

4FRONT



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1. INTRODUCTION

1.1. Background to and aims of assessment

Business Tampere's (Tredea) innovation voucher pilot project began in October 2016 and the intention is to complete it in June 2018. The project piloted the innovation voucher in cooperation with SMEs. The intention is that voucher-supported operations "will lower the threshold to the use of innovation-, internationalisation- and growth services".¹ In the project, a digital service platform has also been built through which, for example, the retrieval and granting of a voucher and the provision of services are organised. The aim of the pilot project is to enable the wider introduction and management in Finland of a voucher system on a digital platform developed in the project.²

The vouchers were distributed using project financing granted by the Council of Tampere Region and additional financing from the City of Tampere in a total of four instalments between November 2016 and October 2017. Innovation vouchers were distributed to a total of 205 companies equating to a total amount of financing of €995,500. The value of a voucher was up to €5,000, in addition to which the customer company itself was liable for the payment of value-added tax.

The innovation voucher project is part of the wider reform of the (national) business service system. At its core is the growth service reform being implemented as part of regional reform, which is combining the existing business- and manpower services into growth services. The production of growth services can be organised in cooperation between different actors in the private, public and third sectors. The organisation, integration and coordination of services are, on the other hand, the responsibility of the regions. The multiple service-provider model and the strengthening of the role of service providers will in future give the regions the opportunity to provide services in new and innovative ways.³ In conjunction with growth service reform, a growth service alliance model is also presented, which will be a contractual form of cooperation for regions and municipalities in the implementation of regional business and employment services and municipal revitalisation services. In the provision of actual services in the growth service alliance model, private service providers will play a key role.⁴

The aim of this assessment has been to provide an unbiased external evaluation of the results and effects of Business Tampere's voucher pilot. The assessment was carried out in February-April 2018. 4FRONT Oy was responsible for its implementation.

¹ <https://yritystampere.fi/innovaatioseteli/innovaatioseteli>

² <https://www.eura2014.fi/rrtiepa/projekti.php?projektkoodi=A71946>

³ Härmälä et al. (2017). New trends in entrepreneurship - a report on government measures to promote entrepreneurship. Government investigation and research series 75/2017.

⁴ Growth services and growth service alliances, Government 31 January 2018. Series of slides https://www.slideshare.net/TEM_esitykset/kasvupalvelut-ja-kasvupalveluallianssit

The assessment assignment included the following six objectives:

1. Profiles of the companies receiving an innovation voucher and of the companies providing the voucher service.
2. The effects of measures carried out by means of an innovation voucher on the business of the companies receiving the voucher.
3. Service providers' experiences of the voucher as an operating model and of cooperation with companies receiving the voucher.
4. The effects of the voucher operating model on the development of the innovation service market, and their suitability as part of overall public business services (municipal revitalisation services).
5. The impact of the digital voucher system on the service- and business process and on administrative costs.
6. An overall analysis of the use of the business service voucher system in the provision of the RDI- and growth services of companies. Furthermore as part of the survey, policy-level recommendations on the utilisation of the voucher model must be given as part of the provision of municipal revitalisation services.

Further assessment questions are shown in Table 1.

Table 1. Assessment questions

Assessment questions
<p>1. Business profiles and basic information on companies participating in the innovation voucher project.</p> <p>1a. e.g. size classification (start-up/micro-enterprise/SME) age, turnover, number of employees, desire for business growth, internationality, use of de minimis subsidies</p>
<p>2. The effect of measures taken through the innovation voucher on the business of the company receiving the voucher</p> <p>2a. Indicators of the impact of the voucher, taking into account the project aims (numerical and measurable impact)</p> <p>2b. Quantitative user experiences from a perspective of a company using the voucher</p> <p>2c. Other quantitative impact on the business of a company using the voucher (non-numerical impact)</p>
<p>3. Effects of innovation voucher on the business of service providers</p> <p>3a. Has it promoted the specification, development or reshaping of their own services?</p> <p>3b. Have new customer contacts or completely new target groups been established or their own services?</p> <p>3c. Has a significant increase in turnover and personnel been achieved, and possible new jobs created?</p> <p>3d. Will they continue cooperation with the voucher customer in a normal business relationship?</p> <p>3e. Other possible views and effects</p>
<p>4. The impact of the voucher operating model on public business services and the innovation service market</p> <p>4a. The role of the voucher as part of future public business services and their development, as a special perspective municipal revitalisation services and voucher availability in regional growth services provided in possible alliance models</p> <p>4b. The suitability of an electronic service platform to the operation of the operating model</p> <p>4c. The linking of the voucher to smart urban development and company participation</p> <p>4d. The opportunities for cooperation by cities and urban regions in the utilisation of the voucher model</p>
<p>5. The impact of the digital voucher system on the service- and business process and on administrative costs.</p> <p>5a. Effects from a perspective of a company applying for a voucher</p> <p>5b. Effects from a perspective of a company registering as a service provider</p> <p>5c. Effects from a perspective of a system administrator</p> <p>5d. Cost-benefit analysis</p>
<p>6. Overall analysis of the business service voucher model in the provision of growth services for companies, and policy-level recommendations for the utilisation of the voucher model as part of municipal revitalisation services</p> <p>6a. How the voucher operating model meets the needs to reform public business services (particularly at a municipal and regional level, possibilities of the alliance model)</p>

- 6b. How is it related to overall revitalisation services, which target groups and what business needs does it best suit and how could it be further developed?
 6c. What potential opportunities for expansion and application will the voucher operating model have in future?

1.2. Approach and frame of reference

The assessment approach is based on theoretical impact assessment. In practice, this means that a change theory/impact model is built in assessment, the different parts and interconnections of which are tested in the assessment. This approach was selected because it provides information on which matters work in the voucher pilot and how operations can be developed in the future. Figure 1 gives an example of the impact model.

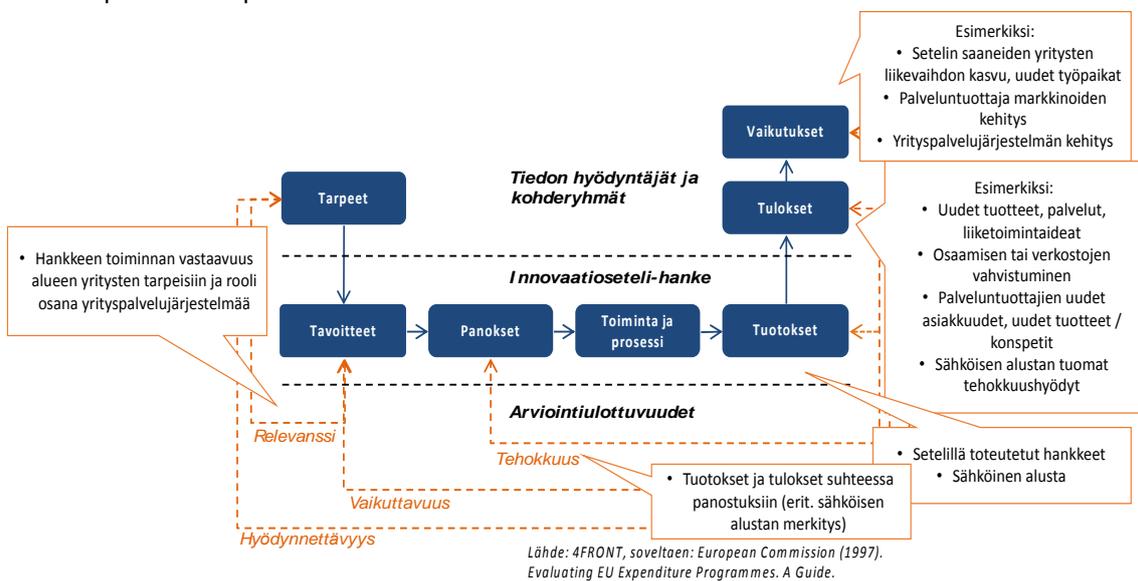


Figure 1. An example of the impact model.

Regarding the model, it is important to note the differences between the effects of short-term (direct) impact, i.e. results, and longer-term (indirect) impact. In this project, it is possible to assess mainly short-term direct results such as new products or services developed by companies or changes that have taken place in companies' RDI operations. In the interpretation of results concerning longer-term effects (e.g. growth in turnover or the creation of new jobs), it must be noted that innovation vouchers have only been granted since 2016 so it is not yet realistic to expect significant (verifiable) longer-term effects of projects implemented through vouchers. On the other hand, a benefit of this approach is that, based on short-term effects, it is also possible to draw conclusions about longer-term impact. For example, if an innovation voucher has succeeded in significantly stimulating companies' RDI activity in the short term, it is justified to expect it also to generate effects in the longer term.

Impact is assessed in the report from a perspective of companies receiving the voucher, service providers and the voucher administrator. Also examined are the impact of the voucher and lessons in terms of the broader impact of innovation policy and society.

1.3. Survey methods and materials

The survey was carried out by combining different methods (so-called triangulation). The methods and materials are briefly described below.

- **Electronic surveys** In the assessment, electronic Webropol surveys were carried out both with customer companies receiving the voucher and companies providing services with the voucher. The surveys charted experiences of applying for and using the voucher. A request to answer the survey was sent to 197 customer companies, 125 of which responded to the survey (response rate 63.5%), and to 92 service providers, 59 of which responded to the survey (response rate 64.1%).
- **Interviews with experts** In interviews, the views of experts were charted concerning, for example, the effectiveness of and target group for the voucher and its positioning as part of the wider business service system. The impact of the voucher on the business service market was also discussed, as well as possibilities to apply the voucher to future business services. In connection with the assessment, a total of 14 experts were interviewed.
- **Meta-analysis/benchmarking.** Analysis particularly focused on assessments of voucher projects carried out in other countries and on the voucher benefits and effects found in assessments for companies that received the voucher. The aim of the review is to support the assessment of Business Tampere's innovation voucher, the comparison of results and the performance of a cost-benefit analysis. The review was carried out applying the systematic meta-analysis method. The subject was the assessments of the voucher programmes from a point of view of benefits and costs (instead of voucher implementation models).
- **Cost-benefit analysis.** As part of the assessment, an indicative cost benefit calculation was made for voucher customer companies about already achieved and expected benefits and the administrative costs of the project. The analysis was carried out according to an assessment made in Northern Ireland using benefits reported in a company survey.
- **Workshop.** In connection with the impact assessment, an expert workshop was held to process the preliminary results of the impact assessment. The aim of the workshop was also to identify and brainstorm actions for the development of the voucher system, taking into account the needs of companies and service providers, the effectiveness of the innovation voucher in relation to other business services, and the role of the innovation voucher as part of future growth services. 16 persons attended the workshop, including representatives of the voucher service providers, Centres for Economic Development Transport and the Environment ELY), the Council of Tampere Region and other stakeholders.

3. BUSINESS TAMPERE'S INNOVATION VOUCHER PILOT

3.1. Basic information about the voucher pilot

Tampere Region's innovation voucher pilot was carried out as an ERDF-funded project from January 2016 until June 2018. In the pilot, a total of 217 vouchers were distributed to 205 different companies between November 2016 and October 2017. Some of the companies thus received two vouchers, whose total value could not, however, exceed €5,000. The total value of vouchers distributed during the pilot was €995,500, so on average each company received financing of €4,856. Distribution of the vouchers was done in four batches, the three first rounds of which were funded by project money granted by the Council of Tampere Region and the last round by additional financing from the City of Tampere. The financing from the Council of Tampere Region was used to distribute vouchers with a total value of €754,500, and financing from the City of Tampere for vouchers worth €241,000.⁵

The voucher pilot project was preceded by preliminary functional surveys of innovation vouchers⁶ and internationalisation vouchers⁷ and a preliminary legal survey of the provision of business services in an electronic service voucher system⁸ from perspectives of public law, state subsidy regulation, procurement legislation and IT rights. Based on the preliminary survey stage, the decision was made to start the pilot stage, the implementation of which was funded by the Council of Tampere Region from money from the European Regional Development Fund (ERDF)

In the voucher project, a digital service platform was built on which companies could select service providers and apply for a voucher. Providers of innovation voucher services had to register at the service platform⁹ a so-called service card, which explained the service offered and its detailed content. Becoming a service provider was thus a free process, and service providers were not selected for the project, for example through a bidding competition¹⁰. The service provider could set the price of its service between €500 and €5,000. The service providers' product cards were checked by the voucher model administrator before the approval and release of the card. A company applying for a voucher, on the other hand, would select from the platform in advance the service card that it wanted, i.e. a certain service offered by a certain service provider, after which it would apply for the innovation voucher for the purpose of buying that particular service.

The costs of the voucher project comprised approximately €1,460,000 of project financing from the Council of Tampere Region and €241,000 of additional financing intended for vouchers distributed by the City of Tampere, which the city granted during project implementation. The total amount of financing allocated to the development and piloting of the business voucher model and vouchers distributed to companies was therefore €1.7 million. In addition to the €995,500 distributed to companies, approximately €295,000 of personnel costs were also attributable to the project from the beginning of 2016 until June 2018. The development and administrative costs of the digital voucher

⁵ Business Tampere, innovation voucher project database

⁶ Ramboll (2015a). Summary report innovation vouchers.

⁷ Ramboll (2015b). Summary report internationalisation vouchers

⁸ KPMG (2015). Legal survey on the provision of business services using an electronic service voucher model. Tredea.

⁹ <https://parastapalvelua.fi/yritys/hankkeet/innovaatioseteli>

¹⁰ The service provider, however, had to be registered as a Reliable Partner at Tilajavastuu before the product card was approved by the administrator.

platform have been approximately €250,000. In addition to these costs, legal advice services were procured for approximately €40,000, ICT services for approximately €28,000 and impact assessment-related services for approximately €30,000. General costs of approximately €70,000 were also allocated to the project by the implementing party.

A company’s project had to target growth, internationalisation or digitalisation. Of the projects, almost all targeted growth (97% of vouchers). In addition, three-quarters of the projects concerned internationalisation (74% of vouchers) or digitalisation (73% of vouchers). The eligibility for financing in terms of, for example, unpaid taxes and subsidy conditions was also checked for companies applying for a voucher. (see Table 2).

Table 2. The distribution of vouchers by round and theme

Round	Vouchers pcs	Financing €
1st round	24	95,000
2nd round	85	388,500
3rd round	58	271,000
4th round	50	241,000
Total	217	995,500

The content of a project also had to relate to at least one of five themes, which were renewing industry, well-being, the Internet of Things (IoT), the smart city and smart transport. Of these, the most common was renewing industry for which 92 vouchers were granted. The next most common themes were well-being (77 vouchers) and IoT and the smart city (both 63 vouchers). 29 voucher project concerned smart transport. (Figure 2)

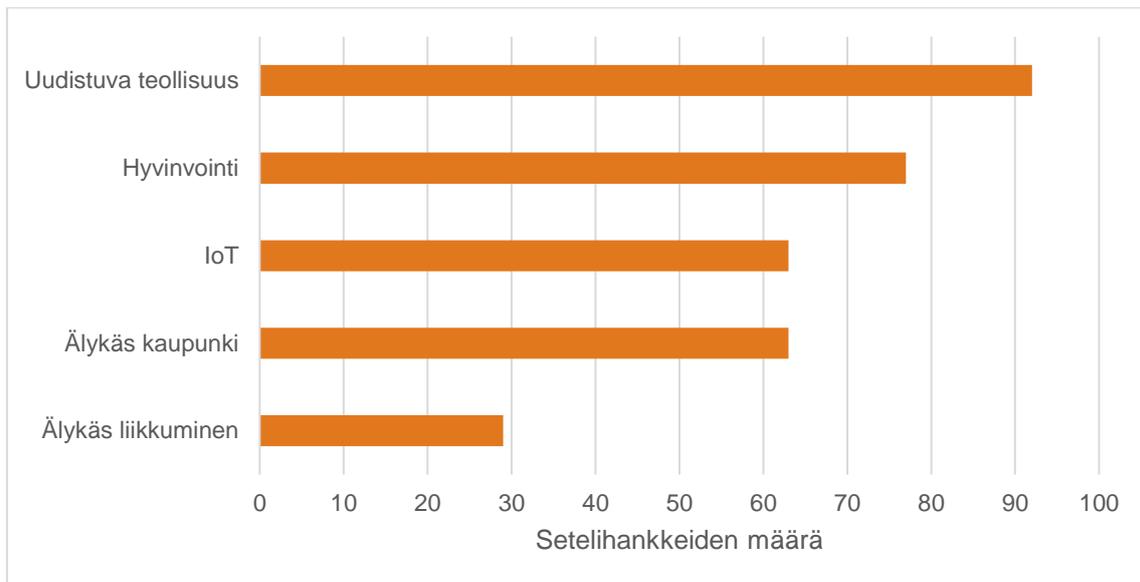


Figure 2. Themes of voucher projects.

