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The economic recession and future growth challenge innovation policy

Until recent years, Finland has succeeded well in international comparisons of education, research and technology, being one of the leading nations in terms of research, innovation activity and the quality of its business operating environment. Finland's success has been largely based on its high quality educational system, long-term investments in research and development by enterprises and the public sector alike, and well-functioning cooperation between trade and industry, research institutions and the public sector in various areas of innovation activity.

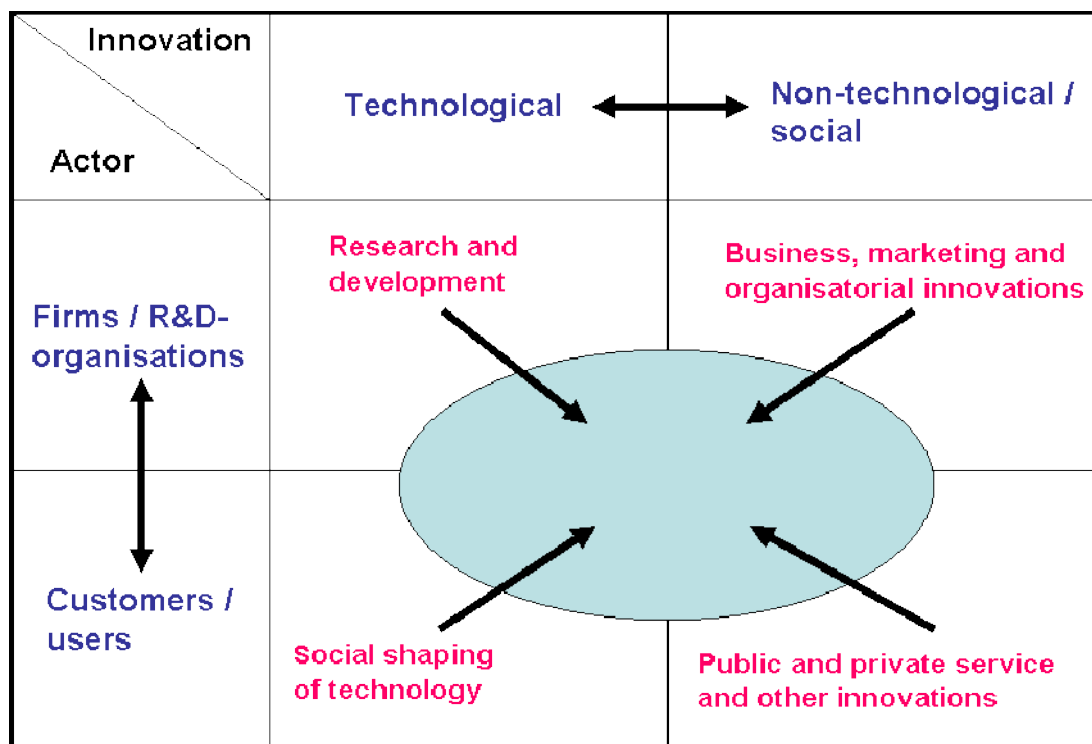
The position of a pioneer requires renewal

However, previous success is no particular guarantee of what lies ahead. Due to globalisation, competition is intensifying rapidly in the worldwide, borderless operating environment of innovation activity. Moreover, the international financial crisis is heavily transforming current lines of business, changing the international division of duties, and accelerating structural change. In effect, many of our current competitive advantages are being challenged.

Hence, Finland's success in international comparisons evaluating competitive ability and the development of the information society has been on the decline. This forces us to consider, critically and without bias, our competitive position, while motivating us to pursue new opportunities arising from the changes in the economy, society and the global operating environment.

Finland's long-term investments in expertise and technological research and development have produced good results, and a successful science and technology policy has created the basis for many successful industries. This provides a sound platform for building the future. However, the challenges presented by growth and competitiveness can no longer be tackled solely by means of a sector-based, technology-oriented strategy. In line with the national innovation strategy, innovation activity must be developed to cover a broader spectrum in terms of its contents, and to operate with a more user-oriented approach. The Research and Innovation Council illustrates this change in its policy report of December 2008, as shown below.

