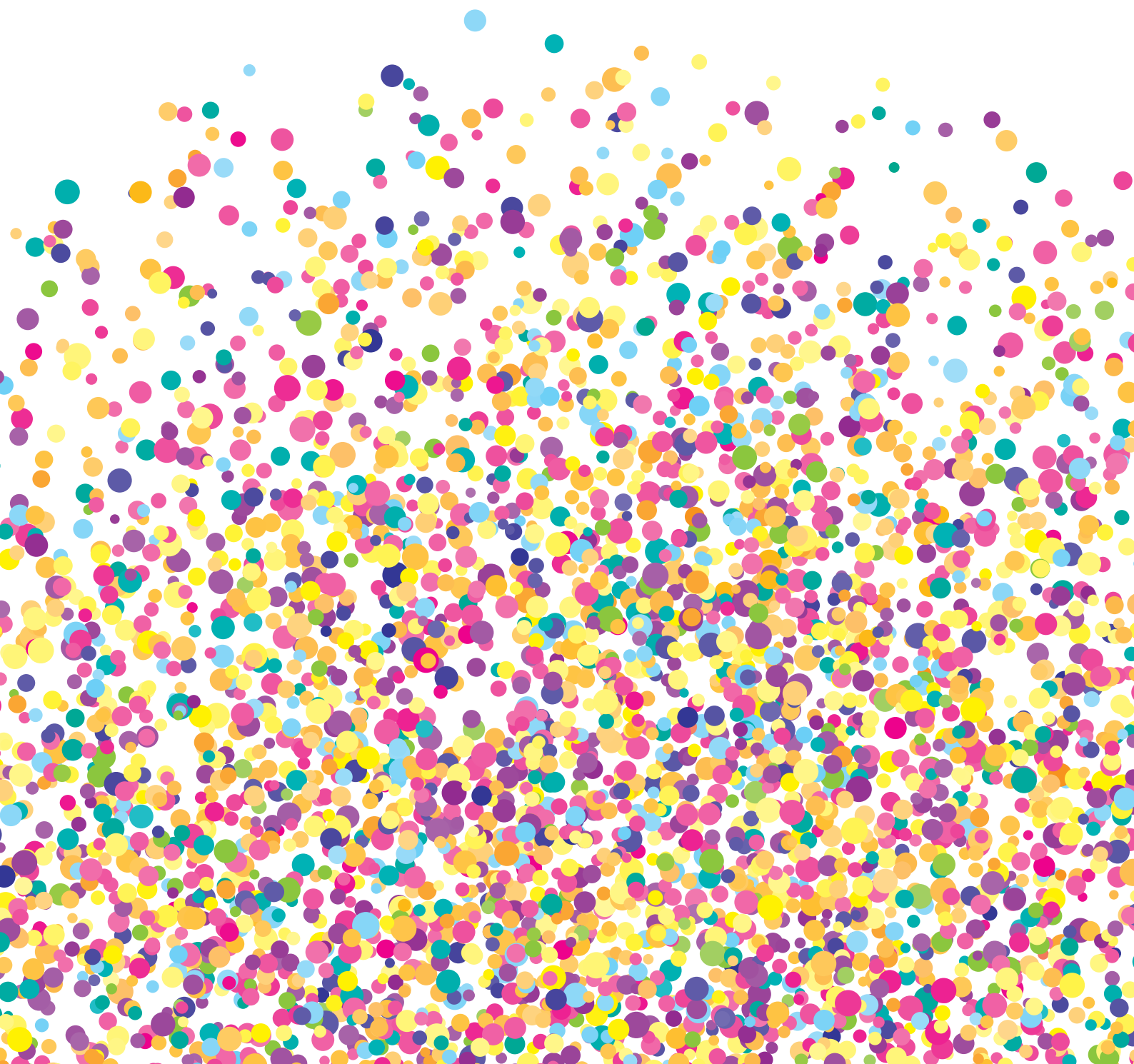


# Intangible value

the new economic success factor



## Intangible value - the new economic success factor

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# Creative Finland



TYÖ- JA ELINKEINOMINISTERIÖ  
ARBETS- OCH NÄRINGSMINISTERIET  
MINISTRY OF EMPLOYMENT AND THE ECONOMY

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# Foreword


Well-being is based on the nation's ability to create value. In the global arenas, the playbook for value creation requires constant updating.

Bioeconomy, cleantech and health technology are Finland's strengths, but we need more to be able to maintain the nation's well-being. Gadgets, as well as well-branded and sought-after Finnish services in export markets, are both equally welcomed creators of well-being. Policies should recognise that intangible value creation is as important to the economy as tangible value creation.

Among Finland's opportunities for success, intangible value creation, how it is recognised and how business policy can be refined to support it, are probably the opportunity that is most in need of development. Digital business, its close relation, attracts increasing attention, but still also mainly springs from the traditional thinking model of industrial production. What partly makes the discussion more difficult is that the concepts we use originate from the world of physical investments and production.

We understand that intangible investments are important. They are used to accumulate intangible capital such as expertise, customer insight, corporate culture, brand value and the IPR portfolio. Recently, investments in research and product development were also accepted to the national economy accounting and national product calculations to represent intangible capital. However, there is a long way from investing and from the capital it helps to accumulate to value creation, particularly in global ecosystems. Digitalisation spurs this race with increasing speed.

One of Finland's big challenges in both the private and public sectors is how the investments in intangible capital can be turned into success based on Finland in the rapidly changing value networks. Investing in innovation requires constant proof of its benefits, and an increase in intangible value creation is a good sign of success.



Intangible ideas in business management and customer service can also be very small in terms of investment costs, but possible to implement swiftly. They are rarely rights protected by IPR. The customer's needs and the productivity of joint value creation are a more important angle of view than a strictly regulated contract model.

Finnish content industry companies are seldom drivers creating value but more like subcontractors, perhaps excluding the most successful companies in the gaming industry and software development. We need more successful examples and need to learn more from these examples in different fields. Research talks about a service-oriented customer relationship, which is replacing the traditional production-oriented thinking.

This publication is a welcome addition to the discussion, not only to find new sources of well-being, but also to open up a new angle to business and innovation policies. There is a great need for a path for Finnish companies to rapidly increase their value added in global markets. As our aim is to keep doubling our exports I believe it is particularly the services that create value for the customer that are the biggest opportunity for both the manufacturing industry and services.

Private services constitute one half of the national economy and improving their productivity is vital. By developing intangible value creation, the development of productivity will follow the right path, by expanding operations, providing employment and on the basis of constant innovation. I hope this publication will widen the discussion about how the new challenges in intangible value creation can be taken up successfully in Finland. We can only afford to be at the forefront of that success.

MINISTER OF ECONOMIC AFFAIRS **OLLI REHN**

# *Concepts related to intangibility*

## **INTANGIBLE VALUE CREATION IN BUSINESS OPERATION**

In addition to when capital formed by intangible investments is utilised, intangible value is also created when a company utilises factors that create value added without any specific capital investment.

### **VALUE CREATION WITHOUT INVESTMENTS BY COMPANIES**

Value added can be created by different factors, such as existing knowledge, new ways to combine things, changes in the markets, opportunities created by digital platforms (commercial applications in connection with user flow in platforms), art, culture, cultural heritage or crowdsourcing processes, which are available without the company's investments.

These opportunities may be based on an investment or capital from another party, for example cultural or knowledge capital, a network or a distribution platform created by society, groups of citizens, a platform provider, artists, etc. These factors mix and often act together with the company's intangible investments.

### **SERVICES AND PRODUCTS CREATED THROUGH CROWDSOURCING**

### **IDEAS, OPPORTUNITIES**

### **MANAGEMENT, ORGANISATION AND NETWORKS**

### **ARTISTIC AND CREATIVE WORK**

### **INTANGIBLE INVESTMENTS BY COMPANIES**

Companies invest in competitive advantage factors in products or services such as research, product development, design, increase of expertise, work efficiency, operating processes or management.

In this publication, investments by companies are discussed in three groups:

- intangible investments in service development
- intangible investments in the company's own operation
- intangible investments in a physical product

### **TRAINING, EXPERTISE**

### **RESEARCH AND PRODUCT DEVELOPMENT**

## INTANGIBLE VALUE / VALUE ADDED

Added value created by a company in a product or service is economically significant if it is based on understanding the customer's needs and creates value for the customer.

Many qualities can create value for the customer: durability, ethicality, aesthetic appearance, usability or some other personal need or value.

A successful business idea is about an insightful idea, and the speed to recognise the customer's needs and respond to them.

## INTELLECTUAL CAPITAL

Investments or insight may create intangible capital, which can be protected. The difficulty in deciding on a value for the capital is often a challenge in financing business activity that utilises the capital

PROTECTION

VALUATION

## TANGIBLE VALUE

# INTANGIBLE INVESTMENTS

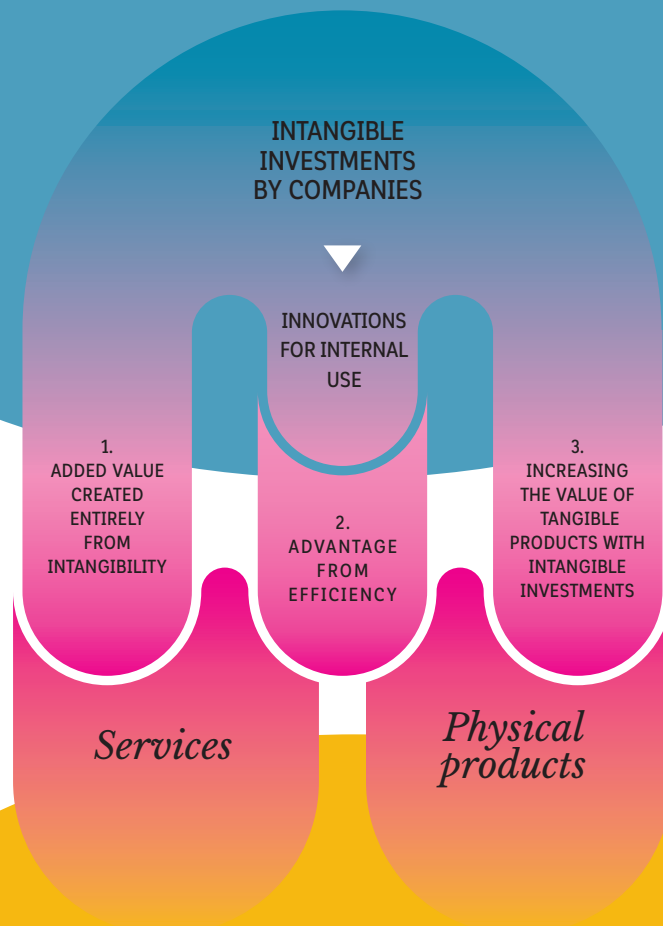
RESEARCH DIRECTOR **JYRKI ALI-YRKKÖ** AND RESEARCHER **MIKA PAJARINEN** / ETLATIETO OY

With intangible investments, the company seeks to improve its success in the market.  
Companies invest in intangible capital in order to gain benefits that are mainly realised in three ways.

## HOW ARE INTANGIBLE INVESTMENTS TURNED INTO ADDED VALUE?

### *Company*

ADDED VALUE CREATED BY THE COMPANY IS SOLD TO THE CUSTOMER AS A PRODUCT OR SERVICE



### *Customer*

THE CONDITION FOR THE COMPANY'S SUCCESS IS THE VALUE CREATED FOR THE CUSTOMER

BIOECONOMY **CLEANTECH** CONCEPTS **3D PRINTING** E-COMMERCE **ANIMATION** HEALTH TECHNOLOGY **INDUSTRIAL INTERNET** SERVICES **INTERNET** COMMUNICATIONS **MEDIA** TELEVISION **FILMS** MUSIC **CONSTRUCTION TRADE** SERVICE DESIGN **GAMIFICATION** ENTERTAINMENT **RADIO** EVENTS **ARCHITECTURE** 3D IMAGING **SCALABLE SERVICES THAT ARE NOT DEPENDENT UPON LOCATION**

#### **INTANGIBILITY AS A SERVICE**

Intangible investments are a means to develop something that is sold to the customer as a service. Services, by definition, are non-material, so, at least roughly speaking, all services can be classified as intangible. These services can be anything, but what the customer buys is specifically the service. In a fairly new form of service business, the paying customer and beneficiaries are not exactly the same party. The Google search engine and Facebook are good examples of this. People who use these services can use them for free. Instead, the paying customers are companies which buy information from Google or Facebook to be used for example in advertising.

Digitalisation makes many services more scalable and independent of where they are

located. At the same time, it also enables the development of new service functions to industrial products. Due to digitalisation, many services companies will not only compete locally, but also globally.

#### **INTANGIBILITY AS A MEANS FOR MORE EFFICIENT OPERATION**

With intangible investments, the company seeks to improve its internal operation. However, the improved internal operation cannot, in itself, be sold to the customer. Through improved internal operation, the sales of products or services sold to the customer or their profitability increase. Intangible investments aimed at improving internal operation include, for example, training the personnel, enhancing efficiency of the prod-

uct/services production, or developing new sales or marketing methods. What is essential is that the benefits from improving internal operations are always realised through sold products or services.

#### **INTANGIBILITY AS A PROPERTY OF THE PRODUCT**

Companies aim to develop additional properties to products (GOODS) through intangible investments and the customer is prepared to pay an additional price for the additional properties that intangibility provides. The range of additional properties is diverse. They include for example better design, technical properties, the brand and ease of use. What is typical of the value creation method is that the value added is realised through a physical product.

DIGITAL ENVIRONMENT **INFORMATION AND COMMUNICATIONS** ENTERTAINMENT AND LEISURE **MULTIDISCIPLINARY APPROACH** INNOVATIONS AT CONTACT POINTS BETWEEN SECTORS **MANAGEMENT** OCCUPATIONAL HEALTH **WELLBEING AT WORK** EXPERTISE TRAINING **SERVICE PROCESSES** OCCUPATIONAL SAFETY **DESIGN** PRODUCT DEVELOPMENT **USER ORIENTED APPROACH**

# *How intangible value is created - services as a source of growth*

COMMERCIAL COUNSELLOR PEKKA LINDROOS / MINISTRY OF EMPLOYMENT AND THE ECONOMY

Economics and economic policy cannot quite grasp the significance of intangible value creation and therefore it is challenging to plan policy measures. Although we understand the increasing significance of intangible investments for the renewal of the economy and enabling growth, the analysis often remains at the level of analysing intangible capital. The company's capital stock created by investments, whether it is physical or intangible, is still only an opportunity that, in addition, ties up resources and therefore creates expenditure. It does not say anything about how this opportunity should be grasped. Knowing how to do this may be the most critical success factor for Finland.

In developed countries, the share of intangible investments is 5–10% of GNP, so they account for a considerable share of investments. They can be divided, e.g., into the following categories: 1) **Digital systems and knowledge**, 2) **scientific and creative property** and 3) **economic capabilities**, such as company-specific human capital, company structure, advertising and brand values.<sup>1</sup>

The definition of intangible value creation is further confused by business models which can create value without investments that tie up large amounts of capital. Intangible value creation may take place by combining existing knowledge, ideas or by using an existing opportunity in which a customer need is rec-

ognised. Therefore, all human capital does not need to be within the company, but it can also be made use of by crowdsourcing.<sup>2</sup>

*What is most essential in terms of the national economy is how quickly and efficiently these practices spread in companies and how well the operating environment supports the transition to using intangibles taking place in companies.*

Intangible capital is usually divided into three groups, of which human capital comprises expertise and accumulation of knowledge within an organisation. Structural capital structures the operation in a new way and also enables scalability, which is required in the digital age. Relational capital in turn enables joint value creation with the customer in an in-depth interaction which can withstand the storms in global competition better than a traditional decades-old customer relationship. More paths to utilisation of intangible capital are created constantly.