Subsidies were granted to companies as a business subsidy on de minimis terms¹¹. Because of this, when a subsidy was granted it was checked that each company had room in their de minimis subsidy quota. There was no limitation on form of business, sector or size, but the granting of the subsidy took place on de minimis terms.

No assessment of the content of projects was applied in the granting of a voucher. Assessment was limited to the fulfilment of voucher granting conditions, and eligibility for a project subsidy was ensured in advance by directing the applications to service cards approved by the administrator. By proceeding like this, efforts were made to keep administration light and to guarantee that companies received financing decisions quickly. In practice, in the first two rounds vouchers were granted in order of arrival of the applications. In the last two rounds, lots were drawn for the available 108 vouchers between all those that had submitted an application by the deadline and companies meeting the eligibility requirements. In this drawing of lots, 41 companies were left without a voucher.

A voucher granted to a company was paid directly to the service provider after provision of the service. The service provider also invoiced the customer company for the share of value added tax of the service provided. This share was tax-deductible for the customer company.

The voucher service paths for a company applying for a voucher, the service provider and voucher administrator are presented in Table 3. Some of the processes, such as preparing product cards and applying for a voucher, were carried out on the voucher's digital administration platform. These stages are marked in bold text in the table.

¹¹ Ministry of Employment and the Economy (2015) Guide to de minimis subsidies - EU rules on state subsidies MEAE guides and other publications 21/2016

Table 3. Innovation voucher service path process for a company applying for a voucher, a service provider and an administrator. In the stages written in bold text, the process uses a digital platform. (source: Business Tampere.)

Voucher applicant	Voucher service provider	Voucher administrator
Business development need		
Information about the possibility for an innovation voucher	Information about the possibility of becoming a voucher service provider	Communication about the voucher system to companies
	Becoming a Reliable Partner of Tilajavastuu	
	Registering as a service provider. Forming your own service and making a product card(s)	Service provider registers and makes a product card
	Notice about the approval of product cards	The administrator checks the product card and approves/requests specifications to it
Learning about the range of services		Product card must be visible in the product catalogue
Contact with service provider and verification of suitability	Response to communication from companies	
Applying for a voucher		Application opened and voucher applications allocated to product cards
		Applications checked and approved/further information requested
		Granting of vouchers either in order of application or by drawing lots
Confirmation of granting a voucher to applicant + deminimis notice		Confirmation of granting a voucher to applicant + deminimis notice
	Notice from the administrator about a voucher granted and allocated to the service	Notice to the service provider about a voucher allocated to the service
Agreement with service provider	Agreement with company receiving the voucher	
Service implementation with service provider (within 3 months)	Service implementation with company receiving voucher (within 3 months)	Service implementation between companies (within 3 months of granting)
Acknowledgement of service implemented and the provision of feedback to the system		Acknowledgement and feedback of the service implemented from the voucher recipient
	Once the voucher recipient has accepted the service, payment comes from the administrator	Payment activated by the acknowledgement goes from the administrator to the service provider
	Reporting (voluntary) to the administrator	Report from the service provider (voluntary) about the service given
Payment of value added tax to the service provider	Invoicing of value added tax from the voucher recipient	

Benefit to own business and follow-up steps	Benefits to own business and possible continuation of cooperation	Monitoring and possible reporting of impact on the financier
	Development of own services based on experience gained	Further development of operating model and possible new users

3.2. Profile of companies receiving the voucher

The Tampere region’s innovation voucher pilot mainly targeted young and small businesses. Almost half the companies (97) had been established in 2012 or after, so by 2017 they were no more than five years old. 34 of the companies were at a very early stage, i.e. founded in 2016 or 2017. The receipt of the voucher did not require any special form of business. 188 of the companies receiving a voucher were limited companies and the remainder were partnerships.

Of the companies with clear information on turnover, 82% were micro-enterprises meaning that their turnover was less than €2 million. Of the financed companies, 11 had a turnover of €2-5 million, 14 a turnover of €5-20 million and four a turnover exceeding €20 million. Based on turnover, all financed companies were micro-enterprises or SMEs¹².

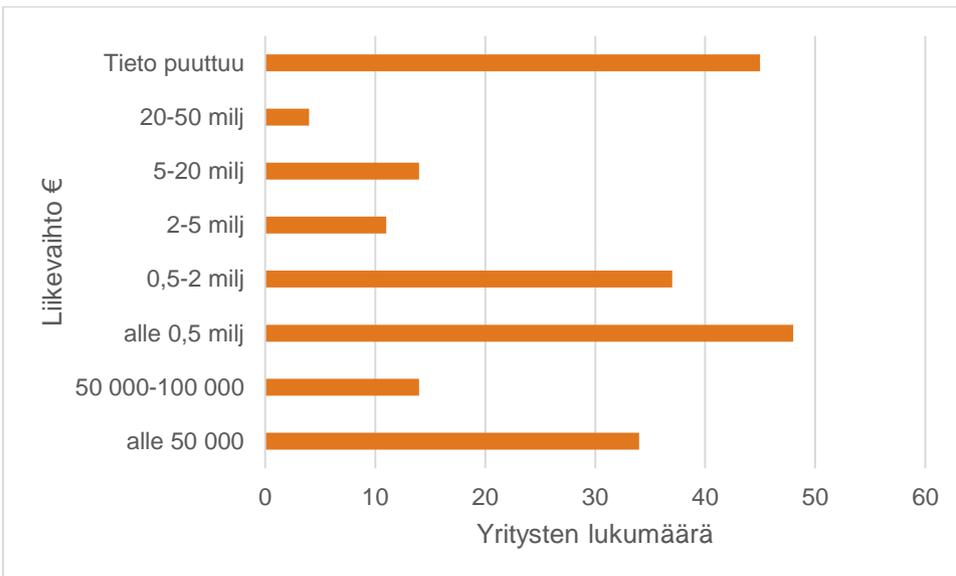


Figure 3. Turnover of companies receiving the voucher (latest information)¹³

When viewed based on the number of employees, the size distribution of companies is in step with the figure showing turnover. The number of employees was known in a total of 134 companies. Among the companies from which this information was lacking are partnerships and completely new

¹² Annual turnover less than €50 million

¹³ When interpreting turnover and employment information, it must be noted that because partnerships are not obliged to report their financial statements to the Finnish Patent and Registration Office, such information from these companies is not available from registers.

companies, both of which are very probably quite small.¹⁴ 93 companies employed fewer than 10 people (69% of the companies whose number of employees was known). These companies were micro-enterprises in terms of employee numbers. According to registered data, 18 companies (13%) had only one employee. 32 companies (25%) had more than 10 but fewer than 50 employees, and seven companies had 50-249 employees. Based on number of employees, amongst the companies receiving a voucher two were classified as large companies meaning that they employed more than 250 people.

Of the companies receiving financing, the major sectors were ICT (23%), professional, scientific and technical activity (22%) and industry (17%). The fourth largest sector was wholesale and retail trade, which was represented by 10% of the companies (Figure 4). In total these four sectors cover three-quarters of the financed companies.

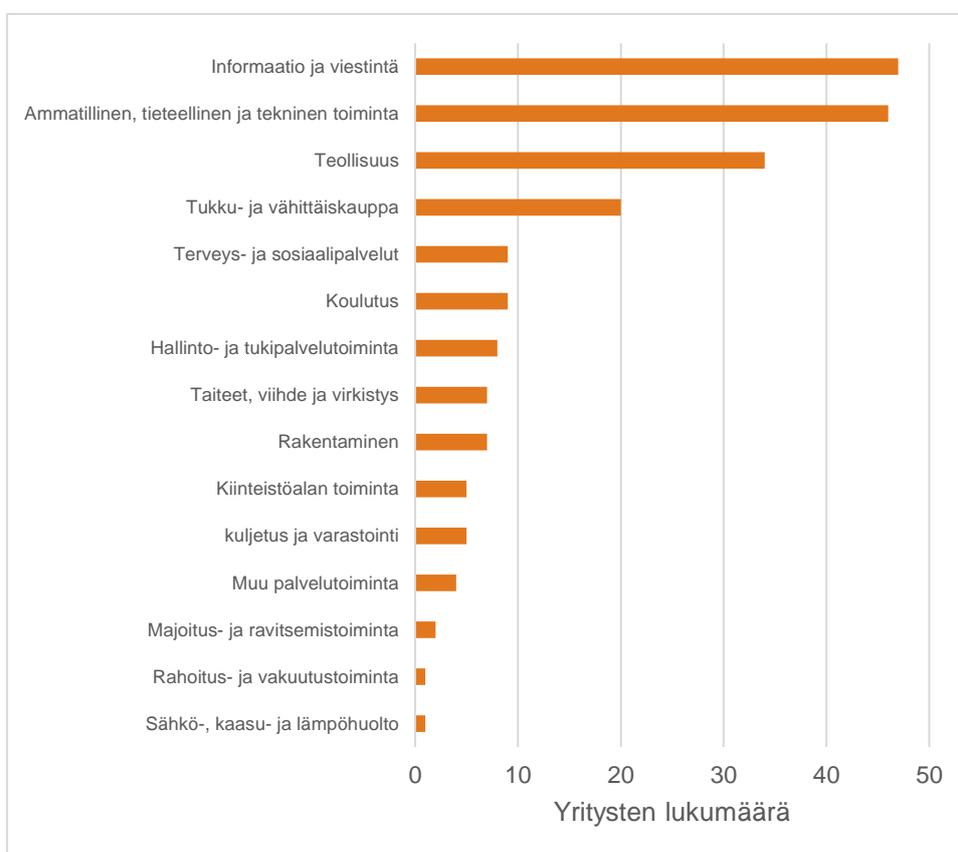


Figure 4. Sectors of companies receiving the voucher.

In the voucher granting model, there were no restrictions on company age. A voucher could also be granted to a brand new company because granting did not require the company to have existing

¹⁴ Information on number of employees was not available from either the vainu.io service or through Suomen Asiakastieto for a total of 71 companies.

business¹⁵. The companies receiving a voucher were mainly young. Of the companies, 58% had been established in the 2010s and 17% in the period 2016-2017. Correspondingly, 25% of the voucher recipients were companies established between 2000 and 2009, and 17% were established before 2000. The oldest company was established in 1952. Almost half the voucher recipients (47%) were start-up companies, meaning they were no more than five years old. The years of establishment of voucher companies is shown in greater detail in Figure 5.

The average age of companies receiving a voucher is 10 years. Examined by sector, companies in ICT and professional, scientific and technical fields are younger than this. In the former group, the average ages are a little over seven years, and in the latter group are little more than nine years. In industry, the third largest sector of companies receiving a voucher, the average age of companies is clearly higher than in the other two groups, a little less than 18 years. In spite of this, half the companies from the industrial sector were founded in the 2010s.

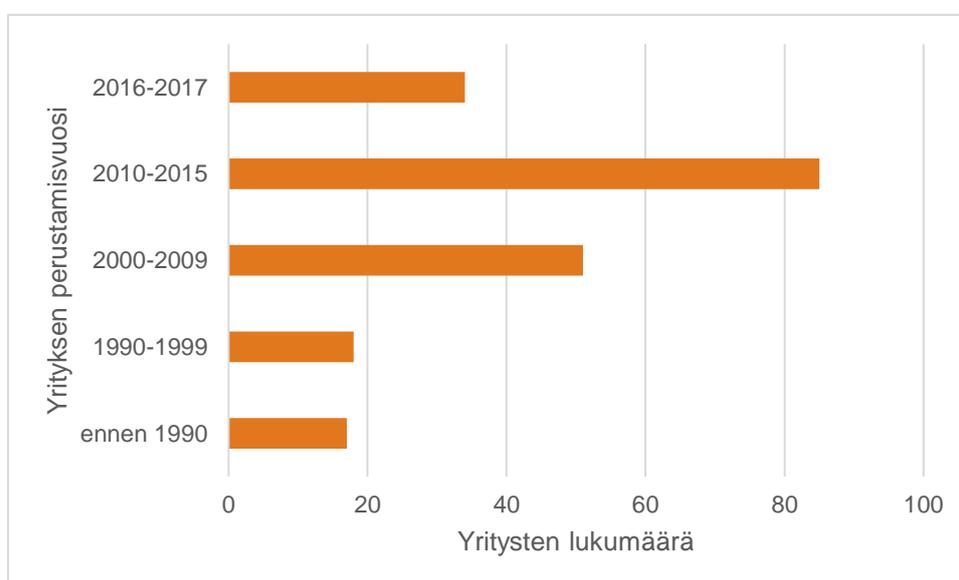


Figure 5. Year of establishment of customer companies receiving a voucher

In sector-specific examination, significant deviations from the dominance by micro-enterprises can be observed to some extent in the industrial sector, even though the majority of companies in industry also belong to the micro-enterprise category. Of the industrial companies, 13 of 34 have an annual turnover of more than €2 million meaning that, in terms of turnover, they are no longer micro-enterprises. Of industrial companies, the share of micro-enterprises is thus a little more than 60%, which is less than the share of micro-enterprises from companies in all sectors (82%). This is partly also because of the nature of the industrial sector in which capital is committed to machinery, premises and warehouses and the use of intermediate products increases turnover.

¹⁵ In the period 2016- 2017, Business Finland/ Tekes innovation vouchers use criteria according to which companies receiving financing were required to have one whole financial period before a voucher could be granted. Business Finland removed this criteria at the beginning of 2018.

The ICT sector, on the other hand, is particularly dominated by micro-enterprises as 96% of voucher recipients from the above-mentioned sector are micro-enterprises. In the professional, scientific and technical field, the corresponding figure is 80%, and in many other sectors like health and social services, education and administrative and support services, all the companies receiving a voucher are micro-enterprises.¹⁶

In the first application round, the domicile of the company's was not restricted. In the last two rounds, however, there was a condition according to which a company had to be registered or have a branch in Pirkanmaa. Ultimately, 176 companies that received a voucher were domiciled in Pirkanmaa (83%). A total of 105 companies had previously received other de minimis subsidies prior to the voucher, i.e. a little more than half of the voucher recipients (Figure 6). In the period 2013-2016, 57 companies had received Tekes funding (28%)¹⁷. Some Tekes funding is on de minimis terms, so these categories are partially overlapping.