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Expanding innovation activities: new interactions between players and functions (Research and Innovation Council of Finland, policy report 2008).

Towards broad-based innovation activity

The national innovation strategy, completed in 2008, defines innovation as an exploited, competence-based competitive asset. Successful innovations are usually based on the open-minded combination of various competencies, while too narrow a concept of innovation activity results in part of innovation potential remaining untapped.

A broad-based innovation concept introduces other intangible investments, in addition to research and development activities, into the sphere of innovation activity and the advancement of systematic development. These include business concepts, service models, brands, organisational structures and operating methods. In terms of contents, as part of innovations, expertise beyond technological expertise is exploited, such as product design, business economics, and behavioural, cultural, health and social sciences.

Broad-based innovation activity facilitates the formation of new strengths, well suited to Finland. Well-functioning cooperation structures and low borders between enterprises, universities, research institutions and the public sector provide sound preconditions for diversified, competence-based reform efforts. Likewise, stronger linkage of creative sectors

as part of innovation activity – for example the Aalto University – would open up new opportunities for Finland.

Public innovation funding in Finland encourages cross-border cooperation and, to an increasing extent, multiform innovation activity exploiting both technological and non-technological expertise. This creates the preconditions for diversifying our innovation activities and reinforcing future competitiveness in a situation where international competition is about to overtake us in many traditional research and technology development sectors.

Demand and user orientation as a basis for innovation activity

Innovation activity no longer abides by the traditional logic of invention. Instead of searching for customers for new inventions, in an increasing number of cases new solutions are being sought for customers. In a world where the majority of technologies is available on the markets, competitive strength is often based on the ability to realise the needs of customers, consumers and citizens before competitors do, and to offer corresponding products and services. Around the world, leading edge companies are involving consumers and customers in product development. Enterprises are even processing previously unrecognised needs together with users, thus influencing the emergence of a completely new kind of market. Various forms of open and public innovation activity are gaining ground alongside traditional, closed innovation activity. Policies must therefore create the preconditions for the emergence of open innovation environments.

In Finland, innovative enterprises cooperate with customers to a greater extent on average than in many other EU countries. Innovation activity is market-oriented innovation that seizes the opportunities presented by the markets. Value chains are being steered from customers and consumers towards producers and developers rather than vice versa. Innovation policy must adapt to this change in innovation activity and accelerate its pace. Attention must be paid to the quality and depth of cooperation, and the creation of markets for innovative solutions must be promoted.

Traditional innovation policy has focussed on the development and commercialisation of new technologies. Even the success of innovation policy has been measured primarily with the help of development investments and technological output. In the future, innovation policy will place a greater emphasis on the development of products and services meeting the needs of customers, and the strengthening of users' and developers' mutual development work. There is room for improvement in Finland, for instance as concerns the development and introduction of user-oriented service innovations. Particular attention should also be paid to enhancing the productivity of the public sector through the development of competence-based services and service capabilities.

Individuals and communities create innovations

Ultimately, the production of innovations depends on individuals. However, innovations do not usually happen by chance. Instead, innovativeness is linked to clear objectives and problem-setting. Innovation requires systematic working with the problem and a sufficient quantity of information on the phenomenon, customers, technologies, patents, previous solutions and operating modes etc. Innovations also require a division of duties, and sufficient time and space reserved for innovators, which, in turn, poses new challenges for organisational structures and management.

Innovations and entrepreneurship are closely connected. In many cases, entrepreneurs are those who are able to combine ideas, the ability to take risks and other required skills with a clear view of customers' needs. Innovation policy must be entrepreneurship policy - a key viewpoint to consider when reforming public services. In Finland, entrepreneurship activity has been found wanting, and its development calls for measures that also pay attention to the novel attitudes of new generations towards entrepreneurship.

An operating environment fruitful in terms of innovations is one where individuals with different backgrounds work with the same problems. Innovative communities can be tight-knit teams that meet on a daily basis, or more loosely coupled communities working as a network. The success of innovative communities is based on sharing competence and knowledge, and the ability to combine various perspectives and approaches. Increasingly often, innovations are created at the interfaces of various competence areas.

