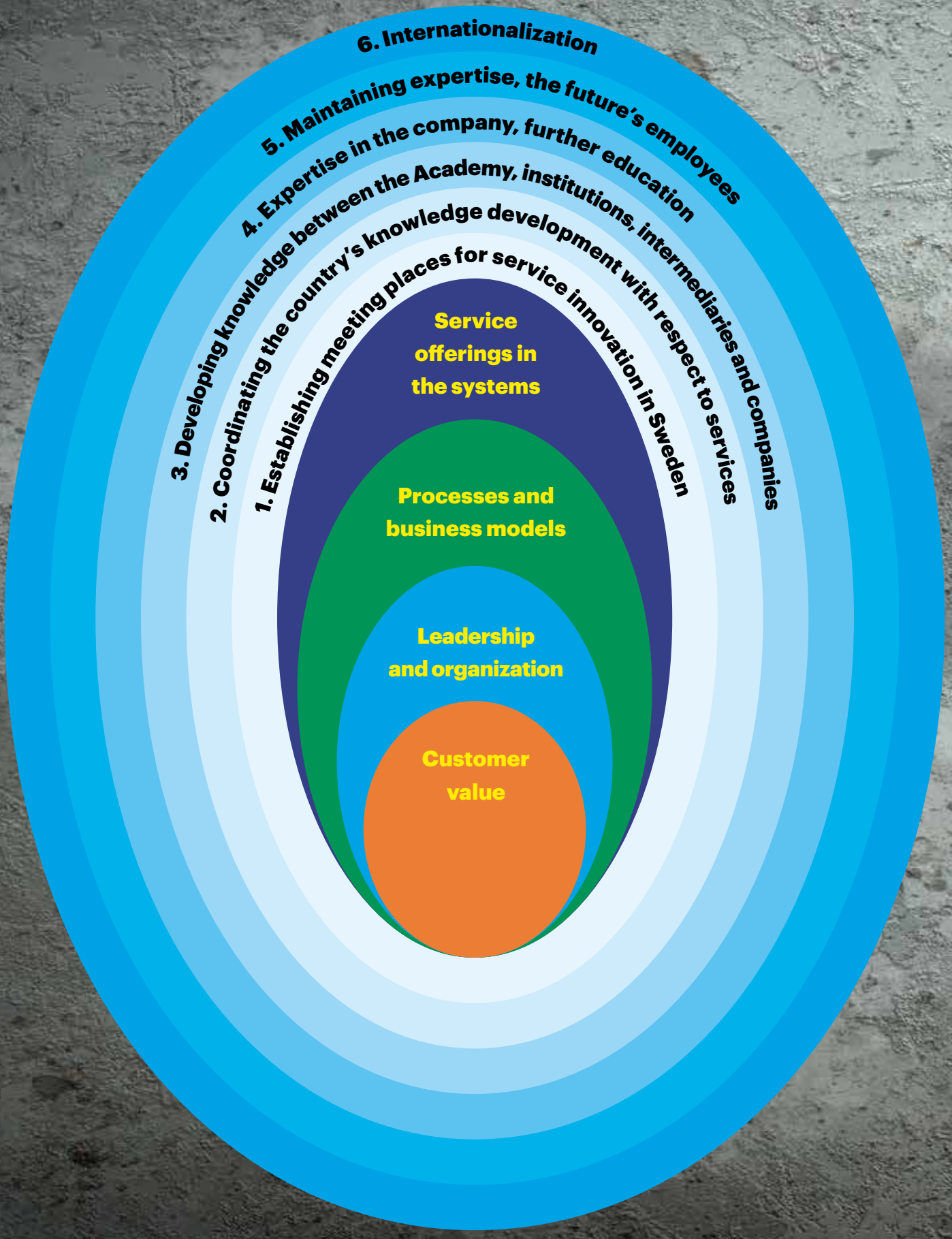
OBJECTIVE

Swedish companies have reached a very good capacity for a holistic perspective, integrating different disciplines and expertise, understanding the context and complex systems as well as being able to transform this into entire solutions creating the most possible value for the customer.

Strategic Agenda for Service Innovation in Sweden – Vision 2030

The development of complex service solutions in Sweden in the year 2030 is to be characterized by a deep understanding of the user's needs, an overall perspective and the delivery of high quality and sustainable solutions. An effective system of platforms for knowledge exchanges has been established in which interested parties within the Academy, companies and the public sector, regardless of discipline, sector or area, can co-operate. The goal is to find the best solutions in order to meet the demands of customers and to develop a body of knowledge that is world-class, giving rise to competitiveness in Swedish companies and new jobs.