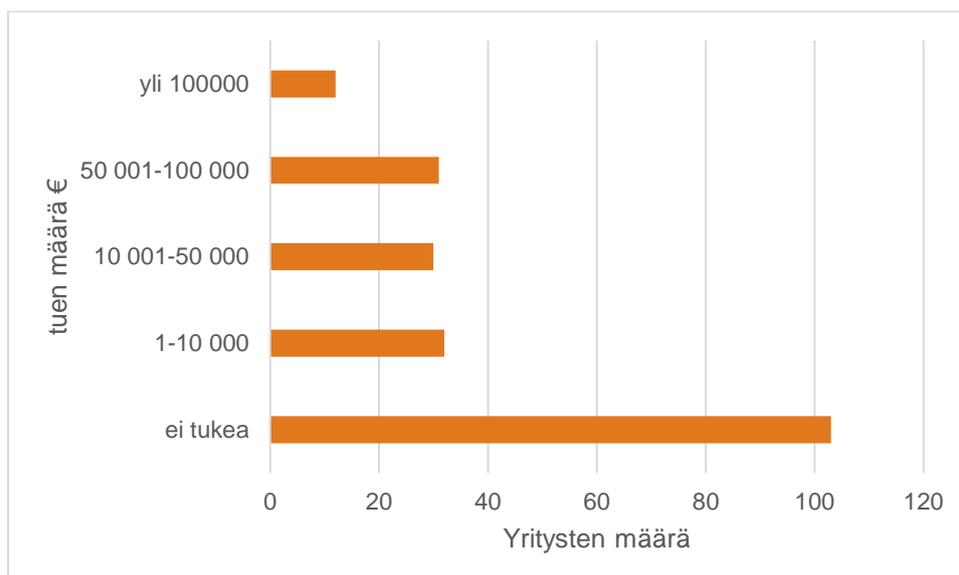


Figure 6. Other de minimis subsidies received by voucher companies (source: Business Tampere)

Box 1. Voucher customers that are start-ups and industrial companies

Of the sectors of voucher customers, the most common were ICT, professional, scientific and technical activities and industry. The sector, however, does not always indicate very precisely the nature of the company or its business. Next we shall examine the group of Pirkanmaa

¹⁶ See Appendix 2

¹⁷ Vainu.io

companies that received the voucher from the perspectives of digital start-ups and internationalisation.

Approximately one-fifth of the companies can be classified as start-ups, if the term refers to a young company seeking growth, which is developing a product or service aimed at the international market with significant growth potential. From this group, public visibility has been achieved by Delta Cygni Labs, a company developing remote solutions in augmented reality (AR), which was selected for the European Space Agency's Business Incubation Programme in spring 2018, and Netled Oy, a company developing lighting and cultivation solutions for greenhouses which was selected for Sitra's "the most interesting companies of circular economy in Finland" list. HUOLETI Oy is an example of a software company in the healthcare sector with its own app, which won the OP Smart Health Innovation Challenge in spring 2018. Applicado Oy, which has developed a clinic data app, and in 2016 was selected as the company with the greatest potential in KasvuOpen's digital health sector, is also one of the companies that received an innovation voucher.

Delta Cygni Labs is also an example of a spin-off from university- and research expertise and of the close cooperation of companies with the University of Tampere. Such companies also include Olfactomics Oy, which is developing a knife that can detect cancer, SME Jilab Oy, which is working in the field of the digitalisation of pathology, ColloidTek Oy, which is developing fluid analysis technology, and Grundium Oy, whose product is a portable digital microscope.

In terms of public financing, the recipients of the innovation voucher are mainly quite development-orientated. In addition to the innovation voucher, according to the survey 58% of voucher recipients have received public development financing. Between 2014 and 2017, a total of 64 companies (approximately one in three) received Tekes funding. The business result was negative for approximately one in 10 companies, which can indicate significant investments in development.

According to the survey, Finnvera loans or guarantees were slightly rarer, enjoyed by one in five of the voucher recipients. Of Finnvera customer companies, three-quarters had a turnover of less than €0.5 million. Quite many of these companies were small ones seeking internationalisation. A little under 10% of the companies are exporters registered with Customs. Without exception, these companies operate in the industrial and wholesale sectors. In reality, there are more companies engaged in international business because companies engaged in the export of services are not registered with Customs. An indicative estimate is that approximately one in five companies receiving the voucher clearly have international operations.

In addition to start-ups and brand new companies, there is also significant attention among voucher recipients on larger, older and more established companies, which are particularly

operating in the industrial sector. It also seems that the Tampere Region innovation voucher has reached quite a lot of companies in this group. From the perspective of RDI, small- and medium-sized industrial companies are a very different group to start-ups actively seeking growth. Where start-ups are aiming directly for growth and internationalisation, more established companies usually have a need to renew and develop their operations. These companies already have existing turnover, but on the other hand operations may be very concentrated on existing functions, so even a small external incentive like the innovation voucher may have a significant impact on development, in terms of the renewal process.

Although, according to the survey, two-thirds of companies with a turnover in excess of €2 million had received other public development financing (Tekes, ELY, Finnvera) in addition to the Tampere Region innovation voucher, only one-third had previously purchased public or private consultancy services. It also seems that the voucher has been able to activate more established companies to acquire external consultancy services, and it is also worth studying more closely the use of the voucher as a targeted tool in the renewal of more established companies.

3.3. Profile of service providers

93 different service providers took part in voucher projects. Most of them were registered in Pirkanmaa (58%). The next most common domicile was Uusimaa where a total of 21 companies (23%) were registered. The domiciles of other service providers were distributed quite evenly throughout a total of seven other regions. Three companies registered abroad also served as voucher service providers on a trial basis. The access of foreign companies to being a service provider was, however, not possible as a rule. Foreign companies providing services were located in Sweden, Spain and India.

The service providers have mainly also been limited companies. Amongst the Finnish service providers, the form of business of a total of 10 (11%) was something other than limited company.

Of the Finnish service providers, a little more than half (54%) represented the professional, scientific and technical sector. The next most common sector was ICT, which was represented by one-third of service providers. 11 companies represented other sectors which were, in order of size, training, industry, wholesale and retail trade, arts, entertainment and leisure, and the financial and insurance sector.

Just like the companies receiving the voucher, the service providers were also mainly micro-enterprises and 80% of these companies, whose turnover information can be found at the vainu.io service, were micro-enterprises (Figure 7).

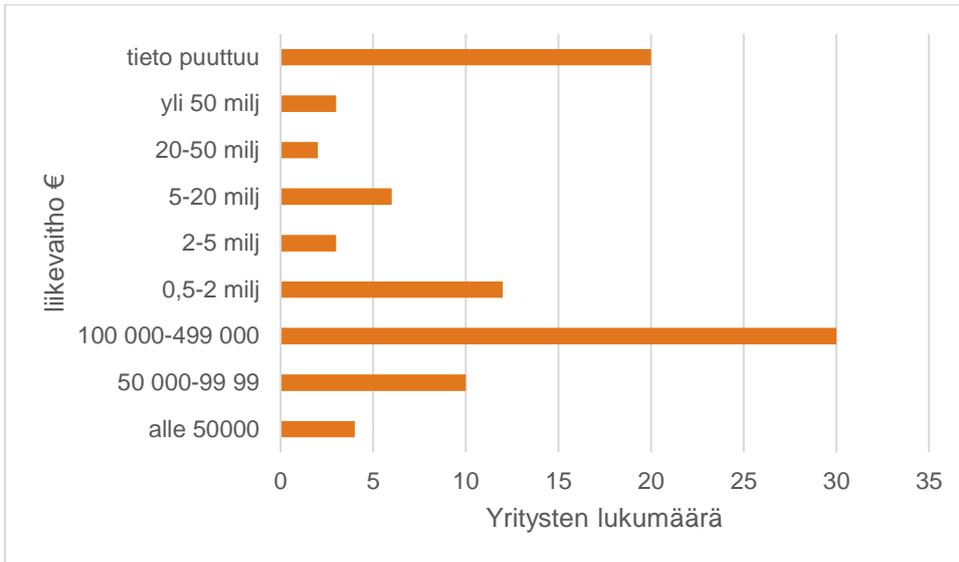


Figure 7. Turnover of companies acting as service providers. Source: vainu.io

The number of employees of service providers is in proportion to their turnover. Two-thirds of service providers are companies employing fewer than 10 people.. 60 of the 90 companies are on the Employer Register, meaning that they regularly act as employers.. No information about number of personnel is available for 30 companies or organisations. This group includes companies that are not limited companies, new companies and companies with no salaried staff. The number of employees of service providers is shown in Figure 8.

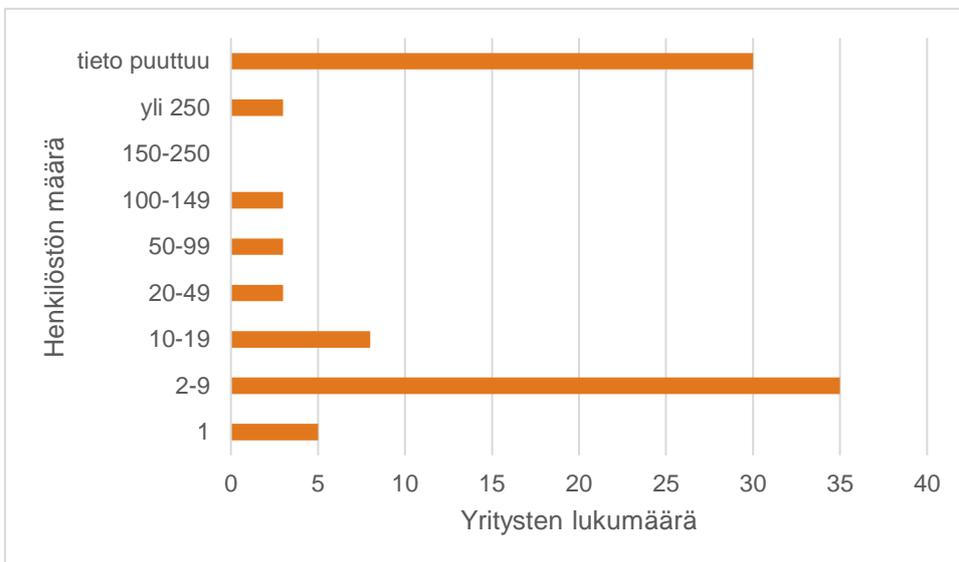


Figure 8. Number of employees of companies acting as service providers.

Service providers and voucher customer companies are also united by the fact that the companies in both groups are mainly young. More than half of companies acting as service providers were

established in the 2010s and one-quarter in the first decade of the new millennium. A total of 40 companies were less than five years old in 2017, representing 45% of all service providers.

Consulting companies in particular acted as service providers, which also explains the sector distribution of service providers (Figure 9). Half of service providers belonged to the professional, scientific and technical sector, and one-third to ICT.

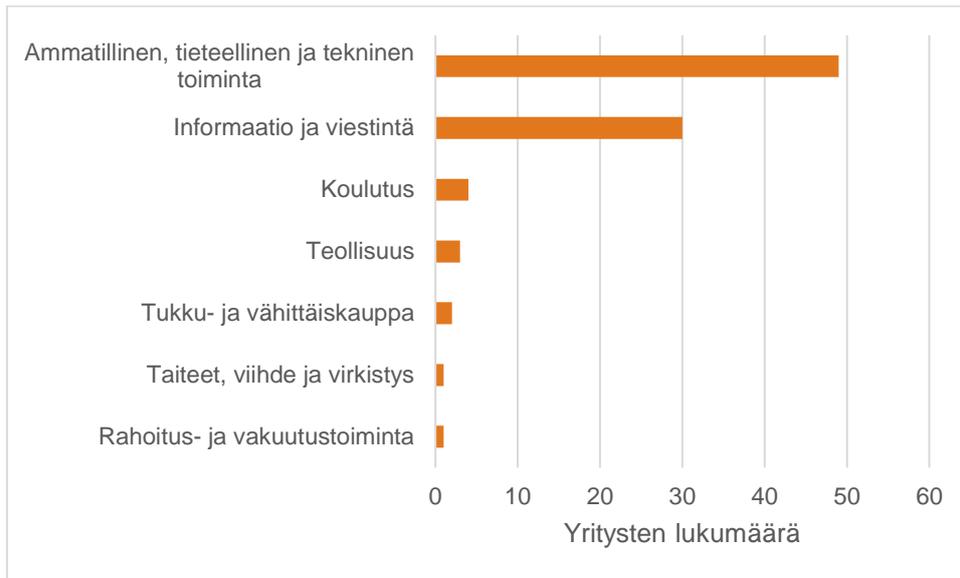


Figure 9. Sectors of service providers

4. RESULTS OF ASSESSMENT

4.1. Voucher project implementation from a perspective of customer companies

4.1.1. Implementation of surveys

As part of the impact assessment of the innovation voucher pilot, electronic surveys were sent to both customer companies receiving the voucher and two companies providing voucher services. The surveys charted experiences of applying for and using the voucher. A request to answer the survey was sent to 197 customer companies, 125 of which responded to the survey (response rate 63.5%), and to 92 service providers, 59 of which responded to the survey (response rate 64.1%).

4.1.2. Content of voucher projects

One-third of innovation voucher projects were related to the development of services and service design. The vouchers were also much used in technical development and testing, market and customer research and the development of business digitalisation. About one in ten voucher projects concerned either IPR investigations and legal questions, media and communication strategy or financing. The figure below (Figure 10) shows what kind of services were acquired using innovation voucher financing (several alternative answers were possible for each company).

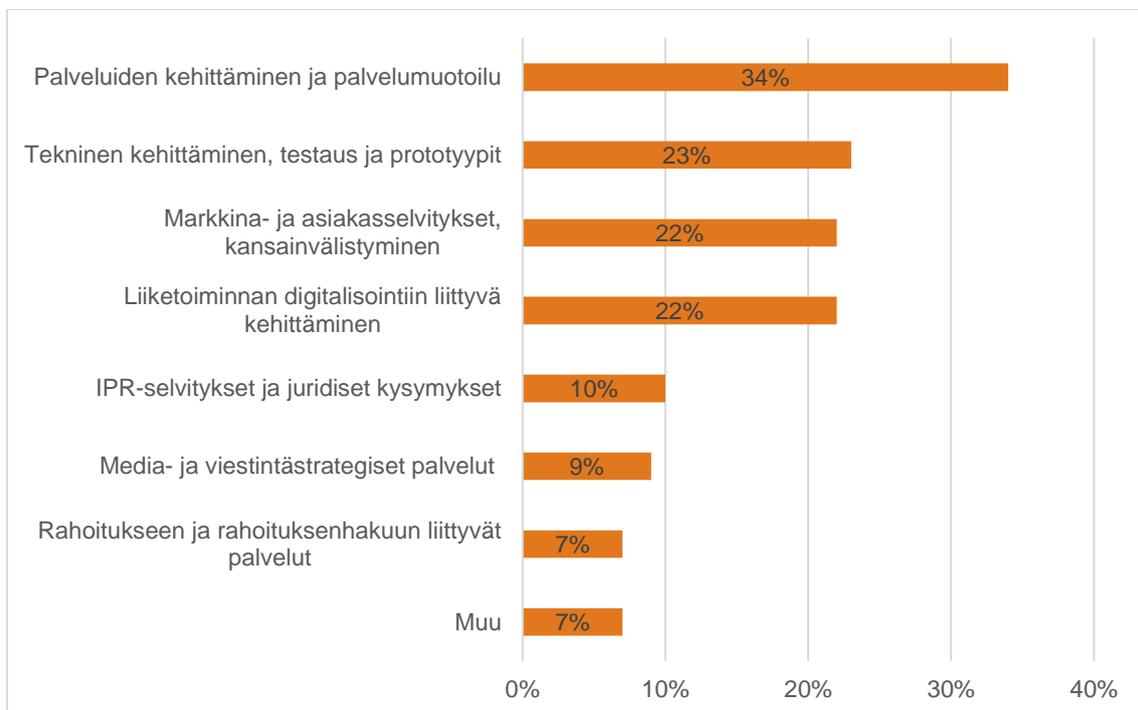


Figure 10. Question: What kind of service did you acquire with innovation voucher financing? (The respondent could select from several alternatives.)

Of the companies responding to the survey, most (82%) said that their voucher project was connected to some wider product- or service development entity. However, more than one-quarter (27%) of companies receiving the voucher said in the survey that they would not have carried out the project implemented with the innovation voucher at all without the voucher subsidy. More than half the respondents (58%) would have implemented the project in part or later, but only a fraction (5%) would have implemented it completely without the innovation voucher. The figure below (Figure 11) shows how innovation voucher financing influenced project implementation.