Innovation communities and centres are increasingly international. When knowledge and communication technology is utilised, global knowledge communities are formed with members from any part of the world. Enterprises, too, are increasingly resorting to open communities in innovation activity.

International examples indicate that innovation activity is being centralised and is finding its way to regions and localities offering sufficient preconditions for innovation activity. Instead of national innovation systems, innovation ecosystems and innovation centres are drawing attention, being locally and regionally fixed but globally networked at the same time. They combine, in a fruitful manner, needs and ideas with the abilities required to implement the latter. The dynamics of such ecosystems are based on communities where the prevailing culture favours cooperation, knowledge, the sharing of ideas and willingness to take risks.

We in Finland must find a way, suitable for our conditions and capitalising on our strengths, to create globally networked innovation activity ecosystems. By international standards, Finland boasts exceptionally close links between information providers and users. On the other hand, we are falling below par in several areas. For example, we lack the top-class services required to commercialise ideas rapidly and create new start-ups. Capital investors who ensure the rapid growth of start-up firms with sufficiently large investments operate in successful ecosystems. Another group of significant operators are business angels, who

place their wealth of experience and networks at entrepreneurs' disposal. In these respects, Finland is lagging behind international trends.

Renewed innovation activity will address the challenges presented by the economic recession

Finland has relatively recent experience of a severe economic recession: we surfaced rapidly after the difficulties experienced in the early 1990s to embark on new growth thanks to determined investments in research and new technology. Close and well-functioning cooperation between universities and enterprises developed into one of the strengths of Finnish innovation activity, gaining international recognition.

However, the mere reapplication of the formulas which succeeded in the 1990s will not suffice today, since the operating environment for enterprises and universities knows no borders. Now, both the determined maintenance of private and public investments in research, product development and innovation activity, and the unbiased modernisation of innovation activity contents and operating modes are called for. The contents of the development guidelines listed in the innovation policy report correspond fairly well with the needs of innovation activity, even in financially challenging times.

Incentives and funding: Public funding is assuming an increasingly important role as an incentive for maintaining research, product development and innovation activity during the economic recession. As a consequence of the weakening financial situation, the time span for innovation activities in enterprises is becoming shorter, and the ability to take risks is diminishing. There is the threat of declining investments in longer-term, higher risk research and product development activities. The recession is also reflected in research projects financed by enterprises in universities and research institutions, which create knowledge capital for enterprises' long-term competitive strength and new business operations. This close cooperation between business life and academic research is a particular strength of Finnish innovation activity. It is therefore vital that this core strength does not suffer as a consequence of the recession.

Demand and customer orientation: The economic recession is inexorably reducing demand, but it is also creating new needs as value chains change and enterprises modify their operating models and subcontractor structures while outsourcing operations. Furthermore, the significance of services as the basis of both business and innovation activity is being emphasised. As the recession intensifies structural change, the companies which are the first to predict changing customer needs and develop solutions thereto will be successful. In this operating environment, the openness, speed and agility, and even the cost-efficiency, of demand-based and user-oriented innovation activity will be emphasised as benefits parallel to companies' own internal research and product development activity.

Diverse innovation activity: As competition intensifies and the financial situation becomes more severe, speed and economic efficiency are expected from the operations of enterprises and value chains. More broad-based and diverse innovation activity entails even the exploitation of small-scale, streamlined development measures. An open-minded combination

of existing technological and non-technological expertise with service and operating models, as well as work and production processes, will allow enterprises to modify product portfolios quickly while enhancing productivity and cost-efficiency.

Competence base for new growth: Major drivers of change, such as globalisation, ageing and climate change are reshaping the world, creating new needs and transforming many of the current operating methods and lines of business and industry. Likewise, the market revival after the economic recession will open up opportunities for entirely new business operations and a significant redistribution of market shares. All of this requires a solid knowledge base in key sectors for the renewal of trade and industry and the development of Finnish society. In addressing these challenges and opportunities, the new Strategic Centres of Excellence for science, technology and innovation (SHOKs), national programmes implementing new expertise in practice (Tekes, Centre of Expertise programme OSKE) and Finland's integration into European and international research programmes and networks, will play an increasingly important role.

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