A MODEL FOR VALUE CREATION



Service innovation of a world-class – An action plan

In order to be able to reach the objective of Sweden being a world leader in the development of service offerings generating quality and value for the customer, which ensure sustainable competitiveness for our companies and create new jobs, a transformation must occur from a goods-focused logic to a service-logic with customer value as a focus. In order to succeed in this, certain measures and an engagement on a broad front are necessary, a joining of national forces. Even the pace for taking the measures needs to be accelerated so that we will not be lagging in the global competition.

Support structures need to be further developed and adjusted to the needs required in order to be able to create successful service offerings. This can be in the form of types of demonstrations, laboratories and incubators, but also new models for risk financing.

This agenda is to contribute to the development of today's support structures in order to be more tailored to the needs of companies, regardless of branch or size, in order to strengthen the capacity for service innovation. It is also the basis for new activities where such are needed. A specific focus is placed on engaging small and medium-sized companies in this work and in contributing to finding forms so that new companies based on innovative service offerings can grow.

There is a need to review today's framework conditions, for example, the tax system and standardization, in order to ensure that they are better adjusted to this logic and the needs that service innovation is based on.

The agenda is also to contribute with knowledge and interactions so that the framework promotes service innovation, both on the national and European levels. An important component here is continuing to develop indicators that better reflect the role of services in the economy.

An important principle for the Strategic Agenda for Service Innovation in Sweden is co-operating with other existing initiatives in order to maximize contributions and reach results. This action plan is based on continuing to develop already existing activities, co-operating with other strategic innovation agendas and strategic innovation areas, respectively, but also on initiating new necessary initiatives.

Against the background of possibilities and challenges identified, and based upon a large number of consultations, seminars, workshops and conversations with companies, the Academy and other actors, we propose measures and concrete activities within six focus areas as described below.

1. ESTABLISHING MEETING PLACES FOR SERVICE INNOVATION IN SWEDEN

A recurring desire from both companies and the Academy is to find forms for meeting across branch boundaries and academic disciplines in order to transfer information, learning and knowledge development concerning services. There is today no forum in which companies, the Academy and institutions as well as other interested parties can meet in order to develop knowledge. One challenge is that service innovation encompasses many different scientific disciplines and branches. There currently is no environment effectively contributing to research results coming to the use of companies and where the needs of companies can lead to new research.

MEASURE
Developing forms and structures for meetings between disciplines and sectors, for both small and medium-sized companies as well as larger companies, in order to share experiences and knowledge, as well as to together develop new value offerings. In this manner, actors can find opportunities to initiate common activities, everything from education to research and innovative projects as well as testing solutions in simulators or developing new concepts in service incubators. Such a common forum ought to be neutral, in other words not tied to one actor or discipline but rather co-owned by the interested parties.

Examples of activities:
- Establishing a Forum for service innovation that contributes to companies, the Academy, institutions and the public-sector being able to work together within common development projects. The forum is to be open to all actors regardless of branch, academic position or organizational form.
- Within the framework of an SIO program, set up program offices that are to conduct and co-ordinate concrete activities and contribute to that the Forum for service innovation is developed over the long-term.
- Co-operate with other strategic innovation agendas and SIO programs around branch specific needs and/or particular aspects of service innovation/value creation

GOAL 2030
Sweden has a recognized "Center of Excellence" for service innovation with an effective co-operation between different actors in order to develop value creating offerings, world-leading research, and attractive educations.

2. COORDINATING THE COUNTRY'S KNOWLEDGE DEVELOPMENT WITH RESPECT TO SERVICES

Research and knowledge development concerning services can be found at the majority of the country's universities, university colleges and research institutions. Services-related research is interdisciplinary and thereby is conducted within several different faculties, making it difficult to obtain an overall depiction of which knowledge exists. This renders discussions as to potential needs for further efforts more difficult. The academic expertise can therewith be seen as difficult to digest for companies, not in the least for smaller companies. There is also a risk for duplication or that in certain areas, where new knowledge needs to be developed, nothing is done. Consequently, an important task is identifying both specific research and development environments and relevant combinations of areas. In this manner, the premises can be improved for co-operations, the use of research results as well as the financing of both existing research as well as the necessary research that today is lacking.[27]

MEASURE
In order to gather and coordinate knowledge development and research concerning services, a Service Academy ought to be established. The Academy would coordinate Swedish service research and education as well as influence its direction. The Academy would develop a picture of future needs as to research and education as well as propose measures.

Examples of activities:
- Establish a Swedish Service Academy and co-operate with the European research academy for services that is to be established in 2014
- Build co-operations with other relevant service academies internationally
- Coordinate research and education within the service area in order to avoid overlaps and to ensure an effective system

GOAL 2030
The Swedish service academy is an internationally well-respected and established structure for service innovation focusing on the need of companies.