Naturally, manufacturing companies also invest in intangible projects. For example, training a lathe operator in a drive shaft factory or creating a customer data system for a company that manufactures drain pipes are intangible investments made to increase competitiveness in the manufacture of physical products.

Both may result in an improved ability to serve customers and create added value in production for the manufacturing company.

The principles of business management have long emphasised the significance of understanding customer needs. Finland's international sector, which has largely focused on the process industry and production of capital goods, is perhaps adopting in-depth customer-orientation later than comparable countries.

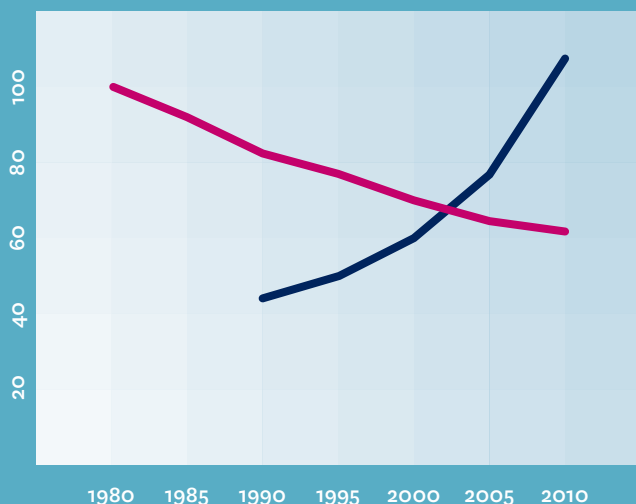
The notion that the significance of services is minor to any products larger than a horse and that intangible customer values are unsuitable as sources of value added in Finland may spring from this emphasis on production. However, the times and the ways of thinking are changing.

The pioneering companies see the opportunities in intangible value creation to turn the development of prices in the global economy to their advantage. The outline by Petri Rouvinen illustrates how the prices of physical and intangible products may be contradictory.<sup>3</sup> Value creation is globally less connected to physical capital, such as assembly plants, than to intangible operation such as customer service, internal processes and intellectual property rights.

However, statistical practices still primarily monitor the physical flow of goods. Statistics on intellectual property rights helps to

### THE RELATIVE PRICES OF INDUSTRIAL PRODUCTS since the beginning of the 1980s

### THE GLOBAL PRICE DEVELOPMENT (estimate) OF INTANGIBLE PRODUCTS Software, digital content, databases, intellectual property rights and ICT supported services



Indicative outline, Petri Rouvinen / Etla

create a more in-depth picture. It is estimated that protected intellectual property rights account for one half of intangible investments in the United Kingdom.<sup>4</sup> According to the source, the most significant protection measures include a head start over the competitors, business secrets and complexity, whose role as protection measures instead of legal frameworks is likely to be on the increase. In the future, traditional comparisons between patent portfolios may prove less significant when comparing values of companies or products, and the appeal of ecosystems related to the brand may increase.

The price development in world trade puts severe cost pressure on the production of goods. At the same time, intangible services have a chance to increase their value. This is due to, of course, the increasing value of services offered to the customer. With the help of digital tools, services can be delivered efficiently across the world and copied for everyone to use. Marketing services may become a driver of productivity instead of delaying the development of the national economy.

Combining physical and intangible investments, the different alternatives to create customer value and operating in networks reform the boundaries between companies, knowledge sharing and the rules of value creation. An industrial plant and the scale of its operation is no longer necessarily the most important source of value creation in the centre of the customer process, which is becoming increasingly service-intensive.

With regard to the national economy, the essential factor is how quickly and efficiently these practices spread in companies and how well the operating environment supports the transition to utilise intangibles in companies. At the same time, we have to contemplate how the new geography of value creation will develop and what Finland's role is in this development. Global platforms and ecosystems accumulate value in ways that are different from the traditional regional delivery chains.

The share of intangible value creation sectors in the USA's national economy has surpassed physical goods production even if the classifi-

cation did not apply to work tasks and even if, for example, telecommunications services were classified as part of physical production.<sup>5</sup> There is no reason to presume that development in Finland would follow a different path.

Comparisons in competitiveness show that Finland continues to be successful in creating human capital and probably also in making use of it. Expertise and development of technology are focus areas in policies even though the national economy has to be condensed. High quality of training, relevance and usability of results as a counterbalance to the accelerating speed in which competences become outdated are the key conditions for future development. The transition from a career based on one skill to the model of life-long learning challenges the whole of society

Does Finland have the ability to take advantage of the opportunities in intangible value creation and to grasp, for example, the new opportunities created by digitalisation? As we know, it is one thing to present oneself as a potential success story but quite another to gain broad-ranging advantages in productivity across sectors. And are companies able to transfer flexibly to service-oriented interaction with the customer and deepen relational capital at the level of business activities in practice? Requirements are increasingly directed at key individuals within companies. It is through them that the performance of companies, sectors and the national economy either reaches the forefront or keeps on following its previous gloomy trend.

If policies can encourage companies to grasp the opportunities in intangible value creation, we urgently need to build a framework for implementing this. It is desirable that reforming the content of innovation policy show as a strategic orientation to value creation by companies and their owners.

<sup>1</sup> BIS Research Paper number 74. 2012.

<sup>2</sup> <https://www.tekes.fi/globalassets/julkaisut/aineeton.pdf>

<sup>3</sup> Petri Rouvinen Etla 2014

<sup>4</sup> UK Patent Office 2014/36

<sup>5</sup> Athena Alliance 2015 <http://www.athenaalliance.org/weblog/>

<sup>6</sup> Marja Toivonen: Tutkimustuloksista arvoa liiketoimintaan, Tekes 2013



# *The new wave of business activity*

THERE IS NO ONE TRUTH ABOUT THE NEW NORMAL FOR BUSINESS. HOWEVER, IT IS EVIDENT THAT BUSINESSES AND ORGANISATIONS ARE AT AN IMPORTANT TURNING POINT. THE LEAP TO THE NEW WAVE OF BUSINESS IS NOT A DIFFICULT ONE, BUT WHAT IT REQUIRES IS THE COURAGE TO CHALLENGE THE OLD TRUTHS AND A WILL TO FIND A GREAT NEW PURPOSE FOR THE COMPANY AND ITS OPERATIONS.

# NEW WAVE COMPANIES BASE THEIR SUCCESS ON CREATING ABUNDANT VALUE

RESEARCH DIRECTOR **NUPPU GÄVERT** AND STRATEGY DIRECTOR **VILLE TIKKA**  
WEVOLVE - A TRANSFORMATION COMPANY

Business is no longer what it used to be. We live in strange times when start-ups – such as the toy company Goldie-Blox, which inspires the next generation of female engineers or Warby Parker, which digitalised the glasses business – can revolutionise whole sectors within a few years. At the same time, the average life expectancy of large old businesses has quickly declined to under 15 years.

The goals of business activity and preconditions for value creation have changed significantly. It is obvious that the coming years and decades will be very different compared with the previous decades as extensive and unexpected changes, such as increasing social inequality, fast technological leaps, continuous economic challenges and the escalating environmental crisis, will force companies and organisations to re-evaluate the foundations of their existence, their role and operating practices. We are in the middle of a business paradigm change, a leap to a new wave of value creation, which has, in certain places, already revealed itself through new models of thinking and new business models, as well as through success stories in the start-up world.

There are business models based on networking, strategic design expertise, intelligent technologies and insightful growth hacking in the background of the success stories of new wave companies. **But fundamentally, it is always a question of companies' advanced skill and their ways to create new value in the world. In the new wave of value creation and business activity, more companies have realised that the creation of mere financial and functional value is not enough for market success, but the company should also strive to create extensive cultural and social value.** For example Patagonia, a swiftly growing Californian company focusing on high-quality outdoor clothing and equipment, has defined its aim to be finding a solution within its own sector to the environmental crisis. In addition to the traditional emotional and functional

values, it thereby creates significant cultural and social value in cooperation with all its stakeholder groups.

Customers are also prepared to pay more for experiences, products and services that create more abundant shared social and cultural value. Emotions, experiences, status, responsibility and togetherness are examples of business output, with the help of which companies can increase the value of their operation and stand out in the market. The new wave of business is hence not only about enjoyable products, entertaining applications or useful services that attempt to maximise consumer benefit through price, high quality or functionality. Instead, new wave companies aim to optimise their business models, brands and products to solve bigger and bigger problems and to maximise the common benefit created through this.

That way companies create more and better reasons for their customers, partners, investors and employees to take part in the company's activities or to buy its services and products. In practice, this helps scale their entire business, build better preconditions for long-term success and improve the company's results – which has been well proven by, for example, the exponential growth, growing cultural significance, and commercial success of Airbnb, the figurehead of the sharing economy.

In 2014, the strategic research and design agency Wevolve published a report on the new wave of value creation (Arvonluonnin uusi aalto) with Tekes, the Finnish Funding Agency for Innovation. The report describes the principles and methods of new wave business activity for building the most valuable companies of this century. It is based on over twenty interviews with front-line experts in Europe and the United States, as well as case studies on companies capable of new wave innovation and value creation, including Warby Parker, Airbnb (the figurehead of sharing economy), Patagonia (the responsible sports-wear and equipment company), Intel and IBM.

According to this report, the new preconditions for success can be condensed into four principles, which help companies transform quite holistically and to create the most abundant value possible:

#### **THE STARTING POINT FOR OPERATION IS AN ADVANCED ABILITY TO UNDERSTAND THE CHANGING WORLD:**

Successful companies now boldly combine anthropocentric future thinking, system thinking and design thinking and methods in order to find opportunities for holistic innovation and value creation. That is how they manage to anticipate disruptive changes in their sector, define sufficiently large and valuable problems for themselves to solve as well as implement solutions which create genuinely valuable experiences.

#### **INNOVATION BEGINS WITH THE BUSINESS MODEL:**

What the most innovative companies have in common is the ambitious effort to transform at the level of their entire business. Their aim is increasingly often to develop new value systems, service platforms, business areas or eco-systems, in other words not only products, services or brands created to meet customer needs. For example, when optimised for societal effectiveness, the digital platforms of 'the sharing economy' are seen as a transformative enabler of change. New business models help companies to create shared and common value, and challenge the traditional operators efficiently and revolutionise entire sectors.

#### **A GREAT PURPOSE STEERS DEVELOPMENT:**

Pioneering companies believe in the force of purpose to steer change on the level of the entire company. Purpose helps anchor new operations and significances to something larger than the company, which can usually be located somewhere where big challenges around the company and the company's own super powers meet. Purpose crystallises the *raison-d'être* of the company and creates a starting point for sufficiently bold experiments as well as a meaningful reason for customers, employees, partners and investors to participate with enthusiasm in the company's operation.

#### **DESIGN IS SEEN AS AN ENABLER OF VALUE EXPERIENCES:**

In the end, practical development activity always takes place at the level of customer experience. The value of design is emphasised when the aim of business activity is to produce the most interesting and valuable experiences possible for people. The best companies have understood how value is created – or not created – from very practical, meaningful details that have been joined together seamlessly in products, services and brand stories. An anthropocentric and participatory design in particular is a key competence area which helps companies create entities and meaningful worlds at contact points for customers finally to experience, consume, use and buy the company and the solutions it provides.

There is no one truth about the new normal for business. However, it is evident that businesses and organisations are at an important turning point. The leap to the new wave of business is not a difficult one but what it requires is courage to challenge the old truths and a will to find a great new purpose for the company and its operations. In addition to this, what is needed is the ability to adopt the idea of digital platforms and the business models based on networks that are typical of the new wave. Then the goal is not only to sell products and services but to create preconditions for as many value experiences as possible.

Here in Finland, we are already among the best in design, game industry and start-up culture, but perhaps our next goal could be to develop these competence areas into tools for something bigger than themselves. As Brian David Johnson, the futurist at Intel, stated in the interview conducted for the report, we can actually optimise systems and companies for any purposes. Now we have to choose whether we want them to be successful by realising our values, hopes and dreams or to wither when striving for one-dimensional customer benefit and financial profit only.

# THE STRANGE BEHAVIOUR OF INTELLECTUAL CAPITAL IN THE LIFE OF AN ENTREPRENEUR

CONSULTANT **MARKUS LEIKOLA** / DELICATE SERVICES OY

A small business owner usually regards intellectual capital as a factor related to creative work and innovations, as licensed rights in some fields, i.e. as a product. However, in practice the brand and the corporate culture are at least equally important parts of intellectual capital, although it may be more difficult to picture them.

The majority of modern entrepreneurs know the basics of copyrights and industrial property reasonably well. Legal protection of intellectual capital is an area in which practice and theory can be very different in the entrepreneur's world. In Finland, we have gradually started to talk about patents and copyrights as proper items of property, but using them and their behaviour is not that straightforward at all. Although the systems protecting intellectual property rights have developed fast, the world has developed even faster.

The large Chinese internet content providers who I met at the turn of the millennium already took pride in being able to provide consumers with the same offering as their competitors within 24 hours. The same digital revolution that has opened up a huge marketing potential for copying without marginal costs also reduces the opportunities available to holders of intellectual property rights. The fast ones will eat the slow ones. From the point of view of small business owners in creative industries, protection systems and the related administration of rights and licences are emphasised almost too much: it is true that one cannot sell something that one does not own but this is not the whole truth.

The entrepreneur's real intangible capital is not only in the protected content or right but its core is in the way it is used: in what connection, for which customer group, in which context it has value. Those who both know this and can use this knowledge successfully are in a key position. Value is always customer-specific. Intellectual property rights will rot in the safe unless the company knows its customers, their likings, behaviour, flexibility with regard to prices and availability.

It is vital for the entrepreneur to recognise his or her customers and their wish-

*Small business owners must know their target customers and breathe the same air as they do*

es. The more intangible the products marketed are, the less it is a question of customer needs in the classical sense. As regards the media, entertainment and culture, people's needs and wishes vary, their habits change and they become enthusiastic about new things very quickly. Similarly, fan relationships may develop into deep long-term relationships.

Consumption habits and consequently distribution channels also change. The best known examples are CDs replacing vinyl records, download files replacing CDs, and download files in turn being replaced by streaming, in which bits are not permanently transmitted from one place to another but cloud content is reproduced by one's own terminal device. All these changes have meant an increase in

the markets: both an expansion of the potential audience to global dimensions and the possibility to reach this audience more easily and faster than before. Of course, competition has followed the same path, and so has the decrease in unit prices.

Small business owners must know their target groups and breathe the same air with them even more intensively than before, when scarcity was the determining factor in the markets: on the one hand it was a hindrance but once the gatekeepers had been dealt with, there were fewer competitors. At best this knowledge

can be translated into money, i.e. the distributive trade may be interested in licensing the entrepreneur's IPR not only because of their content but also because of the user information related to them. For example, when selling formats

for TV programmes, the reference data, i.e. how successful the programme has been in different competitive environments and on different TV channels, is as important as the description of the content and the production method of the programme. This reference data reduces the buyer's risk considerably.

Brands as well as brand development and refining are becoming increasingly important; both product brands and company brands, as well as the product families and other similar entities between them. Branding is increasingly the responsibility of the entrepreneur.

The core of the company i.e. corporate culture is perhaps the most important intangible capital. In an advanced form,

employees' competence – professional skills, motivation, expertise – is an established way to act and operate and at best companies can transfer competence from one individual to another, and even from one generation to another. It is particularly this operating practice within a specific corporate culture that is difficult to copy even if the products themselves could be copied. Competitive advantage remains in companies with a strong corporate culture even if old employees left and new ones were employed. On the other hand, a strong corporate culture may also be a hindering factor if it is not able to adapt to the changes in the environment.

In Finland, developing a brand or corporate culture is still typically considered a marketing expenditure, not an investment. Investing in a brand does of course not guarantee that its value will increase – but neither is acquiring a facility or a machine a guarantee that there are skills required to use them more efficiently than the previous ones, that productivity will increase and, above all that sales will increase or the price paid by customers can be raised. A risk is always involved in investments. However, intangible investments are always a necessity for an entrepreneur.