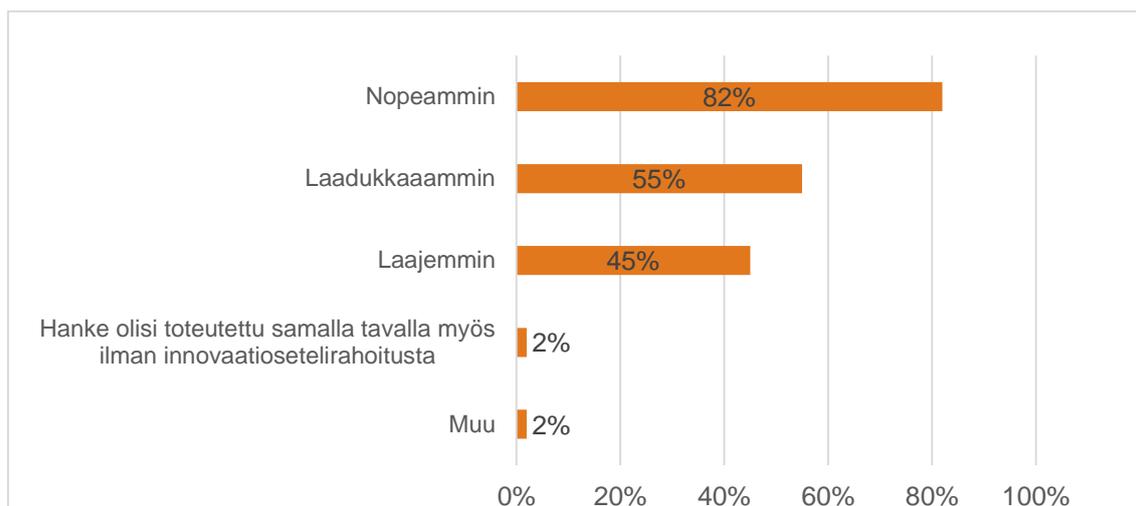


Figure 11. Question: Did you implement your development project more widely/in some other way because of innovation voucher financing? (The respondent could select from several alternatives.)

In many companies, projects carried out with the innovation voucher have also spawned follow-up projects. One-third (33%) of respondents said that they already had a follow-up development projects in progress, and almost one-half (48%) said that they had a follow-up development project in the planning stage. Only 14% of respondents said that their voucher project met a one-off need, and that no follow-up was ongoing or planned.

4.1.3. Satisfaction with voucher projects, service providers and the voucher process

According to the survey, the companies have been very satisfied with the development projects implemented using the innovation voucher. Most of the responding companies (85%) said that they had achieved the results that they wanted from their voucher project, in addition to which 14% said that they had partially achieved the desired results. This means that only 1% of the voucher recipient companies were dissatisfied with the results.

The three most common results of voucher projects for companies were a developed product or service (50%), new contacts, partners or customers (30%) and help with internationalisation (24%). The figure below (Figure 12) illustrates the results that companies obtained from the vouchers (several alternative answers for each company are possible).

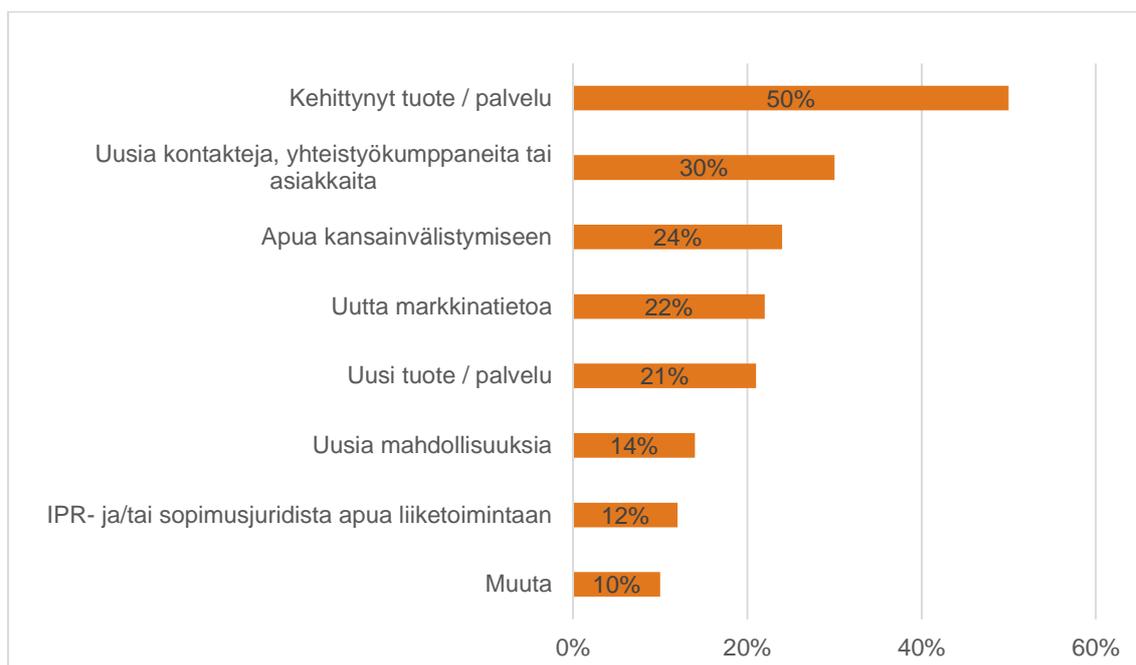


Figure 12. Question: What kind of results did you receive from the voucher financed project? N = 125. (The respondent could select from several alternatives.)

The companies felt that the voucher process was mainly trouble-free (38%) or very trouble-free (43%). Only 5% of customer companies considered the process to be troublesome or very troublesome. They were also satisfied with the value of the innovation voucher: more than 80% of respondents considered the voucher value (max. €5,000) to be suitable. There was a clear split in attitude towards a possible self-financing share: more than one-third (37%) said that they would still have applied for the innovation voucher even if there had been a requirement to provide some of their own financing in the voucher project. Almost one-quarter (24%) would not have applied for the voucher if there had been a self-financing requirement, and the remainder of companies (39%) did not express an opinion on the matter. Of the companies that would have applied for the voucher even if they had had to pay a part themselves, more than half felt that 10-20% of the value of the voucher would be a suitable contribution.

The comparison below (Figure 13) shows that companies that said that they would have applied for the voucher even if it had included a self-financing obligation are on average larger than those that would not have applied for the voucher with such an obligation. Similarly, the voucher projects implemented by these companies would have been more even without the voucher. Of the companies that would have accepted a self-financing share, 78% would have implemented the project even without the voucher, but only 4% would have done so completely. Of the companies that would not have carried out the voucher project if there had been a self-financing requirement, only 36% would have implemented the project or parts of it even without the voucher. The self-financing share also seems to correlate quite clearly with a company's commitment and readiness to invest in development activity.

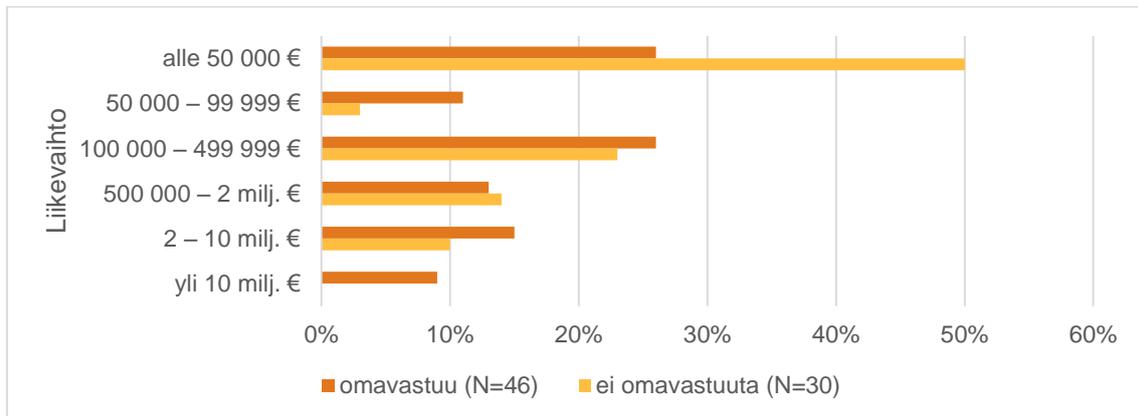


Figure 13. The relationship between company size and willingness to pay a self-financing share

Companies receiving the voucher were mainly satisfied with their service providers. Of the companies receiving the voucher, 86% were either very satisfied or satisfied with the service they received from the service provider, and only 3% of companies with dissatisfied with the service they received. Almost two-thirds (62%) of voucher projects were implemented by customer- and service provider companies that had not previously carried out cooperation. The forming of contacts between new companies and service providers in voucher projects is a very positive observation.

4.1.4. Effects of voucher projects

In the survey, the effects of voucher projects were examined from three different perspectives: the start and expansion of export, jobs created and increased turnover.

Of the voucher recipients responding to the survey, exactly half (50%) said that the action they had begun using the innovation voucher had resulted in export or increased operations in a new export market area.

To date, the voucher projects have created a total of 27.5 jobs¹⁸. Furthermore, more than half (50%) of the responding companies expect new jobs to be created as a result of the innovation voucher project in the next 1-2 years. The creation of so many jobs as a result of small public subsidies seems a very positive result. When responding, the company’s probably could not distinguish the part carried out with the voucher from the whole development project. Because of this it can be considered that the voucher does influence the creation of jobs, but overall the result cannot logically be considered to be the result of a small consultancy project. Another possibility based on which such a significant impact is understandable is that a service acquired with a voucher helped the company to carry out business expansion or to begin a development project for which one or more employees were expressly hired.

One consequence of action taken with the innovation voucher is a significant increase in turnover (more than 10%) already achieved in 17% of the companies. Almost two-thirds (64%) of companies said that they consider it probable that a significant increase in turnover is probable in the next 1-2 years. Only 14% said that no significant increase in turnover has occurred as a result of the innovation

¹⁸ In jobs created, in one case recruitment is under way and, in another case, a job was created after the voucher project, which does not however exist any more. In addition to jobs, an internship was created at one company.

voucher project and will probably not occur in the near future. The figure below (Figure 7) shows how large an increase in turnover the voucher companies expect.¹⁹

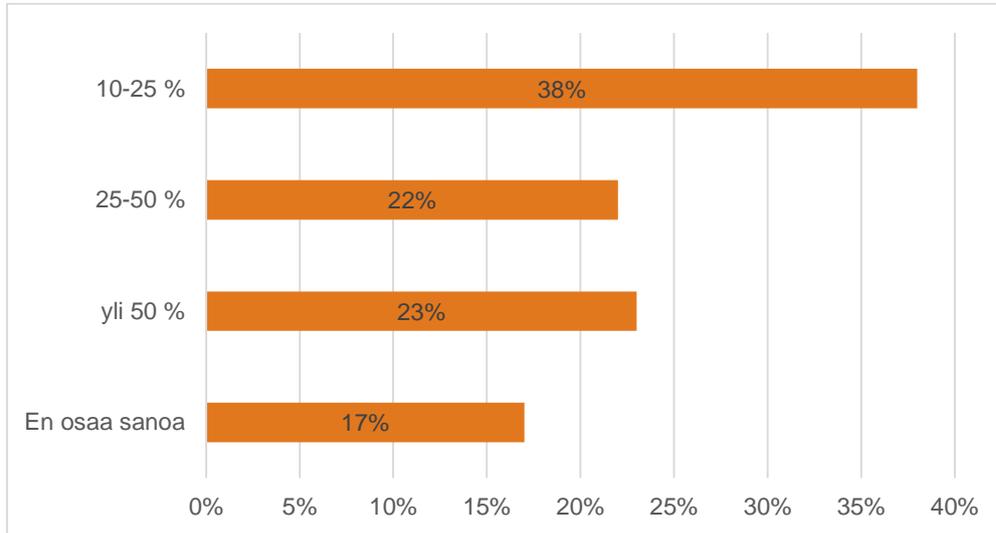


Figure 14. Question: How large an increase in turnover do you consider probable within the next 1-2 years?

4.2. Service provider companies' feelings about voucher projects

Innovation voucher projects were implemented by a total of 93 service providers, approximately half (50%) of which implemented one voucher project and the remainder two or more. Almost half (49%) of service providers received information about the innovation voucher from Business Tampere, one-quarter (25%) from partners and the remainder from customers, the media or some other source. Of the service provider companies, more than half (54%) have also acted as a service provider in Tekes innovation voucher projects, which is understandable because they have been able to provide similar services through both financing models.

One in seven (14%) service providers said that they had developed a special service product for the innovation voucher and almost half (49%) modified their existing products for innovation voucher projects. The remainder (37%) utilised unmodified existing products in the innovation voucher projects. The service provider companies particularly marketed services provided through the innovation voucher quite actively to both old (48%) and new (46%) customers. Of the service providers, 37% did not market their services other than through the Business Tampere innovation voucher platform. The service provider companies estimated that the range of services in their sector had been positively impacted by the innovation voucher (70%) or had not been impacted at all (22%). The remainder of the respondents (8%) did not have an opinion on the matter.

Four-fifths (80%) of service providers said that they had gained one or more new customers as a result of the innovation voucher. Most of the innovation voucher projects have also spawned follow-up projects with customers: 32% of service providers said that, when answering the survey, one or more follow-up projects were already under way, in 15% of cases a follow-up project had been agreed but

¹⁹ The question was answered only by companies that reported an increase in turnover or expect one within 1-2 years.

not yet started, and 36% said that they were currently discussing a possible follow-up with the customer. Only 17% of service providers said that no possibilities for follow-up projects had arisen as a result of innovation voucher projects.

In the view of service providers too, the innovation voucher process was mainly considered trouble-free: up to 80% of respondents were of the opinion that it was trouble-free or very trouble-free. Only 5% of responding service providers felt that the process was troublesome or very troublesome. Most of the service providers (83%) considered the value of the innovation voucher (max. €5,000) suitable for the purpose, and only just over one in 10 (12%) were of the opinion that the value of the voucher was too low.

4.3. Key results of the workshop

In connection with the impact assessment, an expert workshop was held to process the preliminary results of the impact survey, and to identify and brainstorm measures to develop the voucher system, taking into account the needs of companies and service providers, the effectiveness of the innovation voucher in relation to other business services, and the role of the innovation voucher as part of future growth services. The workshop was attended by a total of 16 persons²⁰, including representatives of the voucher service providers, ELY Centres, the Council of Tampere Region and other stakeholders.

The workshop processed the innovation voucher model from three different perspectives:

1. The needs of companies and service providers

What are the problems that the voucher should solve in Pirkanmaa? What needs of companies and service providers have not been solved in Pirkanmaa? How can the voucher resolve these problems?

2. Effectiveness of the innovation voucher

What makes the voucher special? What is/should be the position of the voucher in relation to other business services in Pirkanmaa? Is the voucher, for example, a more effective/easier/more customer-friendly way to address certain needs than other solutions?

3. The innovation voucher as part of growth services

What are the effectiveness of the voucher and its possibilities as part of future growth services? What kind of problems are there in, for example, national coordination.

As a result of the workshop, views on the effectiveness of the innovation voucher model and growth service context were listed. In the final workshop discussion, regional reform and possible ways of using the voucher were also touched on as part of future regional growth services.

The key issues and questions arising from the workshop are summarised in the table below (Table 4).

²⁰ List of participants appended to the report.

Table 4. Key issues from the workshop.