27 Kartläggning av forskning om tjänster, Report by Svenskt Näringsliv, Almega and Teknikföretagen. December 2009.

3. DEVELOPING KNOWLEDGE BETWEEN THE ACADEMY, INSTITUTIONS, INTERMEDIARIES AND COMPANIES

In order to be able to attract established and new companies, regardless of branch or size, and to insure Swedish competitiveness, investments need to be made in long-term attractive research and innovation infrastructures for services and service innovation. It is important to invest in research and knowledge development within four perspectives, see the section "Service innovation in Sweden - strengths and challenges", in order to further strengthen and secure Swedish excellence within service research. Strategic innovation efforts and pilot installations are necessary for demonstrating new ideas for companies and markets and to develop structures for long-term and effective implementation of research results and companies.

In addition, developing systems for knowledge transfers between the Academy and companies and between companies is decisive for increased service innovation.

MEASURES

Initiate activities that stimulate and facilitate knowledge transfers between the different actors. Ensure that academically high quality research is being conducted around the country. Develop a detailed course plan for the service area based on the needs of business and the Academy's view of service research as a strategic instrument for which research challenges and priorities over the long-term need to be taken.

Examples of activities:
In the first phase, focus on:

- Initiating a FoI pilot project as to methods and processes for effective service deliveries and scalability
- Establishing a service laboratory for method development where service-based ideas can be tested and verified

As a next step go further with:

- Initiating within the framework of an SIO program the implementation of a detailed course plan for future priority efforts on research and education within service innovation
- Establishing a pilot project with service incubators in order to facilitate for new companies and new service solutions coming to the market
- Developing a system of "coaches" with service innovation as their expertise and offering that they spend an amount of time primarily with smaller companies in order for in this manner to be able to develop opportunities for service innovation

GOAL 2030

Sweden has a world-class system for knowledge transfer within service innovation and between different actors in the country's research and innovation systems.

4. EXPERTISE IN THE COMPANY, FURTHER EDUCATION

There is a significant need in companies to continually develop expertise, both when it comes to organizational and leadership questions as well as specific expertise concerning customer understanding, market analysis, business models and business development, and technical expertise (social media, IT tools, technical support and care, transportation, etc.). There is also a need with respect to knowledge methods and tools for service innovation.

MEASURE

Establish a system for further education and the continual development of expertise for business based on an increased co-operation between the universities, university colleges, institutions and companies.

Examples of activities:

- Gather companies and together with the Academy initiate company-adapted modules for further training
- Co-operate and further develop the pilot projects now under an upstart phase with respect to web-based courses with service innovation given by CTF

GOAL 2030

Sweden has a well-developed national system for the development of expertise within service innovation and tailored to the needs of companies for global competitiveness.

5. MAINTAINING EXPERTISE, THE FUTURE'S EMPLOYEES

The competitiveness of companies depends to the highest degree on access to the right expertise and an educational system that reflects the reality we live it. An important societal challenge is developing an educational system so that there is access to competent employees of a world-class, individuals with training within, for example, interactive design, informatics, technical design, cognitive science as well as marketing and management. Other key areas of expertise for the future's employees include understandings of different cultures, virtual co-operations and social expertise.

That our educations can contribute to increasing the ability to new thinking and innovation is consequently decisive in order to be able to in the short and long term create increased innovation strength and therewith sustainable companies in Sweden. Services and the development of concepts creating a unique value for the customer require engaged and motivated employees and leaders who understand how questions concerning customers and the reception of customers, personnel, organizations and communications can be handled from a service perspective.

In order to meet the needs of companies with respect to expertise and strengthen Sweden's competitiveness, knowledge transfers in education must occur early, through co-operations between education, business and the Academy.

MEASURE

Gather the Academy and companies in order to adapt concerned educational programs to the needs of companies with respect to expertise and service development.

Examples of activities:

- Drafting a proposal for specific basic educations with a focus on service development
- Creating course modules for service expertise that can be integrated in existing educations
- Develop co-operations between students and companies through which to increase interest and knowledge with respect to service development
- Establish a national research school for service innovation
- Create forms for how educations can be developed based on the future needs for service expertise in business

GOAL 2030

Sweden has an educational system that is calibrated to future challenges with a focus on the expertise that will be needed in order to meet the needs of companies.