Roughly speaking: the more digitalised the sector becomes, the more important the long-term development of issues related to brands and usability as well as availability will be. Similarly, the traditional material targets will require smaller investments.

What, then, is tactical marketing i.e. direct sales promotion and what, on the other hand, strategic brand development? The current school of academic research on marketing relies on customer value and no longer makes the traditional strict difference between the two. Fruitful brand development also always improves sales as an increase in unit prices, discovery of new customers or additional sales to existing customers. But it is not possible to improve the following month's sales without a strong presence of brand communication in marketing operations.

Creating and refining intellectual capital gives the entrepreneur a lot of opportunities but there is often very much competition on the playing field. Large and small players mix happily on the playing field, often across the boundaries, and not only across the boundaries between states but also between sectors. Problems arise as, because the value of intellectual capital depends on the ability and competence to make use of it, it is difficult to measure it. Therefore it can very seldom be used as a guarantee or apportioned as such. But if its value has been fixed into something through agreements, these weaknesses may turn into possibilities. Most importantly, when companies breathe at the same pace as their target groups, there are no limits to the possibilities.

Those who at some point give up their company by selling it are rewarded with a very concrete indicator for the value of intangible capital: the goodwill value that the buyer is prepared to pay for the company on top of its balance sheet value. The shares of corporate culture, intellectual property rights and the brand cannot necessarily be distinguished in the goodwill value in a company acquisition but all the same: that stack of notes is surely the most concrete manifestation of value.





# NEW WINDS BLOWING IN THE SWEET FACTORY

JOURNALIST ARTO MURTOVAARA

***The only permanent thing is change. We are heralds of a new kind of work, simplifiers and solution finders. We challenge conventions. We want to make an impact and produce results. We are enthusiastic and pass on our enthusiasm to others.***

This is how CEO of Superson Oy Pirjo Airaksinen summarises the operating principles of her 3-year-old marketing communications company in its office on Tehtaankatu Street. Fazer's first sweet factory, which used to operate in the building, gave a name to the whole street. Now that building, called Mestaritalo (Master's House), and even the buildings next door to it are filled with companies in creative industries.

Airaksinen and her partners set off to look for Superson's operating model from a totally new starting point. The company employs only 12 people permanently, and not a single designer. The required professionals and specialists are recruited specifically for each assignment. To introduce its operating model, the company uses a picture, in which it is literally on the same line with prominent international pioneers: Uber, Facebook, Alibaba and Airbnb. They also do not own anything themselves.

***'We are here to implement that new idea of work in practice.'*** says Pirjo Airaksinen. ***'In that respect we are heralds of the new intelligence industry.'***

The new age also has a strong impact on marketing and communications. The customer may still use as many as five different agencies in one project: advertising, communications, digital, event management and service design agencies. But it is no longer enough. Airaksinen talks about marketing communications as a large entity, a part of the customers' core strategy. They investigate the customer's problem, how it could be solved, and only then set up the team.

***'Our task is to help customer improve their business operations,'*** stresses Airaksinen. ***'Rather few companies understand that marketing communications is an investment. It is easily seen as a mere cost.'*** She believes in insight and that those who are similar, who think in a similar way, work well together.

Airaksinen is almost preaching about the start-up spirit, entrepreneurial spirit, customership and the customer's point of view, trust, motivation, strict crystallisation of matters, the index of enthusiasm, as well as about agility and flexibility, which is the only way to operate today.

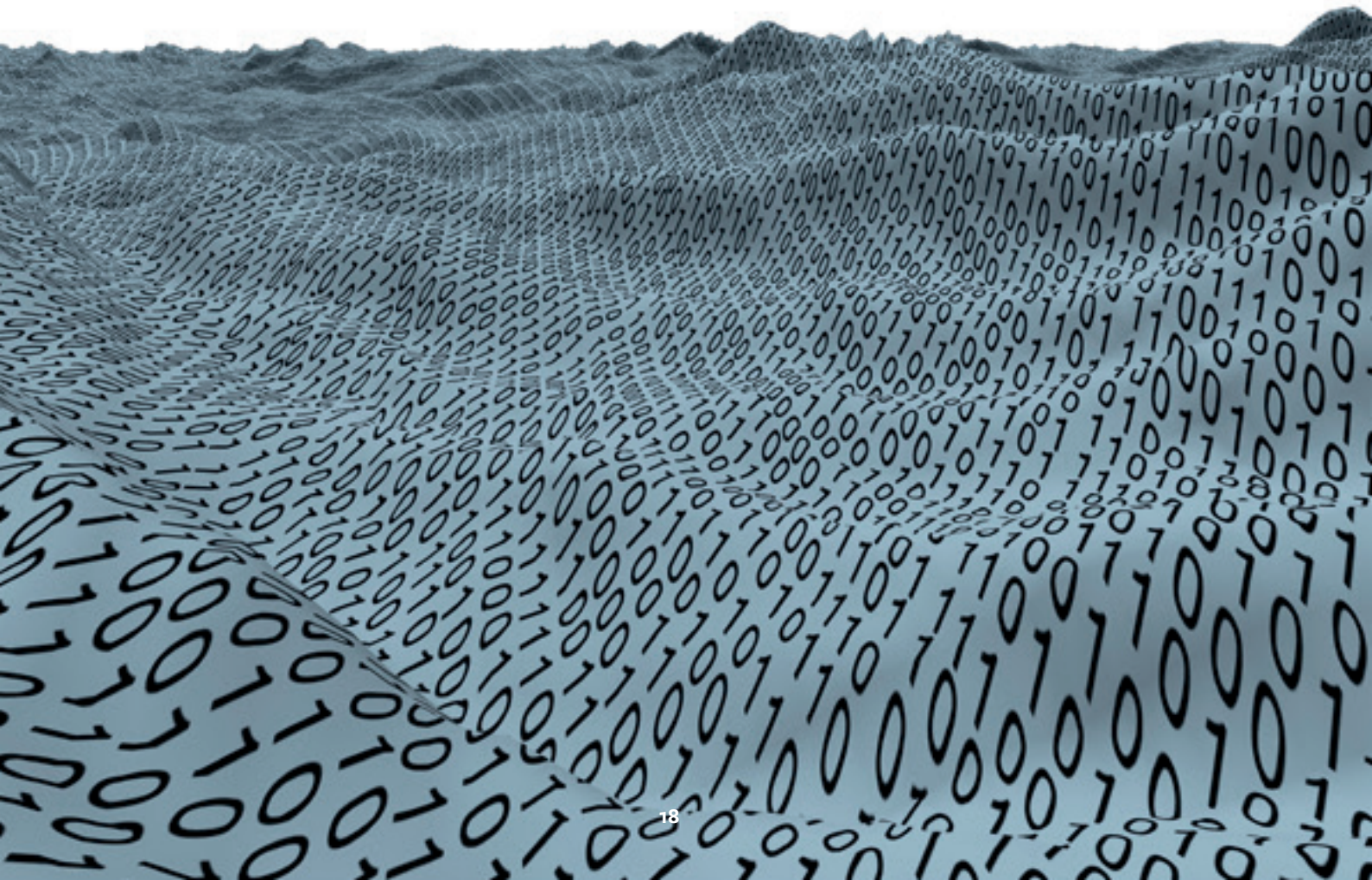
***'They say that Finland is a backward place, in which people cannot sell or make brands or create concepts. But yes, we can do that,'*** stresses Airaksinen.

They say that the number of self-employed people will increase and that those who specialise will be successful. 'Probably, but it requires an immense amount of selling oneself,' says Airaksinen. She provides the platform for different professionals, adventurers and verbal masters. The company takes care of everything else, and offers a both physical and virtual work community in exchange. They even have a dedicated Facebook community for their designers.

Modern technology offers new methods. We must be aware of them and adopt them. ***'We do and experiment in the start-up spirit. We learn as we do it.'***

In the end, Airaksinen provides a total surprise: ***'At long last, seniority is valued. It has long been said that only the young can be professionals, that only the young can learn something new. That is not true, the right direction is required. In addition to seniority and in-depth expertise, we need the digital natives. They come up with ideas.'***

*Digitalisation has  
changed the operating  
environment of companies*



# DIGITALLY ORIENTED SMEs STAND OUT IN THE MASS OF COMPANIES

ECONOMIST **SAMULI RIKAMA** / MINISTRY OF EMPLOYMENT AND THE ECONOMY

Companies that make extensive use of digital tools differ from traditional SMEs in many respects. Digitally oriented companies are typically young companies that are pioneers in their fields. The definition of digitally oriented companies covers companies that use several different digital tools such as social media, cloud services, big data, online purchases and sales, and digital distribution channels.

Digital tools make it easier for these companies to enter into both national and international markets than it is for other SMEs. About 13 per cent of digitally oriented companies operate in international markets and more than one half in national markets. The situation is essentially different from other SMEs, of which about 60 per cent reported that they mainly operate in local or regional markets.

It is more common for digitally oriented companies to use public internationalisation services than it is for other companies. They also intended to use these services in the following year twice as commonly as other SMEs on average. Altogether 12 per cent of all SMEs reported that they export directly whereas one fourth of digitally oriented companies export directly.

## **The profile of digitally oriented companies:**

- \* Companies with a strong digital orientation accounted for almost 8 per cent of the material in the SME barometer, which roughly corresponds to 18,000–19,000 companies in Finland.
- \* Digitally oriented companies were typically younger than other SMEs. Almost 60 per cent of digitally oriented companies had been established in the 2000s.
- \* A quarter of digitally oriented companies were strongly growth-oriented, whereas 7 per cent of all SMEs reported that they were strongly growth-oriented.
- \* It was twice as common for digitally oriented companies to have launched new products or services to the market and also to have adopted new technology than it was for other companies.

In 35 per cent of digitally oriented companies, the economic trend had improved during the previous year and 37 per cent of companies expected further improvement in the trend in the following year. In digitally oriented companies, the expected economic trend for the following year was positive twice as commonly as in the other SMEs.

## **DIGITALLY ORIENTED SMEs STRONGLY GROWTH-ORIENTED**

A quarter of digitally oriented companies were strongly growth-oriented, whereas 7 per cent of all SMEs reported that they were strongly growth-oriented. The number of companies that were seeking growth wherever it was possible was clearly higher among digitally oriented companies than in SMEs in general.

It is obvious that a growth-oriented approach and adopting and using digital tools are linked. Digital tools also provide unprecedented possibilities for internationalisation and conquering international markets. Companies seem to have realised that.

## **DIGITALISATION AND RENEWAL**

Digitalisation is also inevitably linked with the renewal of the company field. Companies were asked how their business operation had been expanded or reformed, whether new technology had been adopted and what impact these had had on the training of personnel and on business models.

It was twice as common for digitally oriented companies to have launched new products or services to the markets and to have adopted new technology as for other SMEs. Intensive utilisations of digital tools was also reflected in the way they do their business operations. Almost one half of digitally oriented companies had adopted new business models, whereas only slightly over 20 per cent of SMEs had done the same.

Successful and active innovation creates growth for companies in the long term and furthers internationalisation. About one third of digitally oriented companies

FIGURE 1

## EXPECTED ECONOMIC TRENDS IN THE FOLLOWING YEAR AND PREVIOUS YEAR'S REALISATION, IMPROVING

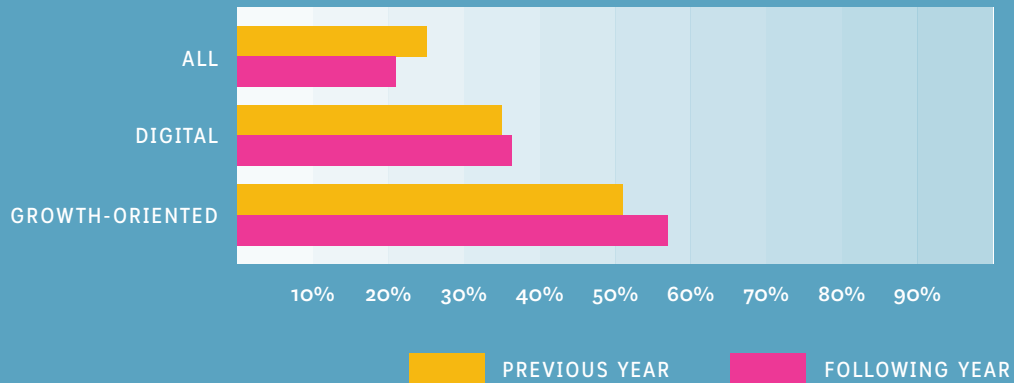
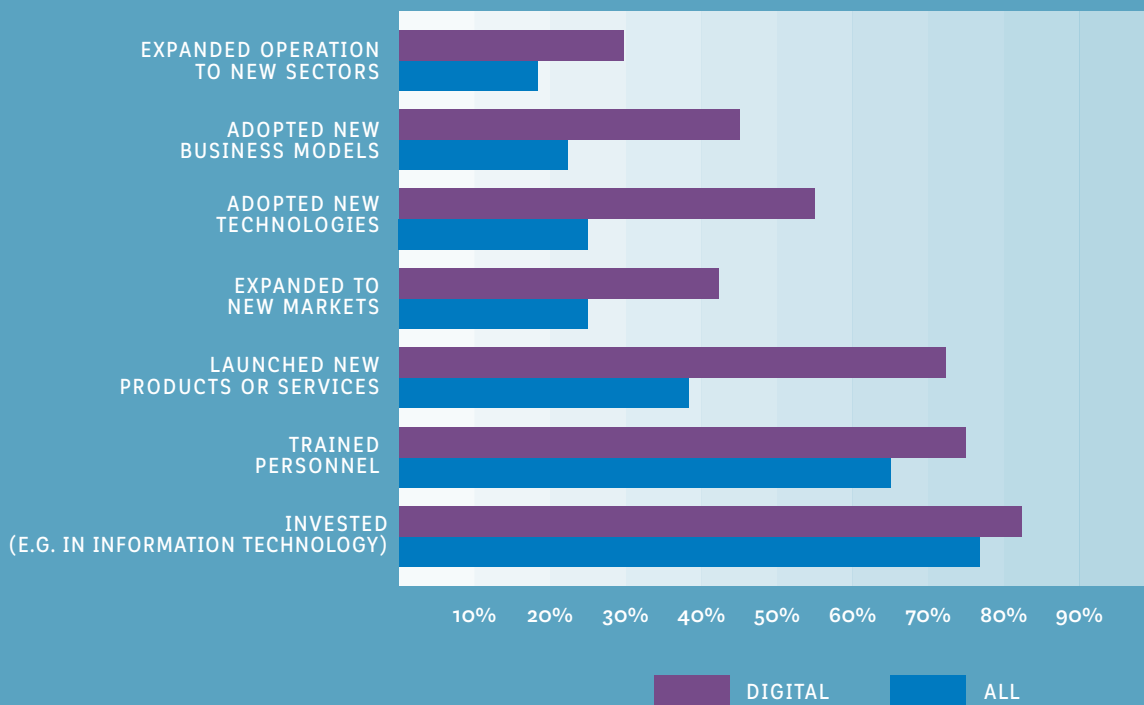


FIGURE 2

## WHICH OF THE FOLLOWING HAS YOUR COMPANY DONE IN THE PAST 12 MONTHS



had increased their innovation activity or production and product development during the previous year, and almost 50 per cent intended to do so during the following year. Only 26 per cent of all SMEs intended to increase their innovation activity within the following year.

### **THE EMPHASIS OF FINANCING NEEDS IS ON DEVELOPMENT PROJECTS**

Financing needs, investment targets and collaterals for loans in companies that rely on digital business activity differ essentially from those of industrial companies based on traditional fixed investments. Correct timing and speed of financing solutions are also emphasised in digital business activity that is constantly competitive and fast changing globally.

About 30 per cent of digitally oriented companies intended to use external financing in the following year, whereas the share of all SMEs was one fifth. The intention to use external financing among digitally oriented companies was higher than among companies in all sectors.