Key issues/question	Specifying remarks
Voucher allocation to new companies	<ul style="list-style-type: none"> - Voucher allocation only to new and small companies or alternatively according to quota size and the company's stage of development
Benefits not only to the voucher recipients but also to service providers	<ul style="list-style-type: none"> - In the voucher process, service providers are "in the shop window" - this forces service providers to conceptualise their own products - The voucher model brings new customers to the service providers - Competition between service providers boosts service development
The voucher as a lure into the sphere of public business services	<ul style="list-style-type: none"> - The threshold to use other public business services is lowered
A regional voucher provides a good possibility to allocate support to regional problems/targets	<ul style="list-style-type: none"> - The voucher can also boost regional cooperation (companies, academic institutes, etc.)
Effectiveness and ease of the voucher model	<ul style="list-style-type: none"> - Easy and effective in the opinion of both the service organiser and companies and service providers - Possible for the regional administration/granting party also to allocate voucher financing precisely according to its strategy - Also one of the only ways to provide services together with the market
The voucher enables an equal supply of services	<ul style="list-style-type: none"> - Service available irrespective of company or location
Financing - where does it come from?	<ul style="list-style-type: none"> - Regional financing open, opportunities, for example, for the alliance model, EU funding? - Regional reform offers a significant opportunity to organise services in a new way

4.4. Interviews with experts

In connection with the assessment, a total of 14 experts were interviewed.²¹ Key themes of the interviews included for which kind of companies is the voucher an effective tool, how is the voucher positioned as part of the wider business service system and future regional and national growth services, how should companies receiving the voucher be selected and what kind of coordination is needed between different parties that grant the voucher?

²¹ See Appendix

Key questions and points of view arising from the interviews are listed in the table on the following slide. (Table 5.)

Table 5. Key questions and points of view arising from the interviews.

Question	Key points of view
For which kind of companies and needs are the vouchers particularly suitable?	<ul style="list-style-type: none"> - The company has a limited and identified “one-off” need - Particularly new and possibly directly internationalising companies and small employers aiming to revamp their business - A prerequisite for effectiveness is the existence of a genuine desire and need to develop - A question of rectifying a gap in the market, not a general distribution of cash. Should specify and identify a target group for support. Not worth subsidising a market that is already operating.
What could the role of the voucher be as part of future growth services?	<ul style="list-style-type: none"> - Activity can be allocated to regional spearheads and gaps in the market - In a world of scarce resources, resources should be allocated, for example, to the region’s own strategic focus areas. - Important to identify a voucher target group and operation that there is a desire to promote - Can be used as a “roll-in product” for business services - Cooperation between the Council of Tampere Region, the City of Tampere and Business Tampere in the project a good example of the alliance model. - The voucher model enables companies to become service providers flexibly and to activate the service market
What kind of criteria/selection mechanism should there be for companies?	<ul style="list-style-type: none"> - A challenge to coordinate a suitable project selection mechanism and target from light bureaucracy - Drawing lots or granting in order of speed arouses opposition. Instead of drawing lots, applications should preferably be assessed - Should be possible to segment the company field and allocate vouchers to the companies with the greatest potential to grow - Self-financing share encouraging for companies: demonstrates commitment to develop
What kind of national/regional coordination is needed?	<ul style="list-style-type: none"> - A common platform should be introduced more widely and further developed in cooperation, and communication between the authorities should be invested in - The business service field is fragmented from the perspective of companies. There should be cooperation between the national and regional levels. Not worth keeping overlapping vouchers.

4.5. Innovation voucher cost-benefit analysis

One aim of assessment was to produce an analysis of the benefits of the voucher pilot in relation to its costs. Cost-benefit analysis usually means a calculation that can be used to specify the social profitability of a planned project, i.e. do the benefits arising from project implementation outweigh the costs arising from it. In this case, costs mean the costs of the innovation voucher project including financing distributed as vouchers, the costs of the digital platform developed in the project and other administrative costs. Benefits mean the turnover generated and yet to be generated in companies, and the value added and jobs generated by the vouchers. In the analysis, approaches used in previous innovation voucher assessments were applied (see Appendix 1). The model and coefficients used in the calculation in the creation of the effects of the value added of the voucher are particularly based on a similar assessment performed in Northern Ireland.²²

Based on previous assessments of innovation vouchers granted in other European countries,²³ the following rules of thumb can be formed about the costs and benefits of the vouchers:

- The financial benefits received by companies are divided into periods of approximately 2-3 years
- The contribution/additionality of the vouchers varies between approximately 10% and 40%
- It is estimated that the vouchers create one job for every 2-10 vouchers
- The vouchers create on average approximately €0.5-€1.5 of gross value added (GVA) for each “voucher euro”

Examination entails the following limitations, amongst others:

- The innovation voucher is a service whose primary objective is to initiate development in companies, and its benefits should not primarily be viewed based on short-term growth achieved
- Evaluation of benefits (increased turnover and jobs) is based on the realised and expected effects declared by the companies themselves in a survey
- The company's estimate of growth in turnover is based on relative growth. The calculation is based on average effects
- The impact of the innovation voucher cannot be examined separately from the company's development project. The innovation vouchers value added (additionality) to benefits has been taken into account in accordance with an assessment carried out in Northern Ireland.
- A comprehensive analysis of the growth effects of the innovation voucher would require a statistical examination to be carried out several years after the financing and/or an assessment based on a randomised test arrangement whose planning would also be included in the planning of the voucher model.
- The calculation of cost benefits does not take into account possible external effects of the vouchers, which may include the general acceleration of RDI work by the region's companies,

²² SQW (2014) An Evaluation of the Invest NI Innovation Vouchers Programme. A Final Report to Invest NI. See Appendix

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²³ See Appendix 1

the regional spread of information, technology and expertise, or the positive impact caused to the region's business by increased competition.

Assumptions used in making the calculation

Based on answers to the survey, the combined turnover of companies is assumed to increase by a total of €19.6 million over the next two years. Of this increase, according to the companies approximately 25% has already been realised or is being realised during the current financial period, and 75% is similarly expected growth in the coming years. The calculation has estimated the turnover of companies based on an average turnover of €382,890 by the micro-enterprises that are known about²⁴. It must be assumed that the turnover of companies expecting larger relative changes is presently low. Answers to the survey confirm this hypothesis. Figure 8 shows a distribution of the relative increase in turnover expected by companies over three company classes: companies whose turnover is less than €100,000, companies whose turnover is between €100,000 and €2 million, and companies whose turnover is more than €2 million.

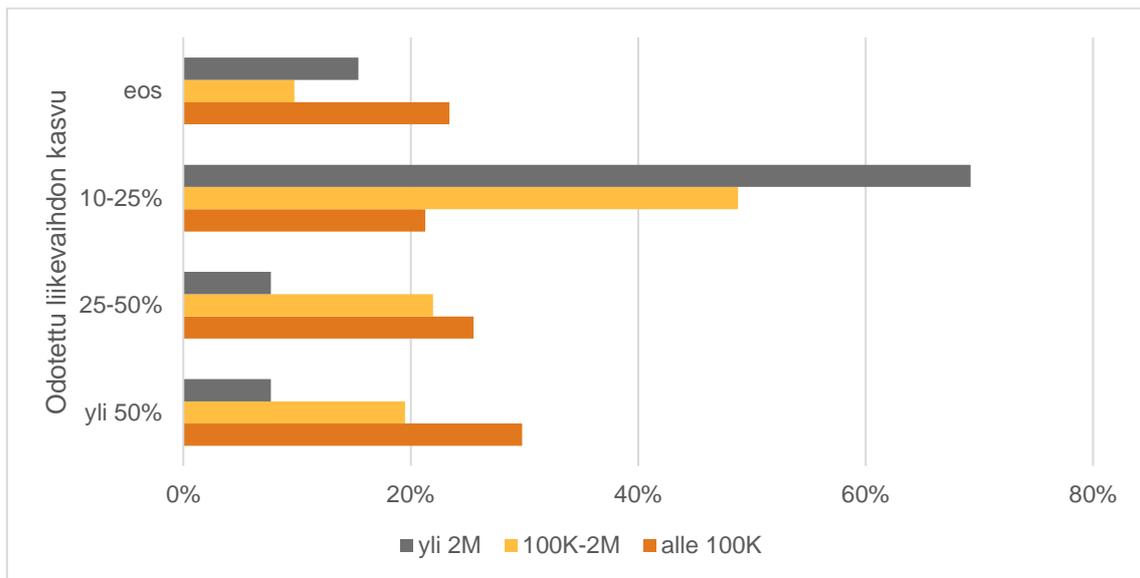


Figure 15. The relationship between the present and expected turnover of companies by category.

There are 29 companies receiving the voucher whose turnover is greater than €2 million and the turnover of the largest company is €35 million. Applying the relative change in average turnover estimated by the companies also to these companies would probably overestimate the total amount of benefits.

In the survey and in telephone reminders made in connection with the survey, the companies reported an overall effect of 27..5 new jobs from innovation voucher projects. Of the respondents to the survey,

²⁴ The median of the turnover of micro-enterprises is still clearly lower: €138,000 Turnover information is completely lacking from companies that are not limited companies and from new companies. On the other hand, disregarding companies larger than micro-enterprises when specifying turnover compensates for the group of missing small businesses.

a total of 58% expected jobs to be created in the next two years. Assuming that one job is created for each company expecting a job, over two years a total of 120 new jobs would be created in addition to the 27.5 already created.

In terms of value added, the calculation uses the coefficient used in an assessment carried out in Northern Ireland, according to which value added is 31% of the company's growth in turnover. Value added means the difference between the sales price of a product or service and the price of the intermediate products and labour (salaries) required to produce it. Value added is connected to gross domestic product, which is formed by adding up the value added produced by different actors in the national economy, and it depicts the social benefit of their activity.

The calculation has taken account of the fact that the expectations of companies are not the necessary realised in full by making a different scenario in which only a half the expected benefits in turnover and employment are taken into account.

Based on the assessment carried out in Northern Ireland, the calculation has assumed that the additionality of the voucher, i.e. the addition resulting from the voucher, is 47% of the increase in turnover and 40% of the created jobs. As was established when processing the answers to the survey, in companies the vouchers were linked as part of broader development work whose effects even the companies themselves had difficulty in distinguishing from the effects produced by the vouchers themselves. It should also be taken into account that, when the assessment was made, the economic situation was very positive and the prospects of SMEs for the future were positive, which probably also affects the growth prospects and answers of the companies.²⁵

The costs of the voucher project have totalled approximately €1.7 million. €1 million of this sum was distributed to the company's as vouchers. During the implementation of the project from the beginning of 2016 until June 2018, personnel costs have been €295,000, and the development and administration costs of the digital voucher platform approximately €250,000. In addition to these costs, legal advice services were procured for approximately €40,000, ICT services for approximately €28,000 and impact assessment -related services for approximately €30,000. General costs of approximately €70,000 were also allocated to the project by the implementing party. In the calculation, an alternative scenario of costs is presented, in which development and administration costs are half the actual ones, i.e. approximately €350,000. This scenario aims to depict a situation in which the voucher model is established in use and such great investments in development are no longer needed.

²⁵ The Federation of Finnish Enterprises 2018 SME barometer, spring 2018 Regional report Pirkanmaa. https://www.yrittajat.fi/sites/default/files/aluekalvot_pirkanmaa_kev2018.pdf

Table 6. Cost-benefit calculation

Tampere Region innovation voucher*	Employment	Turnover	Valued added*** (31% of turnover)
Gross effect (total benefit stated/estimated by companies, based on survey)	Achieved 27 May Expected 120	€19.6 million	€6.1 million
Additionality** i.e. programme's value added (Voucher's share of total benefit)	40%	47%	47%
Net effect (Voucher's share of gross effect)	59	€9.2 million	€2.9 million
- Actual benefit declared by companies	11	25%	25%
- Benefit expected by companies within two years	48	75%	75%
Net effect 1/company (Includes expected benefits) (n=205)	0,29 (total 59 jobs)	€44,900	€13,900
Net effect 2/company (Assumption that 50% of expected benefits achieved) (n=205)	0,17 (total 35 jobs)	€28,000	8,700
Yield-expectation coefficient 1 (net effect 1 and programme costs €1.7 million)	-	5.4	1.7
Yield-expectation coefficient 2 (net effect 2 = 50% of expected benefits achieved and programme costs €1.7 million)	-	3.4	1.0
Yield-expectation coefficient, scenario with lower administrative costs (Costs €1.35 million and 50% of expected benefits achieved)	-	4.1	1.3

* benefit declared/estimated by companies based on survey carried out in assessment

**Coefficients and calculation method based on calculation made in an assessment carried out in Northern Ireland, see SQW (2014) An Evaluation of the Invest NI Innovation Vouchers Programme. A Final Report to Invest NI.

*** Value added measures value added achieved in the company (turnover - labour, use of intermediate products, etc.), GDP is calculated based on the total value added produced in the national economy. Coefficient based on SQW (2014).

Based on the different scenarios, it is decided that each euro distributed in the form of a voucher generates €3.4-5.4 of turnover within two years in companies receiving the voucher, and the value added coefficient generated by the voucher is between 1.0 and 1.7. Based on the calculation, thanks to the voucher within two years one new job is created for every six financed companies, if one assumes that half the expected increase in jobs is achieved. When achieving all expected events, a job would be created at every fourth financed company.

Based on the calculation, it can be assumed that the project has been an influential and justified activity based on the costs and benefits and from the point of view of the companies and society. It is noteworthy that the true impact of the projects will be achieved if the investment made in the project, i.e. the digital voucher platform, is in future more widely introduced and streamlines the administrative process of business service voucher-type business subsidies more extensively in the country.

Another important observation in the calculation concerns the administrative costs arising from granting the voucher. In Business Tampere's pilot project, the administrative costs have been significant, particularly because of the development costs of the voucher's digital administration platform and the project work related to the planning of the voucher project. These costs are understandable in a pilot project, but essential in terms of the voucher's cost-benefit ratio. In the scenario in which the costs are €350,000 less (€1.35 million) and half the expected benefits are achieved, the benefits coefficient rises from 1.0 to 1.3.

More certain information about the financial impact of the vouchers can be obtained later by examining the growth of the companies.

5. SUMMARY AND CONCLUSIONS

5.1. Summary

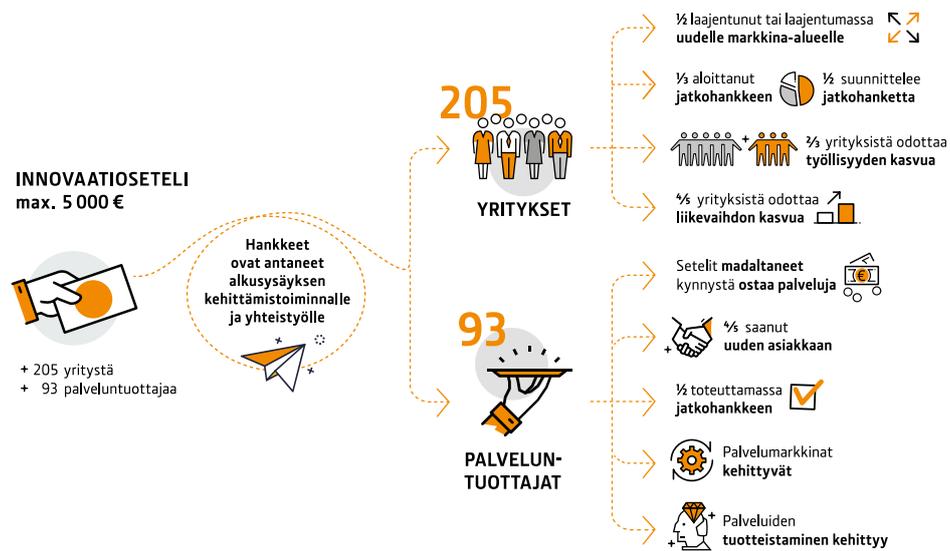


Figure 16. Summary of the effects of the Tampere Region innovation voucher pilot on companies and service providers.

This assessment examined the Pirkanmaa innovation voucher pilot from a perspective of companies receiving the voucher, service providers, the administrator/financier and its broader social impact. It also examined the opportunities to apply the voucher model to the reform of growth services. Next is a presentation of the conclusions of the assessment from each perspective. The key conclusions are summarised in the table below.

Table 7. Summary of the conclusions from different perspectives.