6. INTERNATIONALIZATION

There is a great need to be able to internationalize service offerings for sustainable competitiveness. Companies need to be able to scale offerings for the global market, but increased transnational co-operation is also necessary with respect to research and innovation in order to be able to maintain a high level as to the new offerings. Co-operations with other countries are necessary in order to build expertise to be able to then contribute to a favorable climate in Europe for service innovation and such needs to continue to be developed. Horizon 2020, Europe's framework program for research and innovation, is an important instrument in order to be able to develop new knowledge and test new concepts and offerings through co-operation on the European level, a possibility that Swedish actors are beginning to use to a higher degree than previously.

MEASURE

The agenda is to promote international co-operations within research and innovation in order to build world-leading knowledge and expertise within service innovation.

Examples of activities:

- Promote Swedish participation in international FoI projects, for example, Horizon 2020
- Exchanges of best practices with respect to service exports
- Work to promote possibilities for the internationalization of service offerings
- Establish a structure on the European level in order to affect European policy development and program prioritization so that the latter promotes service innovation with a basis in the national input platform for service innovation
- Co-operate with Nordic initiatives, for example, CSI-Norway's Center for Service Innovation and initiatives being conducted by among others, Hanken, Svenska handelshögskolan in Helsinki

GOAL 2030

Swedish exports of high quality service solutions have increased by 100% and Sweden leads the development of service innovation globally.

Implementation of the agenda

In order to reach the vision and create the environment of excellence that we wish to achieve, the efforts and engagement of a large number of actors are necessary. Changing structures and focus takes time, but Sweden has a good starting point for success. There is a broad and genuine support and engagement behind this agenda, both among businesses as well as the Academy, but both the pace and extent of the Swedish efforts need to be increased significantly.

It is of the absolute greatest importance that Swedish actors have concrete possibilities in order to strengthen their position within the area.

A first concrete step towards implementation of the agenda is a strategic innovation area for service innovation with the overall national task of developing an environment promoting service innovation. Such a program would, for example, give opportunities to test new forms of co-operation, the possibility to increase the flow of knowledge between the Academy and companies, and even between companies, large as well as small, in a manner not occurring today.

National resources

CO-OPERATIONS WITH OTHER STRATEGIC INNOVATION AGENDAS AND STRATEGIC INNOVATION AREAS

The needs for the capacity to renewal and increased quality in competitiveness through service innovation are touched upon in several other strategic innovation agendas and current programs within the framework for the strategic innovation area, SIO. In order to maximize our joint efforts, the *Agenda for Service Innovation in Sweden* has actively worked with other agendas and SIO programs. We are also going to take initiatives as to service innovation in areas where the need exists today, but initiatives are still lacking.

We see a great potential in developing co-operations and joint learning with other agendas and programs that have identified the needs of increased knowledge and expertise with respect to service innovation and value creation.

The five SIO programs commenced during 2013, *Programmen för lättvikt (LIGHTer)*, *Processindustriell IT och Automation (PiiA)*, and *Produktion och Metalliska material*, take up the need to increase knowledge and expertise within service innovation, particularly with respect to customer involvement in customer value as well as developing business models and new value chains. For example, the production program has an initiative to increase consciousness as to integrating a service perspective in offerings by small and medium-sized companies, *Tjänstelyftet* (The Service Lift). At Jernkontoret, responsible for the program, *Metalliska material*, there is a series of developments as to customer value and services.

Customer value and customer involvement are themes recurring in several of the strategic innovation agendas, for example *Attraktiv och hållbar mat för hälsan*, *Användarinvolvering för tjänsteinnovation i vård och omsorg (INVOLVE)*, *Teknikens roll i dagens och framtidens hälsa, vård och omsorg (Medtech4Health)*, *SWEINVIT 2013* (the hospitality branch agenda) and *Smart Built Environment. Agenda Design för konkurrenskraft*, with the SIO proposal *People-Powered Future*, focusing entirely on design as a method for involving the future's users and value creation.

A large number of agendas touch upon the significance of business models in some way, not in the least those integrating technology/goods and services. Examples of the agendas taking up the need for new business models are *Forsknings- och innovationsagendan för smarta elektroniksystem* and the proposal for a SIO program, *Bio-based materials, products and services*. The agenda for smart electronic systems also takes up the need to create an exchange of experiences as to different business models between small and medium-sized companies. The agenda *Big Data Analytics* and the proposal to the SIO program, *The Information Driven Society*, address the challenges for new business models based on an analysis of large amounts of data, something relevant for more and more companies and organizations.

The areas of system solutions, co-operation and developing value chains from a service perspective are recurrently mentioned in many of the agendas, particularly those clearly having ties to different societal structure systems, for example the agendas *Vattenvisionen* and *Strategiskt Innovationsprogram för effektiv resurs och avfallshantering (RE:Source)*. Other examples are *Trafiksäkerhet, Säkerhet, Attraktiv och hållbar mat för hälsa*, The SIO proposal, *Internet of Things i Sverige*, and *Life Cycle Based Innovation*.