Financing was most commonly sought for working capital, also by digitally oriented companies. Investments in machines and equipment were clearly rarer in digital companies than in other SMEs. Almost 40 per cent of digitally oriented companies sought financing for projects developing the company but only one fifth of all SMEs did the same. There was also an emphasis on financing internationalisation and exports in digitally oriented companies.

### **CONCLUSIONS**

There is an increasing need for knowledge to support economic policy and to assess its effectiveness. Many policy measures in the fields of both financing and innovations are directed above all at SMEs. Especially the SMEs that use digital tools and seek strong international growth are at the centre of economic policy.

With help of the remodelled SME barometer, it is possible to find out and monitor the growth and internationalisation of SMEs comprehensively and shed light on the problems related to these issues. Additionally, it is possible to monitor more efficiently the increase and internationalisation of scalable business activity relying on digital tools in companies. The reform of the barometer hence provides new, valuable tools for economic policy.

## *SME barometer*

**TWICE A YEAR, THE FEDERATION OF FINNISH ENTERPRISES, FINNVERA AND THE MINISTRY OF EMPLOYMENT AND THE ECONOMY COLLABORATE TO CONDUCT THE SME BAROMETER SURVEY THAT DESCRIBES THE OPERATION AND OPERATING ENVIRONMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES. THE BAROMETER IS PUBLISHED AS BOTH NATIONAL AND REGIONAL REPORTS. THE FINNISH MARKET RESEARCH COMPANY TALOUSTUTKIMUS OY IS RESPONSIBLE FOR THE COLLECTION OF INFORMATION.**

**THE NATIONAL REPORT DISCUSSES THE RESULTS FROM THE POINT OF VIEW OF THE SME SECTOR AND ALSO BY MAIN SECTOR, DIVIDED INTO INDUSTRY, CONSTRUCTION, TRADE AND SERVICES. THE REGIONAL REPORTS COMPARE DEVELOPMENT ESPECIALLY BETWEEN COMPANIES IN THE PARTICULAR REGION AND THE ENTIRE COUNTRY.**

**THE SME BAROMETER HAS BEEN REMODELLED TO BETTER RECOGNISE A GROWTH-ORIENTED APPROACH, INTERNATIONALISATION AND DIGITAL BUSINESS ACTIVITY IN COMPANIES. THE SME BAROMETER CONDUCTED IN THE SPRING OF 2015 IS BASED ON RESPONSES FROM REPRESENTATIVES OF 4,400 SMEs. THEREFORE IT PROVIDES A COMPREHENSIVE PICTURE OF THE UNDERSTANDING IN FINNISH SMEs OF CHANGES IN THE ECONOMIC OPERATING ENVIRONMENT AS WELL AS THE FACTORS AFFECTING COMPANIES' BUSINESS ACTIVITIES AND DEVELOPMENT PROSPECTS.**



# THE TRANSFORMATION OF THE MEDIA IN A NUTSHELL

CONSULTANT **MARKUS LEIKOLA** / DELICATE SERVICES OY

*The efficiency and impact of advertising has long been measured  
but it is only the internet age that has brought the indicators into a new level.*

The transformation of the media has continued for two decades, which is the entire duration of the triumph of the internet. It affects all forms of media but in different ways. The phenomenon also varies by market area but the common factor in it all is digitalisation. The last stage in the media production chain is digitalisation of distribution. Earlier stages, such as text and film production, have long been digital but this has not been directly visible to the consumer.

It should be noted that text, photographs and film have also been edited before but digitalisation has both enabled a huge, hundredfold leap in productivity and opened up completely new opportunities for editing. Opportunities that would have earlier been impossible to realise as regards production, technology or financing. In the mid-1990s when I requested quotes for a 3-minute topical animation for YLE, the Finnish national broadcasting company, such animation would still have cost €15 000. Today, it would only cost a fraction of it.

## **COMPETENT WORKFORCE IS SCARCE**

With the increase in productivity, production costs have slumped and the consequences are diverse: now that ownership of production equipment or the possibility for a long-time commitment to an activity i.e. capital is not a decisive issue, talent determines much more than previously. The boundary between professionals and amateurs has long been flexible and the threshold for entering the field has become a lot lower. Consequently, of course, not all of those who wish to make a living in the field of media will not be able to fulfil this wish.

Business management skills, networking and other principles and laws in the world of work and economy play a more important role. Those who have operated in the field longer must also invest considerably more in maintaining and developing professional competence, as both new equipment and new technical standards are introduced with increasing speed. It is not

possible to know whether a novelty is just a momentary hit or whether it might become a norm that must be mastered in a year's time. Therefore, in both large and small media companies, more intensive renewing of equipment and professional competence constantly consumes some of the gained improvement of productivity.

The most competent workforce is still scarce because, in the end, there is only a limited amount of talent and skill – as competition becomes more international this fact becomes more and more emphasised in a small country like Finland. Even those who can make their living, often have untypical employment contracts or operate like entrepreneurs, i.e. receive their income from several different sources. Freelancing as such is not a new invention in the field of media, entertainment and culture. It is even required in many production structures because a large proportion of operation in this field is carried out as projects and productions. The talent that is fixed to individual projects is given requirements, which may be impossible to implement with fixed employment contracts – and the best talents are wanted in many places.

## **TECHNOLOGY CHANGES THE WAYS MEDIA IS CONSUMED**

The key contributor in the digitalisation visible to consumers is the increased speed of network connections, which makes it possible to download heavier contents to computer terminals faster. At the same time, the usability of these contents has also improved significantly. Along with the Web 2.0 stage, which is roughly the past ten years, findability and interactivity of these contents are also significantly better than during the first ten years.

Earlier, Finns bought a new television set on average every seven years and, in addition to a couple of magazines and the yearly subscription for the regional newspaper, it was one of the most significant single investments in the media. Today more investments are made in devices and the investments are more frequent: people want to consume the same content seamlessly

using various terminal devices. It is possible to start reading an article in a printed version of the Helsingin Sanomat newspaper, continue reading it online and finish reading the article on a smartphone. From the media producer's point of view, none of these can be skipped but findability, availability and the price must be acceptable in all environments. Price also means the price which the consumer is prepared to pay compared with the other content on that terminal device. A yearly subscription for a newspaper is not expensive when its quality is compared with the other content that floods in through the letter box. But the price of a digital newspaper may still seem expensive because the reference points on the screen are entirely different.

As regards media producers, one of the biggest questions in the transformation of the media is how existing customers can be kept using the old equipment and how, at the same time, cost-effective investments can be made in something new; in other words to ensure that the transition from one platform to another is carried out in a controlled way. Payment walls have been introduced in Finland in the past five years and the established large media brands seem to have found well-working solutions. Consumers also understand that not everything can be free of charge but consumers' willingness to be flexible with prices in a digital environment seems much lower than in the old world. Therefore, almost all media houses that are struggling with transition questions worry about their profitability, although the number of their digital customers has developed in a promising direction.

## **THE MEDIA'S TRADITIONAL EARNING LOGIC**

The media's traditional earning logics has two significant characteristics which make the field different from other sectors: portfolios and financing through advertisements.

## **PORTFOLIOS**

Because determining demand in the field of media is very difficult and depends on

habits, preferences, fan relationships and others issues much more than on necessary needs, a broad offering is required. It is difficult to know what will be successful and how fast tastes will change. To put it simply, it could be said that one in ten contents launched will attract attention; one in a hundred will also be successful financially. Therefore the successful one must cover the product development, production and distribution costs of all the others.

The traditional way to cover these risks is to sell the products as portfolios i.e. packages: not just one piece of music at a time but a whole LP. Not just one news report but the whole yearly prescription including the sports section, comics, financial news, and all. As regards traditional operators in the field, only book publishers and theatres have sold one book or performance at a time; even films have been sold to TV channels as packages in which to get one Hollywood hit, a dozen other less successful experimentations must be bought 'into the bargain'.

Digitalisation is changing all this: technically it is much easier to sell one product at the time and at the same time more difficult to get consumers to buy what they do not think they need because they are also more aware of what they consume. A person who skips the sports section in a printed newspaper will be well aware about not reading sports online. The entity provided by a printed newspaper competes increasingly clearly against the websites specialised in sports. However, from the point of view of the producer, the need to cover the risks involved in portfolios will not disappear. At most, the producer may try to make use of artificial intelligence to collect data online about what else consumers of certain contents use and then produce content that matches these habits to exactly the same groups, preferably with recommendations and tips. Questions such as 'portfolio or not' are at the centre of the transformation of earnings logic and will also remain there for a long time to come.

## ADVERTISING AND CONSUMER CHARGES

Free content financed by advertising has always been available. Either the communication has been hidden i.e. publishers have wanted to spread their own emphasis or even propaganda along with the content as far as possible and have therefore partly or completely subsidised distribution, or advertising has been sold along with communications.

The efficiency and impact of advertising has long been measured but it is only the internet age that has brought the indica-

*However, it is certain that  
the transformation will continue;  
old operators will die  
and new ones will arrive.*

tors to a new level. Today it is possible to see how long and by whom all advertising – not just small samples – is followed. When advertisements lead to online shops with a click of the mouse, it is also possible to see how much direct revenue they generate. The faster trends change, the more inclined advertisers are to favour this kind of measurement methods. The increasing amount of time people use online encourages advertisers to follow them there.

The growth of online advertising has left a huge gap in the advertising revenue of the traditional media in products with both content that is free and content subject to a charge. There are also extensive structural changes constantly taking place in online advertising: Giants like Facebook and Google do not need separate visitor surveys but can analyse all online behaviour with one permission received from the customer, not only on their own websites but almost anywhere on the internet. The quality of the data they collect is superior in producing precise tools for advertisers. Paradoxically, the central part of the con-

tent in social media and search engines is produced by media companies which allow these giants to use it fairly freely and without compensation while still jealous of primary producers for getting the widest possible rights to utilise content.

## ANSWERS TO CHALLENGES POSED BY THE TRANSFORMATION OF THE MEDIA

Music, television and film are already developing on the terms of the changing online business environment. Television and film are undergoing the biggest transformation in their history; the fragmentation of distribution channels and the collapse of the established revenue models have made a large part of profitable business unprofitable in the short term. There are exceptions, of course, as well as successful newcomers in the field. The most keen fan communities may, for example, form the target audience for crowd-funding, in which case financing can be gathered in advance from the real market on the basis of customers' expectations – a bit like in a yearly subscription for a newspaper somewhere in the distant part at the beginning of the 2000s.

Books and theatre, whose consumption in Finland is among the highest in the world, have so far been least affected by digital distribution. Consumption of digital books in Finland is lagging behind the leading western countries due to many reasons, from practices in value added taxation to problems in operating systems. However, it is certain that the transformation will continue; old operators will die and new ones will arrive. The national culture will continue to also need support measures from society in the form of both money and regulation. However, in ten years the most effective forms of support are also likely to be something different than they were ten years ago.

# *The role of intangible investments in the economy*

RESEARCH DIRECTOR **JYRKI ALI-YRKKÖ** AND RESEARCHER **MIKA PAJARINEN** / ETLATIETO OY

An increasingly large proportion of the economy in practically all developed countries is related to intangibility, such as services, R&D activities and brands. Although physical products and their production still matter, the significance of intangibility and non-material matters will increase in many respects, and also in the properties of physical products.

The increase in the significance of intangibility can be seen clearly in, for example, investments. Especially in the developed countries, investments in tangible assets no longer increase as fast as they did before. At the same time, investments in intangible assets are on the rise. This can be seen in increasing investments in research and product development (R&D), brand building, software and other intangible targets. Both tangible and intangible investments aim at benefits that will be gained later. In other words, they are more like contributions towards achieving an output rather than important in themselves. What is achieved with these investments is therefore essential.

The investments alone and the possible profits they produce do not describe the full significance of intangibility in the economy. The growth of services and their growing role as a contributor to the gross national product are one part of intangibility. The share of industry in the overall production has been declining for decades in practically all developing countries. Contrary to what is generally believed, the same development is also taking place in China. After the beginning of the 2000s, the significance of industry in China has also started to decline, while the field of services is growing intensely.

In addition to Finland, intangible investments have increased in many other countries in the past two dec-

ades. The revenue to companies from these investments is realised as increasing service or product sales or as decreased unit costs. Analyses made of the impact on productivity at the level of national economy do not usually make a distinction between the effects of an increase of output and decrease of investments. Intangible capital created by intangible investments differs from tangible capital. Intangible capital does not wear down in use, but its value may vary considerably more than that of tangible capital. The public sector in Finland contributes to the building of companies' intangible capital by supporting their R&D projects. However, R&D activities represent less than half of companies' intangible capital.

It is obvious that all benefits from intangibility cannot be measured in money. For example, democracy, human rights, clean air and diversity of nature certainly have value, but they cannot be measured in money. This article focuses on the type of intangibility which can at least roughly be measured in money and which is created as a result of money changing hands.

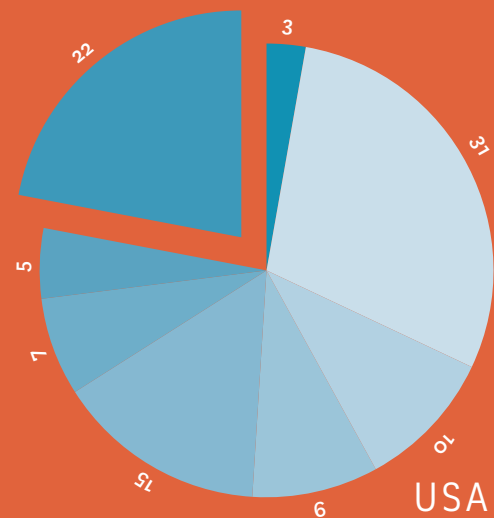
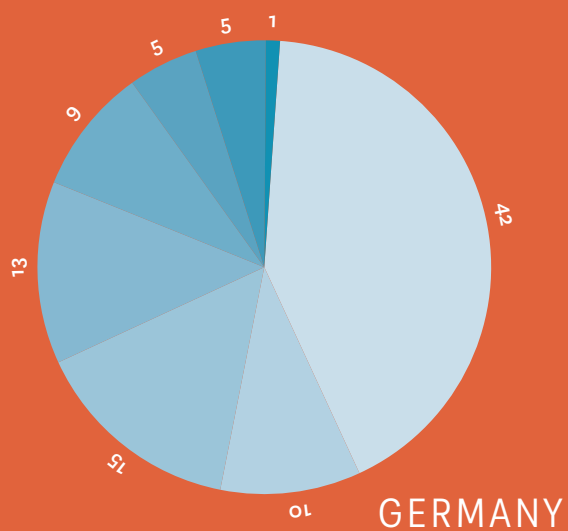
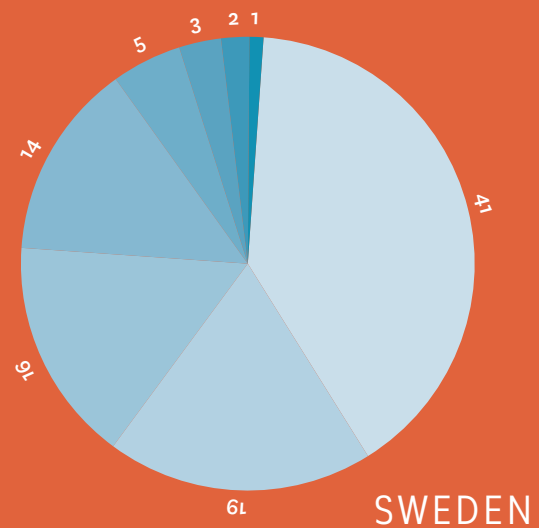
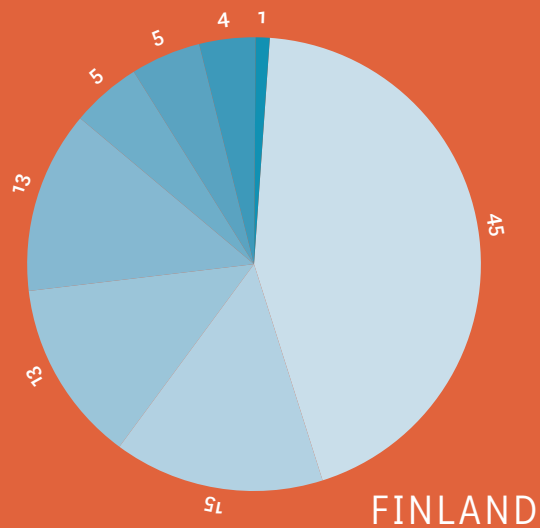
## **INVESTMENTS IN INTANGIBILITY AND PROFITS FROM THESE INVESTMENTS**

An increasing proportion of investments currently made in the western countries is intangible.<sup>7</sup> There is no unequivocal way to measure intangible investments and the intangible capital accumulated through them. The difficulty of measuring applies to both companies and the entire economy.