Perspective	Key conclusions
<p>Companies receiving the voucher</p>	<ul style="list-style-type: none"> • The voucher initiated new development activity, as only every 20th company would have implemented its project in the same way even without the voucher • Every second company would also have implemented the action carried out with the voucher without the voucher, but the voucher assisted the implementation of the projects more quickly, more extensively and with higher quality • The development activity initiated is typically linked to a broader whole. The vouchers have produced or are producing follow-up projects in most cases • The companies receiving the voucher are mainly very satisfied with the voucher model and consider the process to be trouble-free • The companies have very positive expectations about the voucher’s impact on their growth, turnover and employment in the future • The voucher’s benefits are best realised in a situation in which the company has an existing clear idea and a desire to implement it
<p>Service providers</p>	<ul style="list-style-type: none"> • Service providers are very satisfied with the voucher model • The voucher is considered a easy financing service with little bureaucracy • Through the voucher, many service providers have gained new customers, and cooperation with the voucher customer is continuing or planned to continue in as many as four cases out of five • The vouchers have encouraged service providers to design and package their own services clearly to suit the needs of the customers and as packages to suit the financial frameworks of the innovation voucher • The voucher increases competition in the service market by forcing service providers to develop their range of services and by lowering the threshold for companies to acquire services
<p>Administrator</p>	<ul style="list-style-type: none"> • From a perspective of the administrator, the voucher is a customer-friendly and flexibly adaptable tool with very little bureaucracy involved. • The administration model and platform developed in the pilot project will in future enable the benefits of efficient operation and digitalisation to be better achieved as operations become established and volumes increase • For the region, the voucher is a useful tool in the organisation and provision of growth services, and to support the aims of commercial strategy • For the municipality, the vouchers are an opportunity to support urban development and piloting, and to get companies involved in the development of the city • In the allocation and implementation of vouchers used regionally and locally, other regional and national voucher models must also be taken into account • The voucher is a tool to be implemented by means of alliance cooperation between financiers and the operator

The perspective of social impact and innovation policy

- Viewed from the broader perspective of innovation policy, the vouchers are (when correctly utilised) a welcome and useful tool
- The vouchers must, above all, be understood as “a matchmaking tool” to increase cooperation between (small) companies and service providers - not as “a financing instrument” or something to make up for lack of financing
- The vouchers’ effective mechanism is based on the fact that they “nudge” companies towards implementing/starting activity (e.g. new R&D projects) that perhaps would not happen without the vouchers. Because of this, the wider social impact of the vouchers should only be examined in the longer term.
- Based on the above, the vouchers function best as a temporary and carefully allocated intervention to resolve a certain identified gap in the market - not as a non-targeted “general instrument”
- The vouchers should be integrated with other existing forms of RDI subsidies

5.2. Conclusions from a perspective of a company applying for a voucher

Companies very satisfied with the voucher – particular benefits lightness, speed and freedom of choice

One benefit of the voucher model is the small size of the subsidy, its administrative lightness and the fact that it can be quickly applied for and at the disposal of the company. It offers the chance to use external expert services particularly to companies who do not have either the resources to purchase such expertise or existing contacts and networks from which external help may be acquired.

The basic principle of voucher models is that a company that is granted a voucher can both decide itself on where to use the voucher and choose from many alternatives of service provider that it wants according to its own need. The freedom to choose the service provider is a benefit, for example in cases concerning internationalisation where the best information about the target market is often available from consultants who know that market. From a perspective of a company receiving the voucher, it is also easy to use it to investigate some quite small and limited question or entity. These general objectives have been well met in the voucher pilot administered by Business Tampere, and four out of five customers felt that the service was either very or quite easy to use and were also satisfied with the service they received from the service provider.

Clear value added from the vouchers for company R&D projects

It is noticeable that, in most cases, the projects implemented have been linked to broader product -and service development entities. In relation to this, it was noticed from the survey answers that most projects implemented using the voucher would have been implemented in the companies anyway, but more slowly or in a more reduced form than was possible with the voucher. In terms of impact, it is positive that the share produced with the voucher is part of a wider whole. The continuity of RDI activity is also supported by the observation that, when making the assessment, one-third of the companies already had a follow-up project related to the voucher project ongoing, and every second company was planning such a follow-up project.

It can be stated that the direct effects of the voucher pilot in companies seems at this stage to be very positive.

5.3. Conclusions from a perspective of service providers and the service market

Service providers satisfied with the voucher model and have gained new customers

In addition to companies receiving the voucher, service providers have also been satisfied with the innovation voucher and, for service providers too, it has been an easy and trouble-free service to use. Four out of five service providers that implemented voucher projects gained new customers as a result of the voucher, meaning that the companies also found previously unknown service providers with the innovation voucher.

In addition to the initiation of development activity by companies receiving the voucher, efforts are also being made to use the voucher to influence the structure of the service market. In an innovation voucher project, parties registered as service providers have also had to develop their own range of services for the product cards prepared for the service platform. According to the survey, every seventh service provider had developed a completely new service for the voucher, and half of the service providers had modified an existing service so that it was suitable for provision with the voucher. The productisation of expert services and the modifying of services into something that could be purchased with the voucher also help to clarify for the customers the content and benefits of the range of services.

Impact on the service market seen as positive

The service providers expect the voucher to increase competition and create a positive impact on the structure of the service market. The stimulation of the service market aimed for with the voucher should also encourage companies to continue using more external services in the future, which will also increase the business of service providers. Cooperation carried out with customers in voucher projects is also continuing in four out of five projects.

What is significant in the innovation voucher compared to other public business services such as development services put out to tender by ELY Centres is the competitiveness of the activity, i.e. the opportunity for the company receiving the voucher freely to choose the service provider it wants without the financier specifying suitable consultants in advance. Competitiveness creates dynamism for the market and also gives new service companies the chance to provide publicly financed services. The Pirkanmaa voucher pilot has also involved service providers many of which are quite small and young companies and which are specialised in a certain field of expertise. Of the service providers that responded to the survey, more than half were also service providers for the Business Finland voucher, which is logical because services with similar content can be provided using both financing tools.

Of the service providers of Business Tampere's voucher, a little more than half were companies from Pirkanmaa, so the voucher was also directed quite well at the activation of the local service market in terms of offering.

5.4. Conclusions about the effectiveness of the administration model

Companies and service providers satisfied with the voucher's administration model

Both the companies using the voucher and the service providers are very satisfied with the process of applying for and using the voucher. The digital platform developed in the project is considered an effective and easy solution for service providers to present their range of services and for companies to select for themselves a suitable service provider and apply for the voucher. The only often repeated critical comment concerning the administrative model concerns the invoicing of value added tax. The voucher granted to companies has not included the share of value added tax so, at the end of the project, the service providers have invoiced their customers only for the share of value added tax. This is said to have caused some difficulties for service providers and customer companies.

In terms of the effectiveness of the operation, the effectiveness of a subsidy distributed as financing in voucher form is decisively influenced by administrative costs related to granting the subsidy. This is largely a result of the fact that the individual subsidy totals distributed are small and the number of applications to be dealt with may be very great. Because of this, the administrative burden may become quite large in voucher financing in proportion to the volume of activity.

The share of digital platform development in project costs has been significant – further utilisation of the platform important

In the Tampere Region pilot, the amount of administrative costs in relation to the financing distributed to companies has been quite large. The project's overall costs have been approximately €1.7 million, of which approximately €1 million has been distributed to companies as vouchers. Administrative costs can be explained by, for example, the development and maintenance costs of the digital voucher platform, which have totalled approximately €300,000. The project has also had salaried personnel, both before commencement of the distribution of vouchers in planning and preparatory tasks and after the financing of the voucher projects when taking care of reporting and communicating about lessons learnt.

In the cost-benefit calculation, it was noticed that the effect of the vouchers on value added is probably positive. At the same time, it was found that administrative costs have a significant impact on what the value of the coefficient depicting the relationship between costs and benefits comprises. Generally speaking, compared to continuous and budget-funded activity, the effectiveness of activity is impaired by carrying out financing and administration in project financing to which a certain amount of human resources and a significant amount of project-related reporting are tied. If a voucher is taken as part of established operations, the possible benefits of the digital platform developed in the project can also be more effectively used.

With the effective use of the digital platform, multiple amounts of vouchers can probably be distributed through the platform in relation to the €1 million budget distributed in the pilot project, without increasing the overall manpower required to administrate the vouchers. Conversely, this means that not all the benefits of the digital process can be utilised if the the number of vouchers granted is very small or a significant amount of labour costs are tied to the administration of the voucher.

Worth continuing the utilisation and development of the digital platform

The digital platform has been a significant investment which, where possible, should be put into continuous use and also spread to other areas using vouchers. In future, it would be justified to continue platform development work in cooperation with all actors utilising the voucher model. The exchange of practices and information between regions, cities, municipalities and other parties maintaining the voucher, and the development of shared operating models and service platforms are highly important focus areas for the future. Furthermore as the operation establishes itself, attention should also be focused on the usability of information produced by the system as a resource for innovation system management.

The platform is also a kind of ecosystem tool through which companies and service providers can find suitable partners for themselves. Where possible, this use of the voucher administrative platform should be promoted even if vouchers are not being constantly distributed.

Method of administration and financing influences the effectiveness of operations

The effectiveness of operations is also decisively influenced by the way in which administration and financing are resolved. The vouchers are easily modifiable and usable tools, which can be utilised quickly and easily, for example in the implementation of pilot projects. In terms of the effectiveness and impact of operations, a model like the innovation voucher could, for example, be implemented as a programme-type activity, in which operations are planned to last, say, 3-5 years, but financing and focus areas could be changed in the middle of the programme period based on identified needs. Within the framework of the voucher programme, such things as targeted pilots and “development spurts” for identified company- and service provider groups could also be implemented.

Several alternatives for the voucher granting and selection process

During the pilot, two different granting methods were used to grant the Tampere Region innovation voucher. In the first two rounds, the vouchers were distributed to companies in order of arrival of their applications, and in the last two rounds lots were drawn for the vouchers among the companies that met the application criteria and had submitted their application by the deadline. In both cases, the applicants' eligibility for financing was also checked as well as the linking of the voucher project to the required focus areas. A company would also apply for a voucher for a service that had been specified in advance in terms of content by a service provider that had prepared a certain product card on the voucher platform and that had been approved by the administrator. The amount of assessment in the operating model was low and was restricted not only by the checking of the eligibility of companies but also by the advance checking of the product range of the service providers. A pre-assessment of the voucher target group was therefore carried out in the selection of target group and application criteria, and the subsidy was allocated to companies the subsidising of which was in line with the project objectives. Both the method of granting in order of speed of application and the method of drawing lots therefore lacked the actual assessment of the content of the company's project.

A third method of distributing vouchers, in addition to drawing lots and granting in order of arrival, is to increase the content-related assessment of the financing application based on criteria concerning the nature of the company and project. Actual assessment of the content of project applications was not done in Business Tampere's voucher model, but has been used by, for example, Business Finland. Strengths and weaknesses of all the above-mentioned granting methods (Table 8).

Table 8. Strengths and weaknesses of different granting methods

Granting method	Strengths	Weaknesses
Order of arrival	<ul style="list-style-type: none"> + quick + administratively light 	<ul style="list-style-type: none"> - “the quick eat the slow”, so poor predictability from the applicant’s perspective - the role of service providers may be overemphasised - requires precisely predetermined criteria for eligibility and the selection of target group
Drawing lots	<ul style="list-style-type: none"> + quick + easy + supports the pilot culture and the implementation of high-quality project-/programme assessments 	<ul style="list-style-type: none"> - “randomness”, so poor predictability from the applicant’s perspective - weak legitimacy among companies and citizens - requires precisely predetermined criteria for eligibility and the selection of target group
Assessment	<ul style="list-style-type: none"> + in principle reliable and fair + subsidy allocated more to those needing or deserving + the development potential of the company and idea can be ensured 	<ul style="list-style-type: none"> - the human factor always involved in assessment - application preparation and processing causes work and costs both for companies and for the subsidy administrator - writing applications is not a core activity for companies, but it demands a significant amount of work - the role of service provider may be significant in preparing the application

The drawing of lots and granting vouchers in order of arrival, which entail well-defined pre-selection criteria, are efficient and administratively light ways of distributing the vouchers. Based on interviews with experts and feedback received in the survey, both drawing lots and granting in order of arrival are, however, considered to have some deficiencies.

Granting in order arrival is an administratively light and fast way to distribute the vouchers. It may, however, lead to a situation in which a budget reserved for vouchers is used very quickly and many companies are left without a voucher because they were late in submitting their application. In this model, the target group for the subsidy should be precisely specified in advance, because companies to be financed are not selected afterwards based on assessment or other criteria.

Drawing lots is an administratively sensible, effective and easy way to distribute vouchers among a group of companies that has been identified as worth financing based on the strategic goals of the

financier. If the criteria for eligibility distinguish eligible companies from others sufficiently well in advance, the final selection can be made by drawing lots. From the perspective of the financier and society, operating like this makes it possible to achieve the targeted impact.²⁶

Drawing lots, however, places special requirements on identifying the target group in advance. Based on interviews and feedback collected from the survey, drawing lots for public subsidies is also widely seen as quite a poor and random method. From a perspective of a company applying for a voucher, both drawing lots and granting in order of arrival also impair the predictability of receiving financing. These perspectives highlight the importance of a pre-determined set of criteria. It is essential that public subsidies are correctly allocated using criteria.

Because companies seeking financing are ultimately selected randomly in drawing lots, it is very important for the voucher target group to be correctly identified in advance. Identification should be based on an analytical examination of the region's companies, on identification of gaps in the market and possibly on the strategic goals of the financier. Although the distribution of the vouchers in itself does not require much work in this model, drawing lots requires effectively implemented, thorough and analysis-based advance preparation.

Assessment should guarantee in principle for applicants and applications equal and fair treatment, but in practice assessment, however, always entails variation resulting from the assessor and/or unclear criteria. Assessment of companies' applications also requires work, both from the company applying for the voucher and from the assessing party. In cases such as the innovation voucher in which the individual subsidy being granted is very small, it is important for the administrative burden to remain very light, both for the voucher applicant and for the granting party. In order for assessment to succeed, the company must also pay more attention than other selection criteria to the preparation of the application, and the party granting the voucher must spend time assessing the content of applications.

The use of all the above-mentioned models requires control of the number of eligible companies, so that only a moderate number of companies are left without a voucher. At the same time, efforts should be made to ensure that the application process remains easy both for the applicant and the granting party. Because of this, the administrative burden arising from the subsidy must be as light as possible, both for the party granting the subsidy and for the users (companies and service providers). The requirement for lightness emphasises the fact that the granting process cannot include very deep project evaluation, and the method of distribution should also be particularly planned on the conditions of allocation of the voucher, its desired effects and available financing. A fundamental characteristic of innovation vouchers is that they are individually small sums, so in principle it must be accepted that the precise use of each voucher cannot be - and should not be - closely monitored.²⁷

²⁶Drawing lots is a commonly used way of distributing vouchers particularly in voucher pilots carried out in Great Britain (see Appendix 1). Such pilots usually entail assessment by RCT (randomised controlled trial). For the purpose of assessing the pilot, drawing lots for vouchers creates a comparative group consisting of companies left without a voucher which are, thanks to the random method of granting, the same as the companies that have received the voucher in terms of background.

²⁷ OECD (2010). Innovation Vouchers. Innovation Policy Platform. <http://www.oecd.org/innovation/policyplatform/48135973.pdf>

5.5. Conclusions from a perspective of public business services

The innovation voucher - a useful tool in the organisation of growth services

In the implementation of the reform of regional and growth services, the region becomes a key player as an organiser of regional growth services. The reform of growth services gives the region quite a free hand to organise services targeted at companies according to its own strategy and regional need. The model developed in the innovation voucher project could therefore in future be a possible tool of trade policy and business development at the disposal of regions.