Organizational and leadership perspectives are the focus in a couple of agendas, for example, *Leading Innovation*. It is also touched upon in agendas such as *INVOLVE* and *Smart Built Environment*, but though it is in our agenda one of the four areas of strength, it is the one addressed the least in the other agendas.

MOBILIZING WITHIN THE ACADEMY

In many aspects, Sweden has world-leading research concerning services and service innovation, and continuing to develop service research of a world-class is fundamental for competitive companies.

Together with other Scandinavian countries, Sweden was early with developing knowledge as to services and the significance for the economy. Pioneer researchers such as Rickard Norman, Evert Gummesson, Christian Grönroos and Bo Edvardsson have strongly contributed to this and even have been invoked as a basis for much of the research occurring internationally around services. Today's service research is characterized by several different areas of research that often work together and can be found at the majority of the country's academic institutions. This is both a strength and the challenge, as it can be difficult to know what research and what results are available.

In the work with the Agenda, we have started a mapping of the relevant research and existing research environments in Sweden related to the four areas of strength described earlier:

- Customers and users as co-creators of value
- Organization and leadership in companies and operations undergoing change
- Processes and business models for globally competitive service offerings
- Complex value systems.

Several of the country's universities, university colleges and research institutions participated in the drafting of this Agenda and contributed to the introductory picture of service-related research in Sweden. There is a significant commitment by the Academy to continue to develop together with companies and other actors excellent research and contribute to the results being used by companies and organizations in an effective manner. The ambition is that the mapping and co-operation is to continue to be deepened within the framework for the Service Academy (see 6.2).

Appendix

ATTACHMENT 1: THE ACTORS BEHIND THE AGENDA

This agenda has been drafted with the support, knowledge and expertise from the Strategy group – Service innovation in Sweden as well as Research and innovation reference [FOI] group – Service innovation in Sweden.

MEMBERS OF THE STRATEGY GROUP – SERVICE INNOVATION IN SWEDEN

Chair: *Johan Sandell*, Head of business area - Norden, IBM Nordic
Thomas Berglund, Head of corporate group, CEO, Capio
Hans Persson, Vice President, Technology & Innovation, Volvo Advanced Technology and Research
Jan Ögren, Head of Sales & Finance Global Services Ericsson
Jonas Wiström, Head of corporate group, CEO, ÅF
Ulf Lindberg, Head of business policy, Almega
Eva Wigren, Head of industrial development, Teknikföretagen

MEMBERS OF FOI [RESEARCH AND INNOVATION] REFERENCE GROUP – SERVICE INNOVATION IN SWEDEN

Anna-Karin Alm, Project Manager R&D relations, Malmö University College
Eva-Karin Anderman, Program Head, SVID
Charlotte Andersdotter, Consultant, writer/journalist SIO Service Innovation, Cre8 AB
Karin André, Director Corporate Innovation Office, Volvo Cars
Jannis Angelis, Associate Professor of Operations Strategy, KTH INDEK
Christer Bengtsson, Expert Innovation Policy, Svenskt Näringsliv
Peter Berggren, CEO, Knowit Business Growth AB
Alf Berntsson, CEO, Infotiv AB
Birgitta Olofsson, Vice CEO, Tyréns AB
Per Björkegren, Business developer, Sogeti Sverige AB
Hans Björkman, Corporate Group Head Analysis & Strategy, WSP
Henrik Brehmer, Information Officer, Capio
Jean Bülow, Business Development/Region Manager, Avalon Innovation AB
Leon Ceasarius, Assistant Professor, Uppsala University
Anders Chrintz, SVP Industries & Business Development, CGI Sverige
Anna Dubois, Professor, Chalmers
Mats Ekblad, Director Advanced Development, Electrolux
Mats Engwall, Professor, KTH
Anna Ericsson-Cusin, Corporate Business Developer, PostNord
Gunnar Granberg, Founder, CEO, Spacetime
Ita Grossman, CEO, ITMaskinen
Tor Haglund, Business Development Manager, SKF
Stefan Holmlid, Association Professor Interaction Service Design, Linköping University
Jonas Jarborn, Head of Innovation and Concepts, Ambea Sverige AB
Peter Johansson, Responsible for R&D, Teknikföretagen
Teresa Jonek, Business Policy Expert FoI, Almega
Ingrid Kihlander, Director Product Innovation Engineering program PIEp, KTH
Barbro Lagerholm, Project Leader, Swerea
Björn Lilja, Co-founder, Kundo
Ulf Lindberg, Head of business policy, Almega
Catarina Lindholm, Head of Commercial Leadership and Product Portfolio, Saab
Dennis Lundkvist, Business Development Manager, ÅF
Rickard Lundmark, Head of Services, Business Market, TeliaSonera
Elin Löfblad, Head of Business Development, Siemens
Jonas Matthing, Researcher, project leader, SP Tjänsteinnovation
Staffan Movin, Director, MTC-foundation
Gert Nilsson, Department Head R&D, Jernkontoret
Pär Nygårds, Business Policy Expert, IT&Telekomföretagen
Anders Persson, Business Policy Expert, STD-companies
Yacir Persson-Chelbat, Head of Innovation & Project Office, Securitas
Ulf Rolander, Technical Chief, Sandvik
Elisabeth Rytter, Head of research and nutrition, Livsmedelsföretagen
Åsa Samuelsson, Research manager, Innventia
Olof Sandberg, Strategy Officer, RISE
Håkan Schildt, Chef Fleet Management Systems, Scania
Jenny Siira, Director of Practice Development, White Arkitekter