At the level of companies, the problem of measuring is linked to accounting practices. The different ways business value is treated in the balance sheet as regards com-

# MAKE-UP OF COMPANIES' INTANGIBLE CAPITAL STOCK

SHARE OF COMPANIES' REAL INTANGIBLE CAPITAL STOCK IN 2010, %.



Corrado, Haskel, Jona-Lasinio & Iommi, (2012): 'Intangible Capital and Growth in Advanced Economies: Measurement Methods and Comparative Results' Working Paper, June, available at <http://www.intan-invest.net>.

pany acquisitions and internal development is a good example.<sup>8</sup> Company acquisitions create business value which must be recorded in the balance sheet. But recording business value created through the company's internal activities in the balance sheet is not considered to be in line with generally accepted accounting principles. Therefore the financial statement often does not give sufficient details about intangible capital or its value.<sup>9</sup> There are also measuring problems at the level of the national economy because the sufficient information is not available even at the level of companies. These challenges do not mean, however, that intangible investments could not be studied. Instead, the challenges reveal that precise information about the amount or output of intangible investments is currently not available.

Intangible investments are poorly visible in the GNP. It has therefore been suggested that the official GNP figures are too low. For example, the USA's gross national product (GNP) in 2006 would increase by more than 10 per cent if intangible investments were taken into account better.<sup>10</sup> This figure is approximately the same (9%) as the estimated figure in Finland.<sup>11</sup> Some of these underestimated GNP figures were corrected in 2014 when the national accounting in Finland was reformed. Consequently, R&D investments were taken into account as investments and not as intermediate products, which increased Finland's GNP by almost 4 per cent.<sup>12</sup> However, the majority of other intangible investments still remains outside the GNP.

## WHAT DO INTANGIBLE INVESTMENTS INCLUDE

What is it that intangible investments comprise? No unambiguous definition exists; there is always at least some variation in the content of intangible investments in different studies. However, many studies have used the same definition as the study carried out on the USA.<sup>13</sup> The make-up of intangible capital in the USA is somewhat different from other countries.

More than one fifth (22%) of USA's intangible capital consists of art, entertainment and copyrights. Their share in Finland, Sweden and Germany is only around a few per cent. Instead, in the USA the share of intangible capital created in research and product development is clearly smaller than in the other countries in the above diagram. This share is the largest in Finland, which is the result obtained in earlier studies, too.<sup>14</sup>

There are two important channels through which intangible investments may affect the productivity and growth of the national economy.

- \* Investments in intangibles, such as software that controls production or developing a new business concept, create an expenditure when the investment is made just like tangible investments do. The difference is that after the initial investment, software, for example, can be copied and edited with relatively low costs. The end product, such as software or a brand, does not wear down as the number of users grows. This kind of intangible assets may have almost unlimited scale benefits and a significant effect on productivity.
- \* Investments in research and product development, management systems and other intangible capital almost always creates external effects, in which intangible capital spreads outside the company benefiting other companies in addition to the company that made the investment. This spread of information may take place, for example, as employees change jobs or in a conversation between employees from two different companies. Direct investments abroad also involve intangible investments and spread of information almost without exception. For example, a novel business or management model brought to the target country by a foreign company may spread to other companies for instance through the mobility of employees.

There have been attempts to measure benefits from intangible investments from many different angles. In studies in the field of economics, measuring benefits has been related especially to productivity. In a study made in the United Kingdom, intangible capital accounted for almost one fifth of the increase in the productivity of work during 2000–2008.<sup>15</sup> In Finland, as well as in many other European countries, the share has been similar and even clearly more in the United States.<sup>16</sup> By studying more precise material from company level, it has been found out that even relatively small changes in management practices may lead to improvements of even 10 per cent in production.<sup>17</sup> In some cases, the precondition for an impact on production is that intangible investments complement each other. For example, benefits from investing in information systems will be wasted if the possibilities to improve productivity provided by new technology cannot be made use of in management practices and on different organisational levels. A study carried out on material from the USA revealed that the increase of revenue and productivity in companies which had invested in utilisation of software to analyse large amounts of data and expertise in their business operation had been 5–6 per cent higher than in other similar companies.<sup>18</sup>

# EXPORT REVENUE FROM INTANGIBLES

NB: FIGURES ARE FROM 2013

**a**

**ROYALTIES  
AND  
LICENCE FEES**

€ **2.7** billion

**c**

**OTHER  
SERVICE EXPORT**

€ **16.4** billion

**b**

**INTERMEDIARY  
TRADE**

€ **2.8** billion

**d**

**INTANGIBLES  
WITHIN  
GOODS TRADE**

€ **?** billion

Statistics Finland (national accounting and international trade in services)

## EXPORT REVENUE FROM INTANGIBLES

Although exports do not directly tell us about value added or its increase, it is interesting to examine the export revenue intangibles provide in Finland. Export revenues from intangibles can be roughly divided into four categories.

### a) ROYALTIES AND LICENCE FEES

First of all, there is export revenue in the form of royalty and license revenues. Here foreign companies pay for using intangible assets owned by the Finnish units. This includes the use of patents, copyrights and different kinds of property protected by copyrights. In 2013, these exports revenues totalled €2.7 billion in Finland. Export revenue through royalties and license revenues are the most obvious channel for revenue from intangibles.

### b) INTERMEDIARY TRADE

Intermediary trade provides more or less the same amount of revenue. Intermediary trade often means that a unit in Finland buys goods from a foreign company and sells them to another foreign company without the goods ever entering Finland. The trade margin between the sales and purchase prices is recorded as Finland's service exports under the term intermediary trade. Especially in intermediary trade within a corporate group, the trade margin is really the output from intangible assets. Services can also be sold through intermediary trade.

### c) OTHER SERVICE EXPORTS

Other service exports can also be classified as intangible exports. In 2013, these export revenues were as much as €16.4 billion in Finland. Information technology and telecommunications accounted for nearly €5.2 billion and construction and project deliveries for €1.6 billion.

### d) INTANGIBLES WITHIN GOODS TRADE

The most difficult task is to estimate the role of patents, brands and other intangible factors when the value added they provide is included in the price of exported products. It is obvious that this also brings export revenue to Finland but there is currently no information about the amount.

However, it is important to notice that many companies are able to choose between categories a, b and c. This was revealed in a previous project carried out by ETLA, the Research Institute of the Finnish Economy, in which the operation of global value networks was studied.<sup>19</sup> It was found out in that context that some companies used all these three ways to bring revenue from intangible assets from their foreign subsidiaries to Finland. In some countries, the corporate group concerned received royalties from its subsidiaries, in some others this corporate

group did the same through intermediary trade and in the third group of countries the revenue from intangibles was earned through goods export.

The variations in the value of intangible and tangible capital may be different. In the long term, the value of tangible assets will probably vary less than that of intangible assets. If a company has invested in, for example, properties or machines, the value of these assets will probably not disappear entirely, at least not in a couple of years. It is also unlikely that their value would multiply within a short space of time. However, the value of brands, patents, technology or other intangible assets may vary a lot. For example, the value of Nokia's Symbian operating system declined very fast during 2011. On the other hand, an increase in the value of intangible assets may also multiply in a very short time, as proved by Apple.

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<sup>7</sup> Several terms are used in literature to describe intangible investments/intangible capital or parts of them. These terms include intellectual assets/capital, organisational assets, knowledge capital and intellectual assets.

<sup>8</sup> See e.g. Lev, 2003 Lev, B. (2003) Remarks on the Measurement, Valuation, and Reporting of Intangible Assets. NYU Working Paper No.2451/27468.

<sup>9</sup> See e.g. Fadur, C-I. and Mironiuc, M. (2013). Study on the perception of accounting professionals concerning intangible assets and intangible capital. Theoretical and Applied Economics, 20, p.77-98.

<sup>10</sup> Hulten, C. (2013). Stimulating Economic Growth through Knowledge-Based Investment. OECD Science, Technology and Industry Working Papers 2013/02, OECD, Paris.

<sup>11</sup> Huovari, J. and Maliranta, M. (2008). Aineettomien investointien merkitys talouskasvulle. In Huovari (ed.), Aineeton pääoma ja talouskasvu. Tekes Review 230/2008, Tekes, Helsinki. Jalava, J., Aulin-Ahmavaara, P. and Alanen, A. (2007). Intangible Capital in the Finnish Business Sector, 1975-2005. PTT Reports 100, Peller-vo Economic Research PTT, Helsinki.

<sup>12</sup> Sainio, M. and Koistinen-Jokiniemi, P. (2014). Kansantalouden tilinpito uudelle vuosikymmenelle. Kansantaloudellinen aikakauskirja, 110, p.391-405.

<sup>13</sup> Corrado, C. A. & Hulten, C. and Sichel, D. E. (2006). Intangible Capital and Economic Growth. NBER Working Papers 11948, National Bureau of Economic Research, Inc.

<sup>14</sup> Piekkola, H. (2012). Aineeton pääoma – talouskasvun ytimessä. Kansantaloudellinen aikakauskirja, 108, p.20-32.

<sup>15</sup> Dal Borgo, M., Goodgirdge, P., Haskel, J. and Pesole, A. (2013). Productivity and Growth in UK Industries: An Intangible Investment Approach. Oxford Bulletin of Economics and Statistics, 75, p.806-834.

<sup>16</sup> Corrado, C., Haskel, J., Iommi, M. and Jona-Lasinio, C. (2012). Intangible Capital and Growth in Advanced Economies: Measurement and Comparative Results. CEPR Discussion Paper No 9061, Centre for Economic Policy Research, London, UK.

<sup>17</sup> OECD (2013). New Sources of Growth: Knowledge-Based Capital. Key Analyses and Policy Conclusions. Synthesis report.

<sup>18</sup> OECD (2013). New Sources of Growth: Knowledge-Based Capital. Key Analyses and Policy Conclusions. Synthesis report.

<sup>19</sup> Ali-Yrkkö, J. (2013). Mysteeri avautuu – Suomi globaaleissa arvoverkostoissa. ETLA b 257, the Research Institute of the Finnish Economy.

# Management as a tool in value creation

ASSOCIATE PROFESSOR ANU PUUSA / UNIVERSITY OF EASTERN FINLAND

The role of intangible capital has become stronger along with the growing level of understanding and knowledge about increasing the productivity of work. The fast development of solutions and channels in information technology as well as the fast progress of digitalisation in turn speed up the increase in productivity. We have moved from a production-based economy to a knowledge- and competence-based economy while also moving from an earnings logic that emphasises the significance of tangible assets to one that emphasises intangible capital. In that economy and earnings logic people, their knowledge, skills, competence and especially their willingness to share their competence with the organisation determines the company's success. Both the observations in practice about the effectiveness of intangible capital and research results support the conclusion that the different parts of intangible capital play a central role in the company's performance.<sup>20</sup> Many parts of intangible capital also have an influence on employees' well-being and coping at work.

## DEFINITION OF INTANGIBLE CAPITAL

But what is it we are talking about when we talk about intangible capital? Although this subject-area has proved to be important in practice, intangible capital as a concept is still challenging and its meaning still somewhat unestab-

lished. Intangible capital can be defined as non-financial capital, which is not concrete but which has value and provides future profits.<sup>21</sup> It is knowledge that can be turned into value.<sup>22</sup> It can be thought to refer to such or-

ganisational resources that are mainly not considered assets in the financial statements but which still have a significant influence on the result of the company measured by all indicators. Dependency of time, place, situations, persons and organisations is a characteristics of intangible capital as a phenomenon – in other words it is case-specific and consequently uncertain.

Because there are numerous definitions, of which none have been agreed on

unanimously, it might easier to approach the concept of intangible capital by investigating the different elements related to it. At least three dimensions are often associated with it: human, structural and relational capital. Value creation is central to all these areas and to their interaction. Value is created to customers and as a consequence to the company itself. From the company's point of view, value can be realised as tangible capital, revenue, increasing market share or some other additional value. From the customer's point of view, the benefit can also be realised in many ways, intangibly or tangibly, for example, as a positive emotional experience. From the point of view of members of the organisation, the realised value can in turn mean a stronger experience of meaningfulness of work and the work community.

*Making use of human potential such as expertise and experience requires the right kind of atmosphere and leadership practices, which enable and encourage employees, for example, to share the valuable tacit knowledge they have gathered.*



## HUMAN CAPITAL

The company's competitiveness and success are based on its ability to operate correctly in the market with regard to competitors, customers and other stakeholder groups. In practice, the organisation's results are created by its members, the people who form the organisation. With their actions they either enable or hinder the realisation of the chosen strategy and achievement of the targets.<sup>23</sup> No organisation can exist separately from its members. Therefore, the core intangible capital in organisations is tied up to its members. The experience, knowledge, skills, attitude and motivation of the members in the organisation are examples of individual human capital. This capital enables, for example, a good encounter with a customer or acts as the basis for solving problems for customers or in the work community and creates value as a result.

The value and exploitability of human capital can only remain in the company through its employees and as a consequence of their actions.<sup>24</sup> In addition, from the management's point of view it is important to understand that human capital tied up to a person is not automatically realised as intangible capital in the organisation only because the employee works for the company. Making use of human capital such as competence and experience requires the right kind of atmosphere and management practice, which enable and encourage employees, for example, to share the valuable tacit knowledge they have gathered.

## RELATIONAL CAPITAL

Where human capital focuses on the characteristics and competence of the members of the organisation as well as relationships within the organisations, relational capital is primarily linked to the relationships that the company has with external parties such as customers and other important stakeholder groups. That is to say that relational capital is formed by the company's different networks, customer relationships and collaboration partnerships which are linked to themes seamlessly associated with relational capital, such as brands, the image or reputation of the organisation. From the company's point of view they are capital which helps the company stand out among the others and at the same time they play an important role in creating new relationships and maintaining existing ones.

## STRUCTURAL CAPITAL

Intangible structural capital creates a framework for the possibilities to make use of resources in the other parts of intangible capital as efficiently as possible. Structural capital consists of for example the processes and practices in the organisation. The structural capital of an organisation also includes the culture that has developed

in the organisation and the identity that defines the organisation's originality. They are examples of phenomena which have a decisive effect on the success of organisations and which are at the same time out of reach of the traditional management practices.

When we talk about intangible capital we are not only referring to the connection with the customer but also to the area between individual experiences by the members of the organisation and the reality shared jointly by all the members of the organisation. Many elements related to intangible capital, for example expertise and knowledge, can be an individual's human capital but also the company's human capital. Therefore human capital can be further divided to individual and collective human capital.<sup>25</sup>

## MANAGING INTANGIBLE CAPITAL IS SENSING AND CREATING ATMOSPHERES

Nowadays, few people would probably question the fact that companies have a lot of invisible, intangible matters that are difficult to picture in a concrete way and difficult to measure but which still contribute to the company's success or failure – at least to the same extent as visible matters that can be managed and measured. We can, for example, discuss which is more important in terms of the functionality of the organisation, explicit or tacit knowledge, instructions or a practice based on experience. Which guides people's behaviour, the visible or senses and emotions? Which describes an organisation better, its official story or people's everyday stories? However, the intention is not to create a juxtaposition – all the above-mentioned have an effect on both the atmosphere and the results of the organisation.