For the region, the voucher is a useful tool in the organisation and provision of growth services, and to support the aims of commercial strategy. Based on assessment, it would be justified for many small or quite small business services that consist of the acquisition of external expert services in future to be carried out using the voucher model. An example of services similar to the above are the business development services of the ELY Centres, which these days are mainly subsidised consultancy services for companies, in which a company can choose the consultant it wants from a group of consultants from whom the ELY Centre has requested tenders. In future, the voucher model could give companies the freedom to select a service provider from a wider group of experts. On the other hand, grants for larger subsidy amounts and development projects, which can also cover the company's own labour costs, will in future be justified also for financing through other types of instruments.

Regional vouchers may also play a role in the linking of start-up companies or companies starting development work, both to public growth services and private consultancy services. The innovation voucher may serve as the first contact to purchased services for new and growth companies, and offer them a chance to continue using public services in the future.

The innovation vouchers would probably also be very well suited to the so-called growth service alliance model. For example, the Tampere Region innovation voucher pilot has combined structural funds granted by the Council of Tampere Region and funding granted by the City of Tampere and and given the responsibility to provide the service to the regional economic development agency, Business Tampere. The implementation of the voucher project therefore naturally combines the views of the company- and business development of future regional growth services and the city's business services. A similar way of operating can also be used in other development work of the same type, where the financiers have mutually complementary objectives in the same direction.

Vouchers - an effective tool to support regional pilots and platforms

In the Tampere Region innovation voucher pilot, the City of Tampere provided finance with vouchers distributed to companies in cooperation with the Council of Tampere Region. From a perspective of cities and regions, the vouchers can serve, for example, as a tool to execute trade policy choices and strategies, as the vouchers are easy to allocate and target at different sectors, themes and objectives. By directing subsidies at regionally important sectors, you make the voucher target group smaller, which helps to restrict the number of companies that may apply for the voucher. In the Business Tampere pilot, growth, internationalisation and digitalisation were selected as focus areas. The company's project also had to relate to the themes of renewable industry, well-being, IoT, the smart city or smart transport.

The vouchers can also serve well as a tool for the development of different pilot and test platforms, or for the financing and further development of ideas in conjunction with different competitions and pilot projects.

Cooperation and coordination needed between the different parties granting the voucher

At present, Finland is using regional vouchers and pilots (in addition to the Tampere Region innovation voucher at least also the BusinessOulu and City of Jyväskylä business service voucher pilots) and also the Business Finland innovation voucher. In the Tampere Region, about one-fifth of companies receiving the voucher had also received the Business Finland voucher in addition to that distributed by Business Tampere. The voucher target groups are largely the same, although the criteria for the Business Tampere voucher were freer than that of Business Finland.

Positioning regional vouchers, particularly in relation to the national voucher, will also be important to bear in mind in future. The introduction of overlapping voucher models is not justified, and locally or regionally used vouchers should have a complimentary function in relation to the national voucher. The management of the voucher target group and sectors to be subsidised with the voucher from regional or local strategies, or their targeting particularly at gaps in the local market will help to prevent such overlapping.

From a perspective of the administrator and party granting the financing, it is also important to consider and assess in which direction to activate companies by granting the voucher. With the voucher primarily being a service aimed at initiating development work and activating the service market, from a point of view of the continuity of operations it is important for there to be a further realistic path for companies in their development work. From a company perspective, this means concrete future prospects not necessarily related to a public service. From a company perspective it is, however, important for services, help and support to be available when necessary. The innovation vouchers will contribute to building a service ecosystem that supports the company through the financing of private service providers. The opportunity for a further path and longer-term customer relationship must also, however, be taken into account within the sphere of public services.

Based on assessment, Business Tampere's innovation voucher pilot has produced plenty of information and experience of the business service voucher model to support both regional and national business service development. Business Tampere's experiences have been utilised at least in the planning of the business voucher project administered by BusinessOulu and financed by the Council of Oulu Region, and of the project implemented by the City of Jyväskylä. Both the above-mentioned projects had slightly different focuses to that of the Tampere Region: The voucher of the Oulu Region is particularly targeted at growth-seeking start-ups, and the aim of Jyväskylä's voucher is to encourage companies to develop their sales and marketing expertise.²⁸ BusinessOulu's project is also utilising the voucher administration platform developed in the Tampere Region project. It is also recommended for cooperation between parties granting, using and piloting the voucher to be continued, so that experiences accumulated in different areas and from voucher projects implemented and targeted in different ways can be taken into account and further refined. The information gathered should be used in the planning and development of new business voucher financing rounds or voucher

²⁸ Source:: Interviews with experts and presentations at an expert workshop

services by new actors. Cooperation between regions is a significant and positive thing to have been accomplished in the project.

The innovation voucher is quite suitable as a tool for regional business development. It must be assumed that, in the implementation of regional reform, many regions will pilot or introduce more permanently business service voucher-type financing services. Finland is also using an innovation voucher administered by Business Finland on a national level. It is important that there is some kind of coordination between the different vouchers in use and communication between authorities distributing the vouchers, in order to avoid the implementation of completely overlapping models. It must also be assumed that the financing volumes of the future regions will, at least initially, mainly be small, so that the allocation of a regional voucher is justified for functions essential to the region.

5.6. Conclusions about social impact

The vouchers will succeed in “nudging” companies towards a new kind of cooperation

Innovation vouchers are financing services generally considered to be good for companies, service providers and financiers. In addition to these viewpoints, it is, however, essential to take into account the wider social impact of the vouchers and their effectiveness as an instrument of trade and innovation policy. From a perspective of this wider trade policy, the innovation voucher is particularly a “matchmaking” and “nudging” type of tool by which companies can network with service providers and thereby create cooperation that would not otherwise have been created, and that encourages companies to engage in development work.

When assessing the impact of the innovation voucher, focus should particularly be targeted at what kind of projects have been started using the voucher and whether the company's projects are continuing after using the voucher. In Pirkanmaa's voucher pilot, companies receiving the voucher expect very positive effects in terms of turnover and employment, but such effects are created quite indirectly and cannot be directly shown to be a result of the voucher. The direct effect of a small - in this case €5,000 - voucher within companies is also that it gives the company an incentive to look for and utilise expertise outside the company that it did not previously have. Through the new expertise, new opportunities open up for the company's development activity and growth, which can create significant longer-term effects. The voucher also aims to release the development potential of companies through a short-term subsidy as a result of which development processes can begin in the companies.

An important perspective to be taken into account in achieving the effects of the voucher models concerns the nature of the voucher as financing, which is distributed in small portions to a large group of recipients. Because of this, when using voucher models it should not be expected that financing will achieve great impact among all recipients, but broader changes throughout the target group should be examined. The vouchers also build an operating environment that supports companies by “stimulating” the business service market. Encouraging service providers to implement the companies' projects and to develop their services to better suit the needs of the companies stimulates the service market and increases competition within it. Through the development of the operating environment, financing can

not only directly benefit the finance companies in the longer term, but also the wider entrepreneurial ecosystem²⁹.

Assessing social impact challenging, but preliminary results positive

In the survey, 17% of companies said that as a result of their project implemented through the innovation voucher, they had already achieved or were achieving an increase of more than 10% in turnover, in addition to which two-thirds of the companies felt that an increase in turnover would be likely during the next two years. In the survey and reminding phone calls made in connection with it, the companies reported that a total of 27.5 new jobs had been created within them as a result of the innovation voucher project, in addition to which more than half the respondents expected new jobs to be created over the next two years. Assuming that one job is created for each company expecting a job, over two years a total of 120 new jobs would be created in addition to the 27.5 already created. In the cost benefit calculation, the expected impact of the innovation voucher on an increase in jobs was estimated to be 35-48, and the increase in turnover to be €28,000-45,000 per company. In terms of social benefit, the voucher would mean value added of €1.7-2.8 million in the operations of the companies, on the basis of which the activity can be said to be beneficial for society. Furthermore, based on a review of international assessments,³⁰ it seems that the vouchers are mainly cost-effective and useful financial instruments which, when correctly allocated and well implemented, can create positive benefits for society that outweigh their costs.

However, the above-mentioned results should be seen only as indicative assessments as they entail several factors of uncertainty, because of the fact that, among other things, the calculations are based on the companies' expected results and on the fact that turnover in the source data is uncertain. There is also uncertainty about the coefficients used in the innovation voucher's additionality or increase. Above all uncertainty is, however, caused by the fact that the innovation voucher projects have just ended and possible longer-term effects have not yet been realised. Because of this, the estimates about longer-term impact are inevitably speculative.

On the other hand, Pirkanmaa's innovation voucher project has clear and direct short-term benefits. In particular, these benefits are the implementation of the companies' projects in a methodical manner, the results gained from the projects, follow-up projects from the voucher project and increased cooperation between the companies and service providers, which the voucher has encouraged. The use of expert services improves the companies' abilities and helps them to develop new or better products and services.

Correct allocation decisive in terms of impact

The innovation voucher is particularly suitable as an initial stimulus for the development activity of a certain group of companies (e.g. new companies, start-up companies or companies seeking renewal). In terms of the effectiveness of the operation, it is also essential to identify the correct target group for the intervention. Interest in the vouchers has also been seen to be great in the Tampere Region pilot, and it was not possible - or even necessarily worthwhile - to finance all interested companies. Financial resources for the organisation of growth services will also probably be quite limited in future in the regions, and the distribution of vouchers will also require a restriction in the number of applications The

²⁹ Salminen and Mikkilä 2016

³⁰ See Appendix 1

regional programme and business strategy of the region or the business policy objectives of the city may be used as a guide to the thematic allocation of business vouchers to regionally important focus areas.

The following presents the key criteria used in the allocation of the innovation vouchers and their impact on voucher allocation. The selection of criteria should always have a direct connection with the selection of goals set for the innovation voucher and the selection of voucher target group. Furthermore, as the actual assessment concerning the companies and their projects is light, the significance of advance criteria set for companies applying for the voucher, their projects and the services of the service providers is emphasised. Well set advance criteria can significantly guide the allocation of financing to beneficial and targeted activity, even if the assessment of the companies' applications is considered light according to the spirit of the voucher-type service.

Age and size

Innovation vouchers can particularly be considered as tools for young, start-up and small companies. For such companies, a service acquired with a voucher can be considered on average to have great relative significance. Restricting the companies' age and size is also an effective way of limiting the number of companies applying for the voucher. On the other hand, in the Tampere Region older and larger companies have also used the vouchers, particularly on the theme of renewing industry. A problem with age and size restrictions is that companies seeking to renew would be left with a tight restriction without the voucher. Then again, other public services are also available for larger and more established companies, such as ELY or Business Finland services.

Form of business

One of the criteria in the allocation of innovation and business service vouchers is also form of business. Both Business Finland's and BusinessOulu's vouchers are available only to limited companies. A justification for this requirement is the observation that companies seeking and eligible for growth and internationalisation are almost without exception limited companies.³¹ Through such a restriction, subsidies are also allocated to companies like this but it is noticeable that, in the case of the Pirkanmaa innovation voucher too, more than 90% of the companies receiving the voucher have been limited companies. In the case of the limited company criteria, partnerships seeking organic growth and, for example, cooperatives arising from the entrepreneurial activity of students might possibly be left without financing.

Self-financing

Self-financing is an effective way of eliminating from the applicants companies that are not prepared to invest financially in development work. The answers to the survey give indications that, in Pirkanmaa, companies that would be ready to pay a share of self-financing on average continue development and cooperation with the service provider more than others, even after the project financed with the innovation voucher. The preparedness to invest in development is an essential factor from the point of view of continuing development work.

³¹ Lahtinen, H. et al. (2016): Startup-yrittysten kasvun ajurit ja pullonkaulat. (drivers and bottlenecks in the growth of start-up enterprises) Government investigation and research series 30/2016.

Requiring a share of self-financing is a method of allocation that is easier to implement and less bureaucratic than restricting the eligibility of companies based on complex criteria. It is, however, probable that a relatively small share of self-financing (e.g. 20%) will not in practice restrict the number of applications so much that other criteria to control the number of applications would not be needed. The share of self-financing is, however, a useful way of eliminating from the group of applicants companies whose willingness to invest in development work is not so great.

On the other hand, with regard to self-financing it should be ensured that the requirement for such financing does not put an unreasonably large administrative burden on the financier, company or service provider. In voucher models that are or have been in use elsewhere in Europe, a share of self-financing is often required. Furthermore, in cases using a multi-step voucher model in which a new voucher can be granted for a follow-up project after the first voucher, the company must usually pay a self-financing share for follow-up vouchers.³²

Thematic allocation

Alongside criteria related to the characteristics of companies, thematic allocation to certain areas of business (e.g. renewing industry), certain types of companies (e.g. start-up companies) or certain sectors may also be used. In the case of the regional voucher, the business strategy policies of the regional programme form an effective foundation on which to make these choices. Similarly on a local level, the strategic goals of a city or municipality may be used to guide the targeting of financing.

A good side of thematic allocation is also the targeting of the intervention at the filling of an identified gap in the market to which small, light services that are short in duration are well-suited. It is also recommended to target the voucher model particularly at filling the above-mentioned gaps in the market, as it does not have the same kind of strengths as a continual and general service to finance the growth of companies. Other financing models also exist for continual and generally available company growth services, which also include a more detailed assessment of the situation of the companies and project feasibility than the voucher model.

³² Ramboll 2015a

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APPENDIX 1. REVIEW OF ASSESSMENTS OF PREVIOUS INNOVATION VOUCHER MODELS

INTRODUCTION

Implementation and limits of review

This review presents observations about assessments of other innovation voucher programmes. The review particularly focuses on the benefits and effects of the vouchers noted in the assessments on companies receiving the voucher. The aim of the review is to support the assessment of Business Tampere's innovation voucher and the comparison of results.

The review was carried out applying the systematic meta-analysis method. At first, different models (and assessments) were surveyed using previous reports, explanations³³ and online searches (e.g. RIM- and RIO-PSF-portals³⁴). Based on the survey, the most relevant assessments publicly available in recent years (2014 or after) were identified and analysed using document analysis methods. The focus was therefore on the voucher programme assessments, not the vouchers themselves.

Different voucher models

In recent decades, different innovation voucher models have become established as part of the selection of instruments for innovation policy. As far as is known, the first models were introduced in the Netherlands and Great Britain in the late 1990s. Later hundreds of different models were introduced around Europe. The voucher models vary greatly between themselves, but something common to all is that they aim to catalyse the cooperation of small and medium-sized enterprises with different (public and/or private) service providers and research organisations in order to strengthen innovation activity. It is basically a question of “nudging”, in which efforts are made to nudge companies in a desired direction, i.e. In this case innovation and the use of outside expertise.

The voucher models are very different from each other. They differ from each other, for example, regarding the following features:

- National vs regional model
- Fixed-term/short-term interventions vs continuing programmes/instruments
- Size of voucher (from a couple of thousand euros to about €20,000)
- Requirement for self-financing by companies vs no such requirement
- Company's age (e.g. whether at least one financial period is required)
- Criteria for granting to companies (e.g. suitable for a sole trader/self-employed practitioner)
- Thematic vs non-thematic focus
- Selectivity ((light) assessment of applications vs drawing lots)

³³ Ramboll (2015). Innovation vouchers. Summary report. Tredea.

³⁴ <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/>; <https://rio.irc.ec.europa.eu/en>

- Suitable service providers (e.g. only a research organisation or only companies)

It must also be taken into account that the operating environment for each voucher model and the innovation system for each country/region are different. For example, in many central European countries direct (R&D) subsidy is less than in Finland and focus is more on indirect taxation. Moreover, Great Britain in particular has long traditions of different randomised controlled trials (RCT) that have also often been adapted for voucher pilots.

Box 1. The innovation voucher in the Netherlands

One of the best-known and most widespread examples of voucher models used is the Dutch innovation voucher, which was first piloted in 2004 and wound up in 2011. Its aim was to increase interaction between SMEs and public research organisations (universities, institutes specialised in technology transfer).