Anders Sjöman, VP Product and Communications, Voddler
Anders Sundin, Technical Manager Automotive R&D, Semcon
Jonas Söderlund, Professor, Linköping University/BI Norwegian Business School
Maria Tevell, Director ASP Concepts, Volvo AB
Bengt Thulin, Director, Development Processes, SKF
Martina Thyberg, Design strategy, Ocean Observations
Hans Torin, Technical Information Solutions, Combitech AB
Sofi W. Elfving, Senior Services Researcher, Ericsson AB
Cecilia Warrol Ersson, Responsible for Program Produktions-agendan, Teknikföretagen
Eva Wigren, Head of Industrial Development, Teknikföretagen
Lars Witell, Professor CTF, Karlstad University
Pia Wågberg, Senior Advisor Business innovation, Innventia
Christina Öhman, Business Developer, Swedish ICT

ATTACHMENT 2 – STATE OF THE ART RESEARCH CONCERNING SERVICE INNOVATION

Teknikföretagen and ALMEGA have earlier issued a number of reports concerning service innovation that have contributed to the formation of the agenda. A number of meetings have been arranged with the strategy group and FOI reference group in order to continue to develop the agenda's direction and content as well as discuss prioritization and concrete activities.

MEETINGS

Three workshops were held with the reference group; 6 November 2013, 4 February and 17 March 2014. The Strategy Group has met the 19 December 2013 and 14 February 2014.

REPORTS

ALMEGA (2008)
"Vi vill inte såga den svenska modellen. Vi vill slipa till den" in Report: Från Lab till Hub – forskning om tjänstesamhället.

SVENSKT NÄRINGSLIV, ALMEGA and TEKNIKFÖRETAGEN (2009)
"En kartläggning av forskning om tjänster"

ALMEGA (2012)
"Tjänsteinnovationer – för ökad konkurrenskraft" in Strategiskt arbete med tjänsteinnovation – en internationell utblick.

TEKNIKFÖRETAGEN and ALMEGA (2012)
"Värdeskapande i världsklass– tjänsteinnovationer behöver FoU" in Teknikföretagens och Almegas gemensamma inspel till forsknings- och innovationspropositionen 2012

ALMEGA and MTC (2013)
"Tjänsteinnovation för ökat värdeskapande" in En studie om hinder och möjligheter i tjänsteföretag

TEKNIKFÖRETAGEN and MTC (2013)
"Svenska industriföretags utveckling av industriella erbjudanden"

ATTACHMENT 3 – A FIRST OVERVIEW OF RESEARCH ENVIRONMENTS RELATED TO SERVICES

CUSTOMER VALUE AND CUSTOMER UNDERSTANDING

Sweden is considered to be leading with respect to research within service innovation with a focus on value creation and customer understanding. There are several different active research groups focusing on the customer's value creation processes and how an understanding of these can function as a starting point for service innovation. In this compilation, the research conducted within the framework for service innova-

tion including published scientific articles based on empirical studies is shortly described. In addition to this, there is research only focusing on customer value, customer understanding or customer interaction, but from a different perspective, for example, industrial marketing, product development or quality technique.

Research concerning customer understanding and customer interaction is primarily conducted at Centrum för Tjänsteforskning, CTF, Karlstad University, where Professor Bo Edvardsson has during the past thirty years built-up a leading research institution around services. Today, there are approximately 50 researchers at CTF, of whom a portion focuses specifically on service innovation in branches such as trade, public transportation, manufacturing industry as well as health care. Examples of research studies include whether customers are more innovative than service developers, whether certain methods give better ideas than others, and where in our development processes should the customer be involved in order to succeed with service innovation.