Because intangible capital has got a strong link with the performance of organisations, it quite naturally becomes a central and important object of interest for management. Traditionally, we have accumulated more experience, expertise and means to manage tangible capital. As the earning logic and operating environment change and intangible capital is a key resource and competitive factor in many companies, it would be of primary importance in terms of future competitiveness that the organisation invest more in recognising all intangible capital and in developing the management skills related to it.

With regard to intangible capital, managing people's well-being and motivation at work and their expertise as well as developing good cooperation and a positive atmosphere all become central themes in management. One of the challenges in managing is also how efficient cooperation can be created between intangible capital and tangible capital. For example, competent staff is needed to

take advantage of the appropriately acquired equipment and systems in their work, or to sell or maintain them, depending on the sector. In addition to ensuring that there is sufficient staff available, management should also ensure that the right kind of experts are in the right positions and that resources of tangible capital support their work.<sup>26</sup>

## DO WE HAVE ENOUGH MANAGEMENT EXPERTISE?

However, it is justifiable to ask whether we have enough management expertise to respond to the challenges of the changing times. Making use of and managing intangible capital requires that the company's management is able and prepared to analyse critically not only the questions related to the operating environment but also their own management skills, management practices and attitudes regarding management. The management culture in regrettably many companies still reflects the old management methods from industrial times, according to which it was the management's exclusive right to plan, organise and supervise work. However, these traditional models cannot work in a situation in which the employee's knowledge, skills and especially their willingness to give and share their expertise in their own organisation determine the company's success.

In the everyday reality of every organisation, matters are interpreted from different points of view and in many different ways, from individual points of view. This is the power and the danger of intangible capital. Unless the people in the management understand that the actions and attitudes of the members of the organisation, customers and other stakeholder groups are formed not only by facts but also by interpretations and points of view, management will focus on analysing and communicating quantitative and measurable facts instead of creating an atmosphere and meanings.

**The most important skill a manager can have today is the skill to create meanings and have an active role in the process that creates meaning. By enabling and encouraging as well as building meaningful channels and ways of interaction, a manager can ensure the best foundation for the growth and bloom of both human and collective intangible capital in his or her company.** The most important skill a manager can have today is the skill to create meanings and have an active role in the process that creates meaning. By enabling and encouraging as well as building meaningful channels and ways of interaction, a manager can ensure the best foundation for the growth and bloom of both human and collective intangible capital in his or her company.

Fortunately, the management is not on its own in carrying

out its challenging task: today it is widely recognised that management is not an individual performance but that leadership builds on relationships. All members of the organisation together participate in building intangible capital – in future this will hopefully take place on an increasingly equal level regardless of the formal status of people.<sup>27</sup>

Investing in intangible capital is worthwhile: A unique and strong operating culture and organisational identity, a motivated staff that is committed to the organisation's values and goals, long-term relationships based on trust with stakeholder groups or an organisational atmosphere that has a positive attitude to change and reforms can all be sensed but cannot be copied by a competitor as the entity of intangible capital always develops in a different way and the result is different in different organisations. This is exactly why intangible capital is often the key factor explaining the success of a company.

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- <sup>20</sup> See e.g. Sveiby, K. (1997). *The new organizational wealth. Managing & measuring knowledge-based assets*. San Francisco: Berrett-Koehler Publishers, Inc.
  - <sup>21</sup> Choong, K.K. 2008. Intellectual capital: definitions, categorization and reporting models, *Journal of Intellectual Capital*, 9 (4), p.609–638.
  - <sup>22</sup> Edvinsson, L. & Sullivan, P. 1996. Developing a Model for Managing Intellectual Capital, *European Management Journal*, 14 (4), p.356–364.
  - <sup>23</sup> Puusa, Anu (2014): *Strategia on tiekartta*. In Yrittäville. Suomalaisille. Yos! Yrittäjyyden Osaamiskeskus, Yrittäjän MBA – ohjelma. Akateeminen yrittäjäkoulu. Antero Koskinen (ed.). Savilahden Kirjapaino Ky, p.87–108.
  - <sup>24</sup> See e.g. Viitala, R. (2005). *Johda osaamista! Osaamisen johtamisen teoriasta käytäntöön*. Helsinki: Infor and Roos, G. Fernström, L., Pionius, L. & Rastas, T. (2006). *Aineeton pääoma. Johdon käsikirja*. Helsinki: Edita Prima Oy.
  - <sup>25</sup> Puusa, Anu & Reijonen, Helen. (2011): *Johdanto: Yksilöllinen ja yhteisöllinen inhimillinen pääoma organisaatiossa*. In Puusa, Anu & Reijonen, Helen (eds.) *Aineeton pääoma organisaation voimavarana*. UNIPress, p.19–29
  - <sup>26</sup> See also Stähle, P. & Grönroos, M. (2002). *Knowledge Management – tietopääoma yrityksen kilpailutekijänä*. Porvoo: WS Bookwell, Stähle, P. & Wilenius, M. (2006). *Luova tietopääoma. Tulevaisuuden kestävä kilpailuetu*. Helsinki: Edita Prima Oy and Puusa, A. & Eerikäinen, M. (2010). *Is Tacit Knowledge Really Tacit?* *Electronic Journal of Knowledge Management*, 8 (3), p.307–318.
  - <sup>27</sup> Puusa, Anu, Mönkkönen, Kaarina & Kuittinen, Matti. (2011): *Onko kaikki todella vain johtamisesta kiinni? Alais- ja työyhteisötaitojen kasvava merkitys muuttuvassa työelämässä*. In Puusa, Anu & Reijonen, Helen (eds.) *Aineeton pääoma organisaation voimavarana*. UNIPress, p.94–116

**In addition to external sources, this material is also based on articles that I have written before in Puusa, Anu & Reijonen, Helen (2011): *Aineeton pääoman organisaation voimavarana*, UNIPress, Puusa, Anu, Reijonen, Helen, Juuri, Pauli & Laukkanen, Tommi. (2014): *Akatemiasta markkinapaikalle. Johtaminen ja markkinointi aikansa kuvina* (4th revised edition). Talentum, and on the text *Aineeton pääoma ei ole uskon asia* in the blog *KaikuLuotain* on the website *Johtamisverkosto*.**



# *Competitiveness through design expertise*

ECONOMIST **SAMULI RIKAMA** AND MINISTERIAL ADVISER **KATRI LEHTONEN**  
MINISTRY OF EMPLOYMENT AND THE ECONOMY

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*We are used to focusing on technology when today we should be focusing on usability. In this respect, we are behind our Swedish competitors, who develop products and services that can be used without instructions, and they say the devices are also fun to use.*

**IT COMPANY**

Design expertise has become an important competitive factor as part of companies' business operation. The share of manufacture and assembly in the created economic value is decreasing and a growing part of value added in products is provided by activity that makes use of intangible capital such as product development, design, marketing, distribution and different services. Use of design is also spreading fast to different business sectors; software business is one example. At the same time, promoting design and its use has become an increasingly significant part of business and innovation policy in different countries.

The economic significance of design has traditionally been estimated by the size of the design sector. According to OECD, the design sector accounts for a gross value added of €8.8 billion in the EU.<sup>28</sup> The sector is clearly the biggest in the United Kingdom, followed by Italy and Germany. The largest design sector in the Nordic Countries is in Sweden. The production of design services in Finland was over €44 million, which is considerably less than in our neighbour in the west.

The Ministry of Employment and the Economy has commissioned a report from Ramboll Management Consulting Oy to examine the significance of design in some business sectors that take advantage of design in Finland. The report links utilisation of design and its impact on companies' business activity and competitiveness to a broader extent. To that end, an information content was developed for the survey as part of the project. In addition to collecting information, the core content of this pilot project was to test the functionality of this information content.

The percentage of responses in the electronic survey implemented for the report remained fairly low, for which reason the following preliminary results are at best only approximate.

### THE STRATEGIC POSITION OF DESIGN IN THE COMPANY

The strategic position of design in the company was the key category variable in the survey. The companies in which design was part of the strategy and corporate culture, were the

ones most strongly committed to using design expertise (level 3). Companies in which design was not included in the strategy but which had integrated product design in their product development and/or marketing processes, were on level 2. Companies that regarded design merely as a way to improve the appearance or usability of the product were placed on level 1. Companies that took no advantage of design were placed on level 0.

### INTENSITY OF EXPERTISE AND RDI LINKED TO DESIGN

The report found out that the most significant factor explaining utilisation of design expertise was the general intensity of research, development and innovation activities in the companies. On the other hand, it would seem that the strategic position of design did not depend on the size of the company, its growth-orientation or level of internationalisation.

Companies which take advantage of design invest in RDI more. Therefore design, like in-

**TABLE 1**  
**SIGNIFICANCE OF DESIGN IN THE COMPANY'S BUSINESS ACTIVITY**

LEVEL 0 NO DESIGN	LEVEL 1 APPEARANCE OR USABILITY	LEVEL 2 "DESIGN AS A PROCESS"	LEVEL 3 "DESIGN AS A STRATEGY"
FROM OUR COMPANY'S POINT OF VIEW, DESIGN EXPERTISE IS... (AT LEAST ONE OF THESE OPTIONS SELECTED)			
THE COMPANY DOES NOT MAKE USE OF DESIGN EXPERTISE.	DESIGNING APPEARANCES OF PRODUCTS OR SERVICES  DESIGNING USABILITY OF PRODUCTS OR SERVICES	INCLUDED IN THE PRODUCT OR SERVICE DEVELOPMENT PROCESS FROM THE START  PART OF THE PRODUCT OR SERVICE DEVELOPMENT PROCESS  AN ESSENTIAL PART OF MARKETING	PART OF THE COMPANY STRATEGY  PART OF COMPANY CULTURE AND THE WAY OF THINKING  IN AN IMPORTANT ROLE IN ALL OPERATION
14% OF RESPONDENTS (N=29)	24% OF RESPONDENTS (N=37)	22% OF RESPONDENTS (N=35)	40% OF RESPONDENTS (N=62)

novation activities in general, should not be seen only as an operating practice of large companies only but rather as a part of the strategy and way of thinking of reform-oriented and innovative companies.

The companies that responded in the survey reported that marketing and communications as well as product design and development were the areas in which where they had used design most commonly. Design was commonly made use of by companies in developing their internal processes and activities as well as planning and developing their services.

## INVESTMENTS IN DESIGN ON THE INCREASE

In the survey, respondents were requested to estimate the development of investments in design in the past three and the following three years. A large proportion of companies estimated that the significance of design had increased and believed that its significance would continue to increase – especially in those companies that had already taken advantage of design strategically.

Large companies employed design professionals more often than small companies: almost 60 per cent of companies that employed over 250 people employed at least one design professional. The corresponding figure in medium-sized and small companies was over 30 per cent.

It is worth noting that the role of design in the strategy would not seem to depend on the size of the company but that the share of those who took advantage of design in their strategy seemed to be more or less the same in all sizes of companies. The ways design expertise is used would seem to be linked to the size of the company, but aims and significance would not.

## THE IMPACT OF DESIGN IN BUSINESS ACTIVITIES AND COMPETITIVENESS

About 10–25% of companies which participated in the survey estimated that taking advantage of design had had significant effects in areas related to their growth and success.

About 40–75% of companies estimated that design had had at least some impact. It was estimated that companies' competitiveness was the area most affected by the use of design.

The direct effects of design on developing products and services would seem to be created primarily through both improving both the customer experience and the usability of the product or service or through developing new products or prototypes. Instead, for example improving scalability, lengthening the life cycle of the product or creation of patents or copyrights was not as strongly visible in the material of this survey.

Utilisation of design would seem to have a significant impact on business, especially as regards marketing and sales through brand building and harmonising visual appearance, and on development of products and services. Especially improving the customer experience is emphasised in the latter.

## CONCLUSIONS

Design would seem to have significant and recognisable positive effects on competitiveness but only in companies in which design can be taken advantage of holistically and at strategic level. Instead, when used in a limited extent, the impact of design easily remains small – or at least it cannot be easily recognised. This observation supports the current principles of user-oriented innovation policy which emphasise the importance of design expertise and using this expertise strategically as a competitive factor in companies.

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<sup>28</sup> Statistics Finland: Value added (gross) is the value created by a unit that takes part in production. NACE REV2:74.1) Art and design, Graphic design, Interior design, Industrial design, etc

**The report will be published in its entirety in November 2015. More about the report in TEM/Yrityskatsaus 2015 (MEE Business Review 2015, in Finnish).**

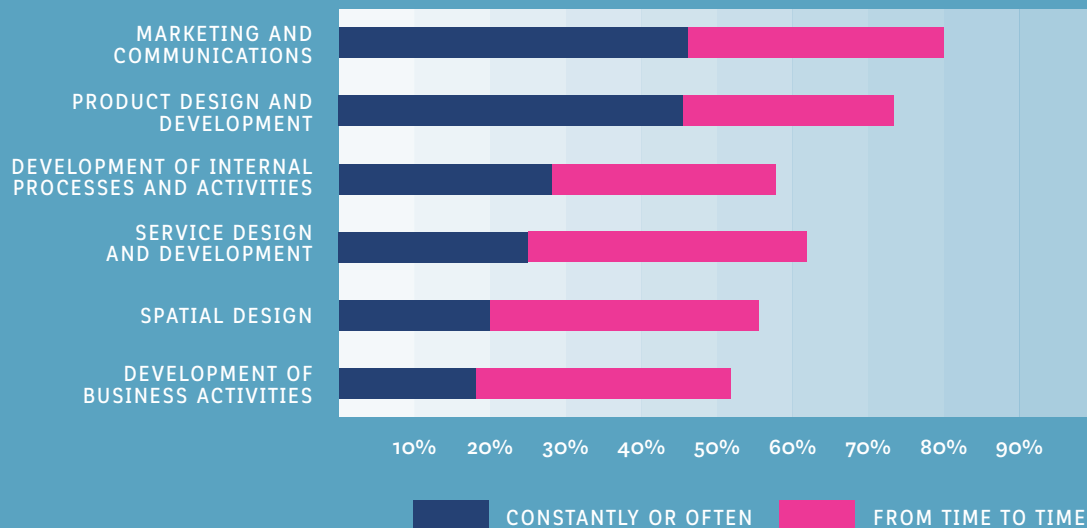
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*Making use of design expertise belongs firmly to the future. If efficiency is the most important competitive factor at the moment, utilisation of design expertise can rise to the same level in future if done in the right way. The significance of design in foreign markets is emphasised as a competitive factor in the long term.*

**A COMPANY IN FOOD INDUSTRY**

FIGURE 1

"IN WHICH OF THE FOLLOWING ACTIVITIES HAS YOUR COMPANY MADE USE OF DESIGN IN THE LAST THREE YEARS?"  
(N=163)



## *Company survey and case studies*

SECTORS IN WHICH USE OF DESIGN EXPERTISE WAS ESTIMATED TO BE SIGNIFICANT WITH REGARD TO BUSINESS, I.E. INDUSTRIAL COMPANIES, SOFTWARE SERVICE COMPANIES AS WELL AS COMPANIES PROVIDING OTHER INFORMATION-INTENSIVE BUSINESS SERVICES, WERE SELECTED AS THE TARGET GROUP FOR THE SURVEY. SERVICES COMPANIES WERE SELECTED AS PILOT PROJECTS TO COMPLEMENT THE TRADITIONALLY FAIRLY INDUSTRY-ORIENTED VIEW ON DESIGN. ESPECIALLY AS THERE IS AN EMPHASIS ON DEMANDS ON USABILITY AND CUSTOMER-ORIENTATION FOR SOFTWARE SERVICE COMPANIES, THE FIELD APPEARS INTERESTING IN TERMS OF DESIGN. THE CASE STUDIES IN THE REPORT WERE IMPLEMENTED TO PROVIDE ADDITIONAL TO THE INFORMATION CONTENT GATHERED IN THE COMPANY SURVEY.