The value of the voucher was €7,500 and only 100 were distributed in one round. Lots were drawn for companies receiving the voucher from a group of about 1,000 applicants. In 2005, the pilot was implemented more widely (1,000 vouchers), and in 2006 it was made a permanent instrument by which approximately 6,000 vouchers were distributed per year. In 2010, another voucher was introduced that could also be used to buy services from private service providers. The voucher programme was wound up in 2011 as part of broader budget cuts.³⁵

An assessment examining the impact of the Dutch innovation voucher (2006) showed that the voucher clearly increased interaction between SMEs and research organisations (companies receiving the voucher began to utilise the services of public research organisations clearly more frequently).³⁶ On the other hand, it seemed that the increased interaction fades in the longer term, and companies receiving the voucher do not carry out more cooperative projects 1½ years after the end of the projects than other companies do. Furthermore, no significant effects on the creation of new or better products, services or processes were observed.³⁷

Different assessments

Based on the review, the following voucher models were selected for further examination, about which more comprehensively reliable and new (after 2014) assessment data is available.

³⁵ van der Steeg, M. (2011). Two Examples of Dutch Policy Evaluation: randomization and regression discontinuity. Powerpoint-presentation, May 18, 2011.

³⁶ Cornet, M., Vroomen, B. & van der Steeg, M. (2006). Do innovation vouchers help SMEs to cross the bridge towards science? CPB Netherlands Bureau for Economic Policy Analysis.

³⁷ van der Steeg 2011.

- Invest NI Innovation Voucher (Northern Ireland)
- BIS Growth Voucher (Great Britain)
- Enterprise Ireland Innovation Voucher (Ireland)
- Business Finland Innovation Voucher (Finland)
- Nesta Creative Credits (Manchester, Great Britain)
- VINNOVA innovationscheckar (Sweden)

Many voucher models that were interesting and relevant in themselves were excluded because insufficiently reliable assessment data about them was found. Assessments more than five years old were also excluded from examination.

Just as with vouchers, there are great differences in their assessments. Some of the evaluations (BIS Growth Voucher, Nesta Creative Credits) were implemented using the Randomised Controlled Trial (RCT) method. Most of the assessments were carried out as surveys and interviews without any comparison group. In practice, this also stems from the implementation of the voucher programmes themselves: randomised controlled trials can only be carried out in models where lots are drawn for the vouchers between the applicants and the comparison group setting was already taken into account in programme planning.

What is notable is that only Nestan Creative Credits is a regional model; the others are national. Of the regional models, available reliable assessment data seemed to be quite scarce. It must also be taken into account that the identified assessments are mainly from Great Britain. On the one hand, this is because of the limitations of the survey (assessments were mainly searched for using English-language search terms) and, on the other hand, because of Great Britain's typically strong culture in the assessment of public measures.

Owing to differences in voucher models (and the implementation of their assessments), the comparison of the results and effects of different vouchers should also be viewed with caution.

OBSERVATIONS ABOUT THE ASSESSMENTS

The following shows the key observations concerning the benefits and results received by the companies (direct/indirect) and the broader financial effects and cost-benefit analyses.

Results and benefits for companies

Business Finland innovation voucher³⁸

The Business Finland/Tekes innovation voucher was introduced in October 2016. By the beginning of June 2017, Tekes had granted a total of 1,895 vouchers. The value of the vouchers is €5,000 in addition to which the share of value added tax is also subsidised. According to an interim assessment of the innovation voucher carried out by Tekes, the vouchers were particularly targeted at young and small companies that were new Tekes customers. According to the assessment, the Tekes innovation voucher had very high customer satisfaction, and nine out of ten companies were happy both with their

³⁸ Härmälä, V., Wiikeri, J. & Halme, K. (2017) innovation voucher encourages companies to develop Tekes Impact Brief 3/2017.

projects results and service received from the service provider. Practically all companies (98%) achieved the results they expected from the voucher project, at least partially.

Typical applications were product and service development and investigations of IPR issues and patents. Without the voucher, one-third of the companies would not have implemented their project at all and fewer than one in 10 would have implemented it in full. The projects were implemented approximately 70% faster, with 60% higher quality and 40% more extensively than without the voucher.

A positive finding from the point of view of impact was the observation that, in two cases out of three, a voucher project was linked to a larger development entity, and more than half the companies had also used their own resources for development. In the assessment, a survey of service providers was also carried out, which also looked extensively at how the voucher projects increased the innovation and development work of their customers and accelerated their growth and internationalisation.

The assessment paid particular attention to the relatively large share of rejected applications (42%), which it was estimated weakened the predictability of receiving the voucher from the perspective of companies. Attention was also paid to the fact that, because of the criteria used, the voucher was not suitable for start-up companies in the very early stage.

BIS Growth Voucher Programme³⁹

A survey carried out as part of an interim assessment of the BIS Growth Voucher Programme (6 months after granting the vouchers) showed that, for example, the vouchers have a clear impact on the strengthening of expertise: 82% of companies using the voucher reported an improvement in expertise (vs. 12% from the comparison group). The probability of implementing growth-promoting measures (e.g. the preparation of business or marketing plans) increased to some extent, as did the probability of utilising and paying for similar services in future.

The voucher also seemed to have a (short-term) effect on turnover development, but not on the number of personnel or jobs or on the desire to seek growth. 54% of companies receiving the voucher reported an increase in turnover (vs. 46% from the comparison group). A total of 43% of companies estimated that the voucher had had the effect of increasing turnover (11% estimated that the growth was not a result of the voucher and the rest did not report growth in turnover). 17% of companies said that more than 10% of the growth in turnover that they had achieved was a result of the voucher (23% said that the growth in turnover from the voucher was less than 10%).

According to the assessment, it is probable that some of the companies would have found a similar service from elsewhere. At the time of application, 29% of companies were actively surveying the service market. 24% of applicants had not previously considered acquiring a similar service. According to estimates, one in six companies using the voucher would have acquired the same service from elsewhere. According to the assessment, in similar programmes approximately 30% of companies could also receive a similar service from elsewhere.

All in all, the assessment shows that the significant differences between the companies receiving/using the voucher and the comparison group indicate the positive impact of the voucher on companies.

³⁹ IFF Reasearch (2016). Growth Vouchers Programme Evaluation - Cohort 1: Impact at 6 months. BIS research paper no. 259.

Nesta Creative Credits⁴⁰

Based on an assessment of the Creative Credits voucher pilot carried out in the Manchester region, for every 10 vouchers one in eight created new partnerships/cooperative relations between companies, which would not have happened without the voucher. According to the assessment, this corresponds to the results of the Dutch voucher programme (see Box 1).

Based on the assessment, the effects on turnover (sales) vary significantly between companies. In total (calculated at the moment of deciding on the voucher project), the programme generated new turnover (sales) of approximately €590,000 (£514,000), equivalent to approximately €3,940 (£3,430) per company. Only approximately 28% of companies reported that the voucher had had an impact on sales (37% said that the voucher had not had an effect on sales and 35% were could not say).

The impact on the company's abilities was clearly seen as greater than the impact on additional sales: 80% said that the voucher had strengthened the company's "innovation strengths", 79% said that they had benefited from new information, 78% said that they had received new ideas for follow-up projects, 72% said that their access/connections to experts had improved, and 72% that their desire to innovate had increased.

Although the impact of the voucher was also clear in the short term, after the conclusion of twelve-month projects no statistically significant differences were noticeable any more. Certainly at this stage, only some of the companies reported that they had received full benefit from the project. When asked how benefits received through the voucher had been realised, only 3% said that the benefits had already been realised (at the moment of carrying out the assessment). 89% said that they would realise the benefits within 2-3 years.

Enterprise Ireland Innovation Voucher⁴¹

Based on a business survey (n=288) carried out as part of an assessment of the Irish innovation voucher programme (2007-2012), approximately one in four companies estimated that the voucher had influenced (at the moment of assessment) the development of the company's new/better products. Benefits targeted at services and processes were reported by only approximately one in ten respondents. All in all, 69% of companies said that programme had generated for them innovation activity-related benefits. 82% of respondents said that the programme had increased their desire to cooperate with research partners in the future. Approximately 45% of respondents said that they would continue innovation work after the voucher project.

Based on the assessment, the voucher was very beneficial for the service providers (research organisations) particularly in terms of generating new customer relationships, market information and "living examples" of the development of teaching.

Of the companies responding to the assessment survey, 11% said that they would also have implemented the project without the voucher. 39% said that the project would have been implemented

⁴⁰ Bakshi, K. et al (2013). Creative Credits - A randomized controlled industrial policy experiment. Nesta, June 2013.

⁴¹ Forfás (2013) Evaluation of Enterprise Supports for Research Development and Innovation. Forfás, July 2013.

anyway but at a slower speed. 24% said that the project would have been implemented on a smaller scale. 27% said that the project would not have been implemented at all without the voucher.

VINNOVA Innovationscheckar⁴²

Based on a survey carried out by VINNOVA itself, 78% of companies estimated that new or better products or services had been created as a result of their voucher project. 31% of responding companies reported new jobs (a total of 176 responded, 63% of all companies receiving the voucher). 63% estimated that they would employ new personnel within the next five years as a result of the voucher project. 69% of respondents said that they had received new revenue. 22% said that the project results would lead to a follow-up project over the next five years (74% were unable to estimate).

21% said that the project would also have been implemented without the innovation voucher, and 43% that they would not have implemented it (38% could not say). 71% of companies said that they were working with the same challenge as before concerning the project implemented with the voucher.

Financial effects and cost-benefit analyses

The following describes the key observations from the assessments concerning broader (longer-term) financial effects (e.g. growth in turnover and personnel numbers) and cost benefits (“how much can the money achieve”). All in all, it would seem that only a few of the analyses in question were carried out and using varying methods. Most of the results are chiefly indicative assessments.

Business Finland⁴³

In connection with Tekes’ innovation voucher assessment, no precise analysis of financial benefits and operating costs was carried out. The lion’s share of the companies, however, expected positive effects on business from their voucher project. Approximately 80% of companies expected turnover to increase and 56% personnel as a result of the voucher project.

Nesta Creative Credits⁴⁴

According to an assessment of the Nestan Creative Credits programme (resulting from the voucher), at the end of the project growth in sales averaged £2,900 per company. 12 months after the end of the project, the growth in sales stemming from the voucher averaged (in the companies’ own estimation) an additional sum of £7,740 per company. It was expected that this effect would continue for the next 2½ years. Because of this, the value of direct financial benefits (generated as new turnover) was estimated at approximately £21,000 (€24,000) per company which corresponds to about £6,300 (€7,200) of gross value added per company (calculated at 30% of turnover).

As the size of the voucher was £4,000 (+£1,000 of self-financing), it can be estimated that one “voucher euro/pound” produced approximately 5.25-fold new turnover for the companies. This figure is, however, only a calculation and a very rough estimate and does not include, for example, administration costs..

⁴² VINNOVA (2015). Slutrapportering av regeringsuppdrag avseende "Innovationscheckar och innovationscoacher". VINNOVA.

⁴³ Härmälä, Wiikeri & Halme 2017.

⁴⁴ Bakhshi et al 2013.

Invest NI Innovation Voucher⁴⁵

It was estimated that companies participating in the Invest NI innovation voucher programme (n=840) increased their personnel numbers by 931 between 2008 and 2014. As a share of the programme, this was estimated (based on the survey) at about 40%, which can be considered a very high estimate compared to other assessments. According to estimates, the net effect on the increase in personnel was therefore 376 new jobs for approximately 840 companies (i.e. for a little less than one in two companies). Admittedly, of these only about half (182) had realised this at the time of the assessment, and the rest (194) expected it to happen later.

With regard to turnover, the companies participating in the programme had increased their turnover by a total of £55.3 million between 2008 and 2014. As a share of the programme this was estimated (based on the survey) at about 47%, net effects therefore being £26.1million, £19.3 million of which had been realised at the time of assessment with £6.9 million expected to happen later. The net effect on value added was £8.3 million. Per company, the net effect was £31,000 in turnover and £9,880 in value added.

Programme costs totalled (including administration costs) approximately £5.9 million. Such being the case, the effects per pound on value added were about £1.42.

Table 1. An estimate of the financial benefit of the Invest NI innovation voucher and cost-benefit analysis

	Employment	Turnover	Valued added (GVA 31% of turnover)
Gross impact ("gross impact")	931	£55.3m	£17.1m
Additionality i.e. programme's value added	40%	47%	47%
Net impact	376	£26.1m	£8.3m
- Achieved	182	£19.3m	£6.1m
- Expected	194	£6.9m	£2.2m
Net impact including expected per company (n=840)	0.45	£31,071	£9,880
Return on investment/ROI (with programme costs at £5.9 million)	-	£4.40	£1.42

Enterprise Ireland Innovation Voucher⁴⁶

According to an assessment of Enterprise Ireland's innovation voucher programme (2007-2012), by the end of 2011 the voucher programme had:

⁴⁵ SQW 2014.

⁴⁶ Forfás 2013.

- helped companies to achieve in total €87.4 million of cumulative additional sales (new turnover), which corresponds to €8.29 per euro invested
- helped to create economic value added to a total of €31.1 million, representing €2.95 per euro invested
- helped to create 806 new full-time jobs (on average one job for every two companies)

According to the estimate, indirect (administrative) costs per voucher averaged approximately €203.

SYNTHESIS

Voucher models and assessments of them are very different from each other, as a result of which far-reaching conclusions and comparisons should be treated with caution. Details concerning the implementation of the voucher programmes and/or assessments may have a very great significance on benefits received/identified.

Based on the assessments, it would generally seem to be, however, that the vouchers have clear direct (short-term) benefits. Above all, they increase cooperation between companies and private/public sector service providers, and so help to improve the expertise of companies and to develop new or better products or services. The vouchers would also seem to have (variably) direct economic benefits for companies through increased turnover/additional sales. The vouchers are also mainly seen from a company perspective as efficient and easy-to-use tools for which there is a great demand. The vouchers would also seem to work best as a “matchmaking” tool.

With regard to longer-term impact, the results are highly contradictory. The above-mentioned assessments were mainly carried out just after the programme had ended or while it was still going on. Estimates made based on them about longer-term impact are inevitably speculative. **Assessment of longer-term impact is also very challenging.**

When examining two different voucher models for the creative sectors (Nesta ja Creativeworks London), according to Virani 2015 the general consensus would seem to be that voucher programmes have a clear short-term impact and benefits, but no longer-term impact. Virani himself, however, challenges this view on account of differences between the voucher models (and their assessments). As a special factor, Virani raises the significance of “facilitators” (between the companies and service providers, and emphasises the significance of the clarification of (longer-term) goals.⁴⁷

In particular, estimates of the cost benefits of the vouchers are only available to a limited degree, and they must be treated with particular caution because equations always inevitably have several limitations, variables and uncertainties. Based on a review, it seems that the vouchers are mainly cost-effective and useful instruments which can (when correctly allocated and well implemented) create positive benefits for society that outweigh their costs.

⁴⁷ Virani, T. E. (2015) Do voucher schemes matter in the long run? A brief comparison of Nesta's Creative Credits and Creativeworks London's Creative Voucher schemes. Creativeworks London Working Paper 10.

APPENDIX 2 SIZE AND SECTORS OF INNOVATION VOUCHER CUSTOMER COMPANIES

Sector	Number of companies	More than 5 million	More than 2 million	0.5-2 million	Less than 0.5 million
Electricity-, gas and heating	1	100%	0%	0%	0%
Finance and insurance	1	0%	0%	0%	100%
HORECA	2	0%	0%	50%	50%
Other service	4	0%	0%	25%	75%
Transport and storage	5	40%	20%	0%	40%
Real estate	5	0%	0%	20%	80%
Construction	7	0%	0%	57%	43%
Art, entertainment and leisure	7	0%	0%	0%	100%
Administration and support services	8	0%	0%	25%	75%
Training	9	0%	0%	0%	100%
Health care and social services	9	0%	0%	22%	78%
Wholesale and retail trade	20	15%	0%	20%	65%

Industry	34	24%	15%	9%	53%
Professional, scientific and technical work	46	4%	9%	17%	70%
ICT	47	2%	2%	23%	72%
Total	205	8%	5%	18%	68%

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