At Linköping University, there are several research groups working with service innovation, primarily within industrial marketing, marketing, service design and quality technology. These groups conduct research as to service innovation based on a service logic and value creation. In certain projects, the research groups work together with respect to questions concerning, for example, what is service innovation, how to involve patients in service innovation and how can customer journeys be described in order to understand value creation.

In addition to these two examples, there are several researchers who study customer value and customer understanding in the country but to a somewhat lesser extent. Among others, there are researchers KTH, Chalmers and Mälardalen University College conducting research within this area, but often it is the individual researcher who works together with other larger groups. Expertise can also be found within the research institutions, SWEREA and SP. In addition, there is branch specific research that can be of interest to disseminate from one branch to another, for example within trade and health care.

LEADING AND ORGANIZING FOR INNOVATION

By being a leader within service innovation, companies develop their competitiveness, requiring engaged and motivated leaders and employees who understand how questions concerning customers and customer reception, personnel, organization and communication can be handled.

Creating the premises for innovation is a critical factor for innovation strength. For organizations, this concerns having the ability to lead and conduct processes in which new goods, services and offerings become successful on the market. Innovation leadership is an interdisciplinary field and therefore studied at different faculties, for example, economics, technical, psychological, and political science, and from many different perspectives. Examples as to different research focuses are questions concerning how the value for the final customer can be insured, for example, by investigating how to work with customer involvement and how information knowledge as to the needs of customers can be disseminated within an organization. Service management is another area focusing on customer-orientated leadership for service development.

Developing innovation capability is in itself a transforming project and therefore research is conducted as to how to successfully lead such work. Other aspects tied to leadership include how to measure innovation and innovation capabilities, how decisions are often made in unclear and uncertain situations or the company's internal support processes, as well as monitoring world developments, new knowledge and learning as well as the relationship between creativity and routine work.

There are several groups in Sweden researching issues within innovation leadership. These often are relatively small groups at each institution of higher learning, making it difficult to reach a critical mass. One result of the agenda, Leading Innovation is a newly started work, where researchers within the country within innovation leadership together take a joint approach in order to coordinate research in Sweden. Within the framework for this work, an initial overview has been conducted and generally it can be said that researchers have good access to companies and often a deep and long-term co-operation in which new knowledge is developed together. A specific example as to research conducted in a close relationship with a company, are the doctoral candidates within industry and the adjunct professors within a field. Closeness to companies is seen as a strength, that becomes even clearer in an international comparison. There is a potential in strengthening Swedish researchers on the international academic scene and highlighting Swedish innovation leadership research in its entirety.

There is no complete mapping of the research in Sweden concerning innovation leadership, and therefore an exhaustive inventory and mapping of the area is desirable.

Below three centers are highlighted as examples of relevant actors in the research field innovation leadership, which can be seen as beginning to the desired mapping.

Center for business innovation (CBI)

CBI at Chalmers conducts research with respect to the innovation challenges facing technologically-based companies. The specific objective is to develop knowledge as to methods and processes that increase companies' innovative capacity. Involved companies are active in

the research projects and co-operate as knowledge builders. Typically areas are innovation capacity, how to organize in order to favor innovation, how innovation can be measured, designed and innovation as well as Business Model Innovation.

Knowledge Integration and Innovation in Transnational Enterprise (KITE)
This center is at Linköping University and works with different types of knowledge integration, from development projects to technological alliances and co-operates with international efforts and one research theme is "Innovation and integration of external knowledge."

Product Innovation Engineering program (PIEp)
PIEp is a research and change program working for an increased innovation capacity in organizations and individuals. The PIEp is a co-operation between Luleå Technological University, the Design University College in Umeå, KTH, the Jönköping University College as well as Lund Technical University College. PIEp has worked with the challenges that organizations meets when they both are to conduct an effective and profitable operation while at the same time needing to think long-term in order to develop business and insure their competitiveness. The work has resulted in knowledge, models, methods, for example, as to the leadership of joint idea work, measuring innovation and how research results can be implemented more effectively in companies.

In addition to these centers, in later years a development has occurred within the Academy of highlighting innovation leadership through, for example, new professors, new departments and new master programs. Swedish universities and university colleges also have good expertise concerning for example culture and climate, organizational change, IP management, co-operation and networks and innovation processes and knowledge integration. These are a few of the areas of knowledge that companies have identified as decisive for strengthening and developing innovation leadership.

BUSINESS MODELS TIED TO SERVICE INNOVATION

In order for companies be able to continue to be competitive and develop positively, business models need to constantly be renewed. To be unique in a relevant manner is one of the most important survival factors for a company and also demonstrates therewith the decisive significance of a functioning innovation operation.