*Utilisation  
of intangible  
investments*

# INTANGIBLE INVESTMENTS STEER THE ECONOMY

ECONOMIST **SAMULI RIKAMA** / MINISTRY OF EMPLOYMENT AND THE ECONOMY

In the centre of the intangible economy, digitalisation increasingly defines companies' business activity. Use of digital tools breaks down traditional business models and enables entirely new distribution channels and marketing through the internet. The products are also increasingly often intangible.

Companies' investments have traditionally meant investments in key production factors i.e. machines and equipment or buildings. However, along with the intangible economy, the significance of tangible investments as a driver of the economy has decreased. Successful business and competitiveness rely increasingly on intangible factors, such as expertise, innovations, agility or scalability of operation with help of digital tools.

## **INTANGIBLE INVESTMENT BY INDUSTRIAL COMPANIES MORE THAN TANGIBLE INVESTMENTS IN 2013**

Fixed investments in the manufacturing industry started to decline in 2013, and their value dropped to the level of only €3.1 billion i.e. by seven per cent from the previous year. The research and development expenditures of industrial companies in Finland were slightly under €3.3 billion in 2013.

In other words, intangible investments in industry were about €200 million higher than tangible investments in 2013. Had all the intangible items – such as investments in expertise – been included in the estimates, the difference in favour of intangible investments would have been even bigger. Additionally, fixed investments in industry include items, such as software, that are similar to intangibles, which further shifts the emphasis towards intangible investments.

## **INVESTMENT ACTIVITY FINALLY ON THE INCREASE**

Fixed investments in industry finally seem to be growing steadily. The growth anticipated for this year is also broad-based and is seen in almost all industrial sectors. The value of investments is expected to reach over €4.1 billion this year. Just under one third of all fixed investments are investments in machines and equipment.

According to the survey, investments in machines and equipment already increased last year, and the increase will accelerate this year.

It is estimated that the level of investments in R&D will be slightly under €3.2 billion this year. The majority of R&D activity is in the technology industry. As the investment activity in companies will improve this year, the balance will clearly tip in the direction of tangible investments.

R&D activity in companies has for some time been slightly in decline and the R&D activity in the stranglehold of public cost cuts is not likely to start increasing steadily in the coming years, either. As resources are getting scarcer, it is essential to allocate resources with an emphasis on effective R&D activity that encourages internationalisation and scalability of operations.

## **THE SHARE OF INTANGIBLE INVESTMENTS ON THE INCREASE**

The analysis of the time series starting from 1975 shows clearly that, particularly in the past ten years, the share of intangible investments in industry has grown and is approximately on the same level as fixed investments.

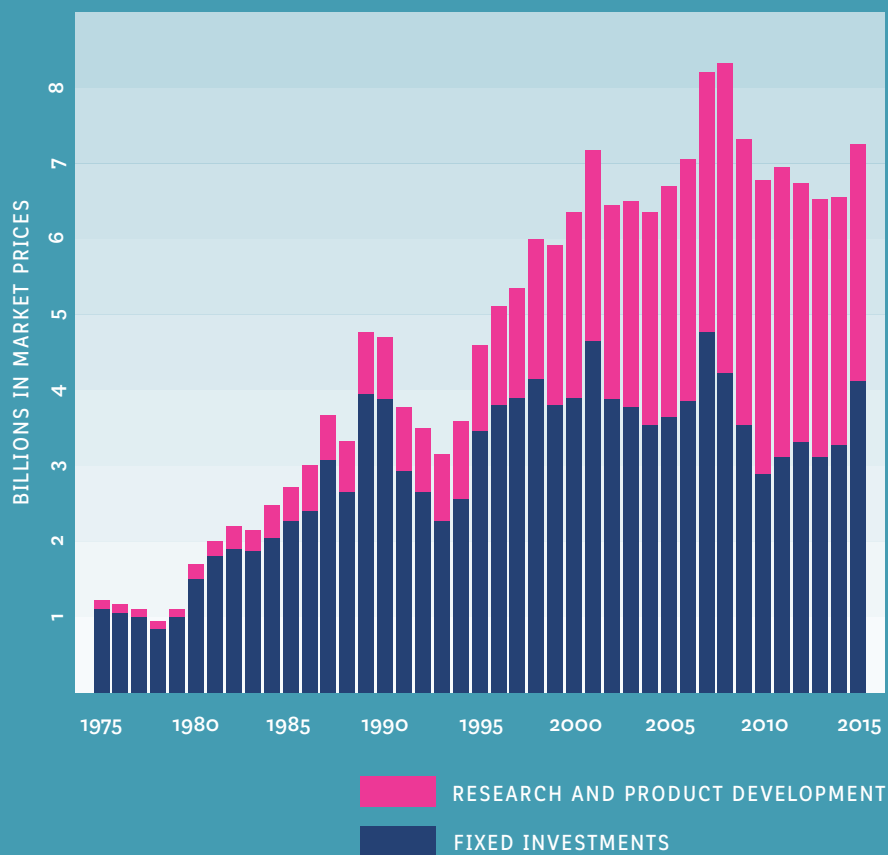
This reflects the structural change in the entire economy clearly. Before 2000, the share of fixed investments dominated and the share of R&D activity was small. However, the emphasis of the clear increase in investments anticipated for 2015 is in fixed investments after a very long time.

## **INTANGIBLE INVESTMENTS ALLOCATED IN THE TECHNOLOGY INDUSTRY**

According to Statistics Finland, the R&D expenditures in the technology industry were slightly over €2.7 billion 2013. The technology industry's share was over 80 per cent of all domestic expenditure in research and product development in industry. According to the survey, investments in R&D in the sector reduced by about seven per cent in 2014, and have remained on the same level this year. The majority of R&D activity in the technology industry is in the electronics and electrical industry.

## INVESTMENTS IN INDUSTRY IN FINLAND 1975–2015.

FIXED INVESTMENTS AND R&D COSTS, BILLION EUROS (MARKET PRICES)



Statistics Finland, years 2014–2015, Confederation of Finnish Industries' Investment Survey

The research and development expenditures in the chemical industry are the second highest of the main industrial sectors. This year the R&D expenditures in the chemical industry are estimated to be around €340 million.

According to the surveys, R&D activity in the forest industry will increase in 2014–2015. This year, the forest industry will use about €110 million to research and product development activities and over €900 million to fixed investments. In other words, the structure of forest industry is very capital-intensive.

The share of the forest industry in intangible R&D expenditures in particular is considerably small and it is anticipated that the industry will only employ about 600 persons in R&D activities.

## **RESEARCH AND DEVELOPMENT EXPENDITURE ABROAD DECLINING**

The research and product development expenditure that Finnish companies incur abroad declined fairly steeply last year. It is forecast that they will continue to decline slightly. According to the surveys on investments, over € 2.2 billion was spent on R&D activity abroad in 2013. This expenditure is expected to decrease to the level of about €1.8 billion this year.

R&D activity abroad is significant in companies in the technology industry and especially in the electronics and electrical industry. R&D activity abroad is clearly less significant in other sectors.

## **CONCLUSIONS**

From a long-term perspective, intangible investments have become as significant as tangible investments during the past ten years. There is a steady increase in digital business and services linked to it globally. The breakthrough of digital tools and business requires that companies make strong intangible investments that are typically similar to investments in R&D.

However, after Nokia's collapse, research and development activity in companies has been slightly in decline and the anticipated steep increase of investments this year focuses on fixed investments in industry after a very in a long time.

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Confederation of Finnish Industries' Investment Survey June 2015

## *Measuring intangible investments is challenging*

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**ESTIMATING THE AMOUNT OF COMPANIES' INVESTMENTS IN INTANGIBLE ECONOMY AND PRODUCTION FACTORS IS CHALLENGING. HOW, FOR EXAMPLE, COULD COMPANIES' INVESTMENTS IN EXPERTISE BE ASSESSED IN A UNIFORM WAY WHEN THEY MANIFEST THEMSELVES IN SUCH DIVERSE WAYS AND QUANTIFYING THEM, IS DIFFICULT.**

**FORTUNATELY, INTERNATIONALLY UNIFORM METHODS HAVE FOR YEARS BEEN USED TO MEASURE HOW COMPANIES USE THEIR MOST IMPORTANT INTANGIBLE INVESTMENTS, I.E., RESEARCH AND DEVELOPMENT ACTIVITY.**

**COMPANIES' INVESTMENTS IN RESEARCH AND DEVELOPMENT ACTIVITY ARE USED AS A ROUGH ESTIMATE FOR COMPANIES' INTANGIBLE INVESTMENTS. IN REALITY, COMPANIES' INTANGIBLE INVESTMENTS IN A BROAD SENSE ARE CLEARLY HIGHER THAN THEIR R&D ACTIVITIES.**

**COMPANIES' INTANGIBLE INVESTMENTS CAN ROUGHLY BE ESTIMATED ON THE BASIS OF HOW LARGE THE COMPANIES' SHARE IS IN THE R&D ACTIVITY OF THE WHOLE OF FINLAND. ON THE OTHER HAND, SOME OF THE R&D ACTIVITY OF FINNISH COMPANIES IS CARRIED OUT IN FOREIGN SUBSIDIARIES. FROM ECONOMIC POLICY'S POINT OF VIEW, IT IS JUSTIFIED TO FOCUS ON THE RESEARCH AND DEVELOPMENT ACTIVITIES OF COMPANIES OPERATING IN FINLAND. OF COURSE, IT IS ALSO IMPORTANT TO MONITOR THE DEVELOPMENT OF R&D ACTIVITIES IN SUBSIDIARIES OPERATING IN FINLAND AND, ON THE OTHER HAND, IN SUBSIDIARIES OPERATING ABROAD.**

# IS IT POSSIBLE TO INVEST IN INTANGIBLE VALUE?

CO-FOUNDER, MANAGING PARTNER **TIMO ARGILLANDER** / IPR.VC MANAGEMENT OY

Intangible value creation has great potential but, as Ali-Yrkkö and Pajarinen write in their article, measuring its economic significance is very difficult.

This article looks at intangible investments from the point of view of the media. According to Ali-Yrkkö and Pajarinen, over one fifth (22%) of intangible capital in the USA consists of art, entertainment and copyrights. Their share in Finland, Sweden and Germany is only around a few per cent. In other words, it can be concluded that companies in the United States have managed to commercialise the media much better than European companies. In principle, internet and digital distribution open up new opportunities for media content producers even in small countries, but are we able to take advantage of these opportunities?

According to the consulting company PwC, the worldwide market of digital media and entertainment was \$616 billion in 2013 and will grow to \$994 billion in 2018. The supply and demand of digitally distributed content increase, and at the same time entirely new types of content, such as content formed by data materials, are created. The problem that established media companies have is the move from the healthy profit margins in the old business model to digital media, which has smaller profit margins. The slow speed of this change gives the new digital media companies an advantage in making use of the growing digital market.

It has been stated in different contexts that it is more difficult to find financing for contents than it is for physical investments that provide collateral value. The Finnish content sector usually operates as a subcontractor carrying out project business, without developing any rights of their own that could be copied.

At the same time, the technical distribution platforms in media have become popular with investors, both in

Finland and internationally. As a consequence, a lot of media technology companies have been created, a great deal has been invested in them and their valuations have soared as investors have been looking for the next great breakthrough.

In other words, the technology in the media attracts investments, but the content does not. However, the development is at a turning point in the USA, where operators such as Netflix and Amazon have started to invest heavily in content, whereas previously they were more like technological platforms. Disney, which invests in its content rights more than its competitors, is the most successful of all of the large media companies.

With regard to investors, there has been less competition in investing in content than there has been in investing in technology, and the appreciation of content has not increased as opposed to investing in technology, which seems to be showing signs of becoming a bubble. The content business is also easily scalable, as even international distribution and the copying of contents through digital channels is almost free. The greatest and perhaps least known benefit from investing in content is related to fast circulation of capital. Especially in the TV and film business, the majority of the revenue is received within 1–2 years of publication. Because the investment starts to return soon in models based on royalties (in normal investing in capital, there will not be revenue until several years later), the return on investment will be high.

The difficulty of measuring intangibility and its value in money easily drives investors away from media content investments. Investors should see content business as a scalable area that provides good revenue and whose operation and principles are worth familiarising oneself with.

The author is building an IPR.VC Fund specialised in media contents

# INTELLECTUAL PROPERTY RIGHTS (IPR) AND HOW THEY ARE USED

MINISTERIAL ADVISER **MIKKO HUUSKONEN**, DOCENT / MINISTRY OF EMPLOYMENT AND THE ECONOMY

When discussing intangible value, intangible investments and intangible capital we are talking about phenomena which, from a legal standpoint, is often protected with intellectual property rights (IPR) legislation. Intellectual property rights are a means of value creation – it has sometimes been said that intellectual property rights transform innovation into an economic tool.

## SOME TERMS

The abbreviations IP and IPR are often used. IP refers to 'intellectual property', for which the terms intangible property or intangible assets are also used in English. The International Accounting Standard IAS 38 discusses the accounting norms with regard to intangible assets and determines a clearer picture of what is referred to by intangible assets in accounting. The World Intellectual Property Organization in Geneva administers the international system of conventions for intellectual property rights.

This article focuses on the concept IPR, i.e., intellectual property rights. IP or intellectual property is an umbrella term. When the R is inserted at the end, what is referred to, is IP rights, i.e., intellectual property rights. In this context as well, numerous terms are used: in the Nordic countries/Sweden they are referred to by using the concept 'immateriella rättigheter'. – The definition 'intangible' in the Anglo-American terminology is easy to understand concretely with regard to matters that cannot be touched (intangibles) as opposed to things that can be touched (tangibles).

## COPYRIGHT AND INDUSTRIAL PROPERTY RIGHTS

Intellectual property rights are divided into two categories: the terms used are copyrights and industrial property rights. Industrial property rights are registration rights that are applied for from the registration author-

ity. The most important registrable rights are patents, trademarks, protection of patterns and designs, utility patents and plant breeder's rights. Additionally, there are some less important forms of protection.

In Finland, patents are applied for from the Finnish Patent and Registration Office (PRH), in Europe from the EPO (European Patent Office) in Munich. Global patents are administrated in the PCT system at WIPO in Geneva. Trademarks are also applied for from PRH. The OHIM agency in Alicante, Spain administers the trademark system of the European Union.

The right to register has a time limit. The authority keeps a register, which lists the owner of the right and the type of right. There are often also registers that facilitate the collateral practice by providing these rights with an 'official stamp' and public reliability so that they can be used as collateral in different arrangements and financing situations.

Before the registration of a patent, the authority will investigate the preconditions for patenting and the possible obstacles for patenting (whether the same patent been published somewhere else). A patent is in force for 20 years from the date of issue. The preconditions for registering a trademark are investigated in the same way. A trademark is valid for 10 years from the date of issue, but it can be registered again without limit. However, it is also possible to be granted a trademark right if the trademark has long been used without any legal demands, i.e., by establishing it.

The legal position of copyright is different, as copyright is not applied for or registered, but rather arises if someone produces a literary or artistic piece of work that fulfils the criteria of copyright and copyright law. In that case the author automatically has the copyright

for the work without a need to register it.

The easy way in which a copyright arises has, in some respects, made it an emerging form of protection and this is specifically why copyright was chosen as the form of protection for computer programs at the end of the 1980s. The need for protection had arisen as the international software business had grown and become more common. A fast protection that would not require registration and that would not need to be investigated by an authority was needed for computer programs. Another special feature of copyright is its long validity: a copyright is in force for 70 years after the death of the copyright owner.

There is still another difference between the right forms. Industrial property rights arise – as the name also suggests – from the needs of the business world, from protective mechanisms needed in companies, to support collateral practices, etc. The background of copyright, on the other hand, is related to publishing and also includes features for the protection of the author's person. It is probably very rare to come across a company that would not use any trademarks, either through registration or establishment.

It can be said that at the moment this categorisation is challenged to a certain extent as, along with digitalisation, both the protection of computer programs and different digital content production have led to a broader use of intellectual property rights, and especially a change in the role of copyright.

## HOW ARE THE RIGHTS USED IN BUSINESS OPERATION

The basic case is, of course, that a company uses these rights to protect its own inventions or computer programs, or content production in the field of media. The company bases its competitive advantage on the ex-

clusive right to take advantage of the rights in its own production.

It must be noted that the right barely has a value in itself – the inventor may have a patent even when nothing financially relevant has as yet taken place. It is only when the inventor or a company to which he or she has granted a licence starts to take advantage of the patent in one way or another that financial value will be created. The same applies to copyright.

Intellectual property rights only start to live when they are used to do something, when they take part in economic and productive practices, so to say. Licensing mechanisms are what starts the process of using the rights.

However, companies' need to protect their own rights is currently only a part of use of intellectual property rights. Intellectual property rights are currently used in a large variety of ways in external business activities: rights can be licensed to other companies, from which licensing revenue is received for the use of the rights. Rights can also be used in, for example, company arrangements in which dealing with intangible assets may have an important role in collaboration between companies. The use of intellectual property rights is so extensive and diverse that 'open innovation' is talked about in which the principle is not so much protecting the rights for the company's use, but also protecting them for other licensing activity and collaboration between companies.

Patents can be licensed – there are patent licenses. Larger companies talk about 'patent portfolios', which can be licensed to others and also cross-licensed between companies. Copyright as business activity is almost solely based on different licensing practices, whether we are talking about licensing a literary or artistic work (content production) or a license for computer software. Trademark licensing is called 'franchising' and is used to create operation in business chains – the same 'look and feel' has been created in the companies, whatever the city or country in which the customer walks into the shop. Franchising is a usual business practice in organising, for example, fast food, clothes or other shop or service chains.

Rights can be transferred in several ways. The basic method is selling the rights, i.e., everything, 'all rights' are sold. For example, the company may estimate that it does not have any use for a specific patent right now. It does not see any production or product line in its strategy in which the patent could be used right now. However, the invention may be so good that someone might be prepared to pay something for it. Today there are different online marketplaces related to selling and brokering available for companies to sell, buy and exchange surplus patents amongst themselves.

However, it is more common to transfer the right with a more limited significance – with a limit in time, extent or geographical use. The broadest form of licensing is an exclusive right, in which the licensee can freely take advantage of the right without anyone else being able to do it, including the licensor. Sometimes a parallel right may be transferred, in which case the licensor reserves the right for himself or herself to use of the patent (a so-called 'sole right').

## **THE SIGNIFICANCE OF CONTRACTS**

The general language of IPR contracts is English. Contract law develops particularly through international practices, in which the language of contracts is English. With their actions, global service providers develop contract standards which often create practices from which it may be difficult to deviate. Of course there are contracts in which the language is Finnish, for example, the licences of copyright organisations in national use.

Especially with regard to Internet services, the most successful service providers have highly polished their contract practices to be able to use them to cover the company's contractual needs in the most comprehensive way possible while operating within dozens or even over one hundred states and legislations.

## **ON CRITICISM OF INTELLECTUAL PROPERTY RIGHTS**

A lot of criticism is directed at intellectual property rights. For example, it has been pre-

sumed that patents may slow down making use of innovations because a patent gives the inventor an exclusive right to commercialise the invention. Intellectual property rights and often particularly copyright has been regarded as a reason or a means to prevent the spread of information for commercial purposes. Patent practices in medicine have particularly been criticised in connection with sudden outbreaks of epidemics, when medicines would urgently be needed in the prevention of global epidemics.

Without taking a stand in this debate, there are two things that should be taken into account. No IPR legislation protects the information itself but, for example, as regards patents, the information related to the invention is public. It is kind of an agreement between society and the inventor: the inventor receives the exclusive right to commercialise the invention in exchange for making its content public.

Another significant point of view in terms of practice is the fact that the international IPR system changes very slowly – even if we now decided to change the IPR system fundamentally, the process would probably take decades. It is thus not worthwhile for individual companies to base their business plans on the possibility that there might be a radical change in IPR legislation and practices in the foreseeable future.

# COMPANIES' INTANGIBLE ASSETS ARE STILL PRIMARILY IN FINLAND

RESEARCH DIRECTOR **JYRKI ALI-YRKKÖ** / ETLATIETO OY  
AND  
ECONOMIST **SAMULI RIKAMA** / MINISTRY OF EMPLOYMENT AND THE ECONOMY

In both Finland and the USA, investments in intangible assets are already greater than investments in tangible assets.<sup>29</sup> Companies attempted to stand out among competitors with product development, building brands and other intangible investments and in that way enable creation of greater added value.

In recent years, moving manufacturing activities elsewhere has given cause for concern in western countries. Some consolation for the disappearance of jobs is offered by the fact that in many products, only a small part of the value added is presently created in manufacturing. The most value added is created by brand owners, product developers and owners of distribution channels.

However, expanding to international markets does not only concern production activities. Many Finnish companies also carry out product development and other activities related to intangibility in other countries in addition to Finland. As a consequence, intangible assets – such as patents and copyrights – are also not necessarily owned by the units located in Finland. Ownership may also have been transferred to other countries, even if product development and the other work creating the intangible assets have remained in Finland.

What difference does the location of the units owning the assets make? Because the profits based on these assets belong to the units owning them and they are taxed in the country of the unit's location. For example, the revenues from royalties paid for patents are included in the gross national product. Hence the location of the units that own the assets is significant in terms of the national economy.

## INTANGIBLE PROPERTY STILL MOSTLY IN FINLAND

Where are the intangible assets of Finnish companies located? A few years ago, Statistics Finland carried out a survey in which companies that had expanded internationally were asked where the owners of their intangible and tangible property were located.

Almost all companies in the material had both tangible and intangible assets in Finland. Almost one half (45%) of respondents also had tangible assets in other old EU15 countries. By contrast, around one third (32%) had intangible assets in these countries (Figure 1).

The significance of EU countries as a location of tangible and intangible assets was emphasised when the new EU12 countries were also reviewed. Finnish companies had tangible assets in the new EU12 member states as often as in the old EU15 countries, but intangible assets slightly less often.

Russia stood out among individual countries as a target location of both intangible and tangible assets. This was the situation before the crisis between Russia and Ukraine. Finnish companies still have extensive business activities in Russia, but many companies have cut back the plans they had on investing in the country.

The difference between intangible and tangible assets is repeated across the board. Companies' tangible property is more spread out outside Finland than their intangible property. For example, 18 per cent of respondents had

tangible assets in China but only 8 per cent had intangible assets in the country. Similarly, 16 per cent had tangible assets and 11 per cent had intangible assets in the United States and Canada.

## MANY KINDS OF INTANGIBLE ASSETS

What do companies' intangible assets comprise? Intangible assets were divided into three groups in the survey: patents, trademarks, copyrights and other legally protected assets as well as other intangible assets that are not judicially protected.

According to the responses, Finland was by far the most common location for all these different types of intangible assets. In the majority of companies, at least some of their patents, copyrights and other intangible assets were owned by the units in Finland. This was the case in both industry and services.

It was common for many industrial and services companies to have intangible assets in both the old EU member states (EU15) and the new EU12 member states. In industrial companies, intangible assets concentrated more commonly in the old member states. Services, on the other hand, had invested their intangible assets in new EU member states as often as in old member states.

The greatest differences between industry and services were in China and North America. As locations of intangible assets, these areas were clearly more important for industry than services. The figures revealed an interesting detail about industrial companies:

FIGURE 1

THE SHARE OF FINNISH COMPANIES WHICH HAVE TANGIBLE AND INTANGIBLE ASSETS IN THE LOCATION COUNTRIES/AREAS MARKED IN THE DIAGRAM

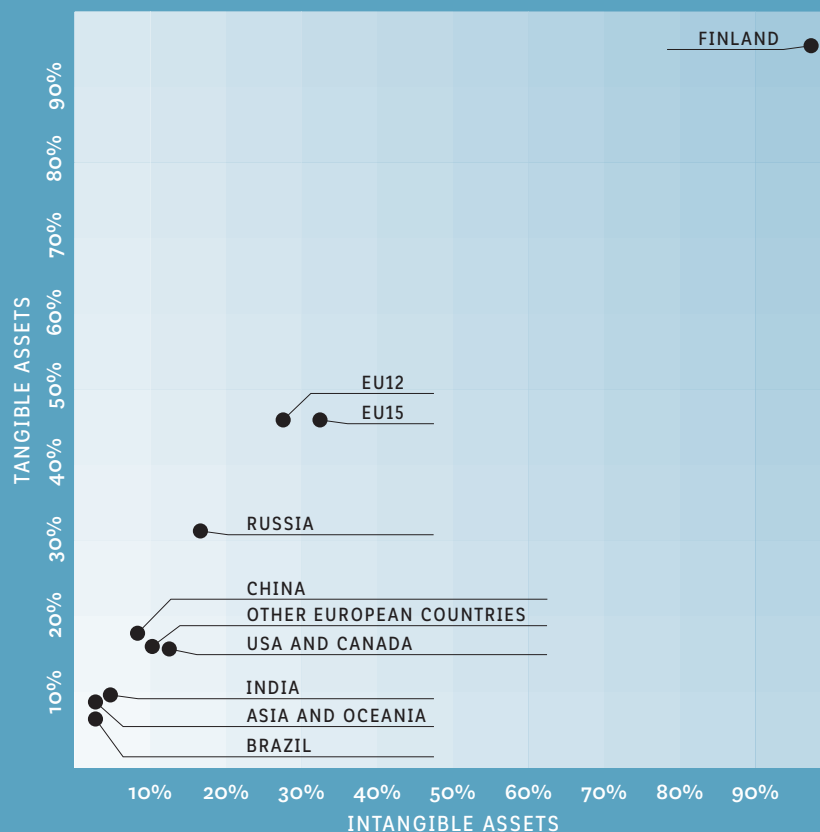
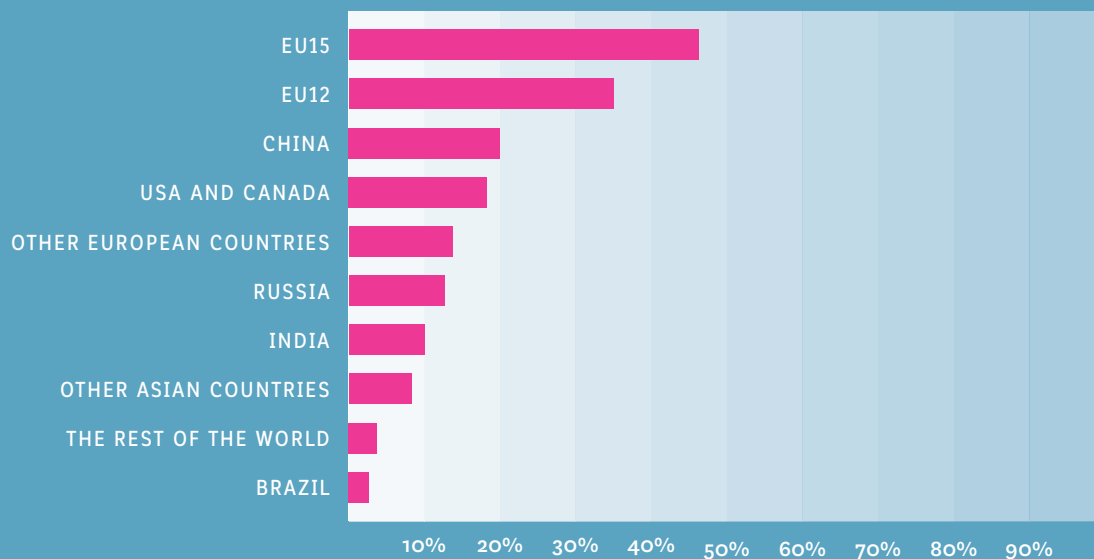


FIGURE 2

PERSONNEL IN R&D AND TECHNICAL SERVICE ACTIVITIES IN SUBSIDIARIES ABROAD BY AREA



The 2012 Survey on organising business operations internationally and outsourcing them abroad. Statistics Finland

China was an equally common location for intangible assets as North America.

It was also common for Finnish companies to have intangible assets in Russia. Perhaps slightly surprisingly, India, which is known as a provider of services related to information technology, had not attracted intangible assets from Finnish companies. Only a few per cent of respondents reported that they had relocated intangible assets to India.

## **RESEARCH AND DEVELOPMENT ACTIVITIES CARRIED OUT GLOBALLY**

Intangible assets are not created automatically; they are often a result of strenuous efforts and expertise of the personnel. The innovation potential that Finnish companies have in their subsidiaries abroad can be assessed roughly according to what kind of operations the personnel in their foreign subsidiaries perform. Research and development activities – which also include technical services – is such a key operation from the point of view of intangible assets.

Almost one half of companies with subsidiaries abroad produced R&D or technical services in the old EU countries (Figure 2). About one third of companies carried out similar operations in the new EU12 countries and about one fifth in China. The share of the United States was also significant and very close to that of China.

Therefore it seems that in addition to Finland, Finnish companies also possess considerable potential abroad to create and develop intangible assets such as patents. This may partly be due to implemented relocations of R&D activities to other countries but also to factors related to markets and competitiveness.

## **OWNERSHIP DOES NOT NECESSARILY FOLLOW WORK**

Companies may have intangible assets in different countries, even if they did not have personnel who develop it in those countries. The product and technological development may be primarily located in Finland, but the patents created as a result of that work may

nevertheless be owned by a unit located in another country.

One possible reason for this different location is taxation. The ownership of intangible assets may have been relocated to a country with lower corporate taxation. In that case profits created by intangible assets are taxed according to the tax rates in that country.

Another reason for different locations is the practice in some companies to concentrate all intangible assets to one specific country.

## **SUPPORTERS OF R&D ACTIVITY MUST BENEFIT FROM THE RESULTS**

Although expanding to international markets is no longer limited to production, Finland is still the most important location for an overwhelming majority of Finnish companies that have entered international markets. Patents, copyrights as well as intangible assets that are not protected legally are usually owned by units in Finland.

From the point of view of the national economy, ownership of intangible assets becomes increasingly important as a considerable part of the added value of many products is based on intangible assets.

The location of intangible assets is also significant from the point of view of business and innovation policy. When financing research and development activities, the public sector bears some of the risks in R&D projects. Some projects will naturally fail, but some will be successful. Successful projects create new or improved products as well as services, which are outputs of R&D activities.

Good business and innovation policy ensures that the fruits of successful projects are also mainly received by the national economy that has financed them, i.e., Finland. Thus, if the public sector invests in the development and increase of companies' innovation activities in Finland, the output, i.e., the intangible assets created in those projects should also remain in possession of the units in Finland.

**Based on an article by Jyrki Ali-Yrkkö and Samuli Rikama published in 2013. Jyrki Ali-Yrkkö is a research director at Etlatieto. Samuli Rikama is an economist at the Ministry of Employment and the Economy.**

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<sup>29</sup> Maliranta, M. & Rouvinen, P. (2007). Aineettomat investoinnit Suomen yrityksissä vuonna 2004: Kokeilu yritysaineistoilla. Discussion papers no 1109. Elinkeinoelämän tutkimuslaitos, Etla, Helsinki - See more at: <http://tietotrendit.stat.fi/mag/article/28/>. van Ark, B., Hao, J. X., Corrado, C. & Hulten, C. (2009): Measuring intangible capital and its contribution to economic growth in Europe, EIB Papers, ISSN 0257-7755, Vol. 14, Iss. 1, p. 62 – 93.



MINISTRY OF EMPLOYMENT AND THE ECONOMY

P.O. Box 32, 00023 Government

[www.tem.fi](http://www.tem.fi)



TYÖ- JA ELINKEINOMINISTERIÖ  
ARBETS- OCH NÄRINGSMINISTERIET  
MINISTRY OF EMPLOYMENT AND THE ECONOMY