In pace with that the significance of developing business models has increased, the need for new knowledge has also increased. Research concerning business models can be found, for example, at KTH, Chalmers and at Linköping University, but also at Borås University College, Luleå Technological University and at Malmö University College.

There is no map today over which research is being conducted in the country with respect to business models, something that can be seen as very urgent. Therefore an inventory will be begun within the framework of the Service Academy's tasks.

DESIGN RESEARCH AND SERVICE INNOVATION

Design methods can be an important component in developing service innovation, for example with respect to customer journeys or when one wants to present different possible scenarios. Expertise within service design can be found at several different places in the country and at several different faculties.

Here is a first draft over a mapping of design research related to service innovation.

The Design Faculty is a national center for design research that gathers in a total of 21 institutions coordinated by KTH. The endeavor is to create a solid, critical and future-oriented platform for research, advanced internships and education in design. Among other things, a national research school in design is given and in the process of formulating Sweden's area of strength within design research.

Interaction and Service Design research group (IxS, Linköping University)
IxS is an internationally leading research environment for service design and conducts research within service design, individual-centered design and innovation, as well as educates future service innovators. IxS plays an important role for research within the cognitive sciences and current product development at LiU, as well as within bioscience and medical information. IxS is a driving force in the national research school at the Design Faculty. Research is conducted in co-operation with research designers, innovators and developers. The work is centered on design for industrial services, care, somewhat around teaching, and city construction.

Ongoing processes: Vinnova assignment to develop a national expertise center as to Design for Services, subsequent research by for example Experio.

National Co-operations: Region Uppsala, Region Västerbotten, Ramlösa skola, outdoors pedagogy, Experio-lab, CTF, Konstfack, HDK, Medea, Hälsans nya Verktyg, Design Faculty, Centrum för Kommunstrategiska studier.

International Networks: Lancaster University, Arkitektur och design University Collegen in Oslo, AHO, Sintef Norge, Aalto University, Aalborg University, Politecnico Milano, Sungkyunkwan University, Swinburne University, University of Porto, Oslo University

Medea, different interdisciplinary (Malmö University College)
At Medea, work is conducted from a different number of perspectives as to design and services, primarily with the starting point in social innovation. This encompasses work with the elderly, city planning, and questions concerning integration.

Ongoing processes: The commission is financed by Tillväxtverket [Swedish Agency for Economic and Regional Growth] to develop a national lab structure for social innovation

National Co-operations: The Design Faculty, Malmö Social Innovation, Malmö city, IxS.

International Networks: DESIS, New York, South Africa-Denmark-Sweden

The Business and Design Lab, Gothenburg University)
Combines traditional research as to leadership with artistic research. Through co-operations with practitioners and researchers, certain premises are challenged in order to find new, innovative solutions.

Ongoing processes: Desma PhD school in design leadership

National Co-operations: The Design Faculty, Konstnärliga forskarskolan

International Networks: Through participation in Desma PhD school

Umeå Design University College
Ongoing processes: Several doctoral candidates working with design for services and/or social innovation

National Co-operations: The Design Faculty

KTH
There are several different design-related fields at KTH, within for example, Machinery Technology and Computer Science.

Ongoing processes: Greenleap, co-operation with Konstfack [University College of Arts, Crafts and Design]

National Co-operations: The Design Faculty

Konstfack [University College of Arts, Crafts and Design]
Ongoing processes: Have submitted a VINNOVA application as to city planning/complex systems

National Co-operations: The Design Faculty

Experio Lab
A full-scale test lab that includes at least 12 patients focused on service innovation projects. The lab is led by the Värmland County Council in close co-operation with SP and CTF, Karlstad University.

Ongoing processes: Operate a national test lab, and a pilot project from Vinnova

National Co-operations: CTF, SP, Värmland County Council, Linköping University, IxS

OTHER ACTORS WITH RESEARCH CONCERNING CERTAIN COMPONENTS OF SERVICE DESIGN

Linné University, Blekinge Technological University College, Interaktiva institutet, Lund Technical University College, SP and CTF conduct research touching upon aspects of service design. There are in addition fifteen active/newly graduated doctoral candidates within the area in Sweden.

Research concerning service design can also be found at several larger companies, which can also have a specific area, such Volvo, Ericsson and ABB and many smaller companies are engaged in different research co-operations.

CONTACT PERSONS

Peter Johansson, Verksamhetsansvarig Forskning och innovation [R&D policy], Teknikföretagen
peter.johansson@teknikforetagen.se

Teresa Jonek, Näringspolitisk expert, forskning och innovation [R&D policy], Almega
teresa.jonek@almega.se

almega

Teknikföretagen