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**Research-based spin-off creation:
VIADUCT REGIONAL STUDY REPORT**

Tampere Region (FINLAND)



Council of Tampere Region

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Summary: VIADUCT Regional Study Report on Supporting Research-based Spin-off Companies and Mechanisms for Research Utilisation in Tampere Region

Deep technology startups have tremendous potential to disrupt entire industries. Ambitious, boundary-pushing research and innovation continually expand our understanding of what is possible in the first place. Even though research-based spin-off companies have been recognised key sources of innovation, their establishment faces significant challenges, such as low entrepreneurship culture among researchers and difficulty in translating research outcomes into viable business ideas. Recognising the importance of strengthening the spin-off ecosystem for sustainability and regional economic development is crucial.

This report, conducted as part of the Interreg Europe-funded VIADUCT project, presents the findings and recommendations from a survey conducted in late 2023 in Tampere Region regarding the support of research-based spin-off companies and mechanisms for research utilisation. The survey aimed to gather information and enhance understanding of the establishment of research-based spin-off companies and the development of support measures. A total of 51 responses were collected from stakeholders in research commercialisation, including regional universities, development organisations, and spin-off companies.

The results of the survey highlight the importance of improving communication channels, fostering active participation, providing practical training, and strengthening the regional support network. The report also includes an assessment of the spin-off ecosystem in Tampere Region, identifying strengths, weaknesses, opportunities, and threats. Strengths include proactive researchers and awareness of entrepreneurship skills development, while weaknesses include communication gaps among researchers. Opportunities include clear communication channels and empowering research group leaders, while threats include lack of support for multidisciplinary teams.

The recommendations in this report provide a basis for targeted interventions and strategic initiatives to accelerate the spin-off ecosystem in Tampere Region. Consistent alignment among policymakers, stakeholders, and communities is essential for developing the spin-off ecosystem. The recommendations emphasise a structural model that supports researchers and spin-off companies, encouraging the utilisation of not only university resources but also the broader regional innovation environment. Strategic alignment and collaboration among stakeholders are crucial for realising the vision of a vibrant spin-off ecosystem that promotes innovation, sustainability, and economic growth in the region.

Tiivistelmä: VIADUCT-hankkeen selvitys tutkimusperustaisten spin-off-yritysten tukemisesta ja tutkimusten hyödyntämisen mekanismeista Pirkanmaalla

Syväteknologiayrityksillä (Deep Tech) on valtava potentiaali mullistaa kokonaisia teollisuudenaloja. Kunnianhimoinen, rajoja rikkova tutkimus ja innovaatiot laajentavat koko ajan käsitystämme siitä, mikä on ylipäättään mahdollista. Kuitenkin siitä huolimatta, että tutkimusperustaiset spin-off-yritykset on tunnustettu keskeisiksi innovaation lähteiksi, niiden perustaminen kohtaa merkittäviä haasteita, kuten alhainen yrittäjyyskulttuuri tutkijoiden keskuudessa ja vaikeudet tutkimustulosten muuttamisessa elinkelpoisiksi liiketoimintaideoiksi. Spin-off-ekosysteemin vahvistamisen merkityksen tunnistaminen kestäväyyden ja alueellisen taloudellisen kehityksen kannalta on ratkaisevan tärkeää.

Tämä osana Interreg Europe -rahoitteista VIADUCT-hanketta toteutettu raportti esittää loppuvuodesta 2023 Pirkanmaalla toteutetun kyselyn tulokset ja suositukset tutkimusperustaisten spin-off-yritysten tukemisesta ja tutkimusten hyödyntämisen mekanismeista. Kyselyn tavoitteena oli kerätä tietoa ja lisätä ymmärrystä tutkimusperustaisten spin-off-yritysten perustamisesta ja tukitoimien kehittämisestä. Kysely keräsi yhteensä 51 vastausta tutkimuksen kaupallistamisen sidosryhmiltä, mukaan lukien alueen korkeakoulut, alueelliset kehittämisorganisaatiot ja spin-off-yritykset.

Selvityksen tulokset korostavat viestintäkanavien parantamisen, aktiivisen osallistumisen, käytännön koulutuksen tarjoamisen ja alueellisen tukiverkoston vahvistamisen tärkeyttä. Raportti sisältää myös arvion Pirkanmaan spin-off-ekosysteemistä, tunnistuen vahvuudet, heikkoudet, mahdollisuudet ja uhat. Vahvuuksia ovat aktiiviset tutkijat ja yrittäjyystaitojen kehittämisen tuntemus, kun taas heikkouksia ovat viestintäkatkokset tutkijoiden kesken. Mahdollisuuksia tarjoavat selkeät viestintäkanavat ja tutkimusryhmien johtajien voimaannuttaminen, kun taas uhkina ovat tuen puute monitieteellisille tiimeille.

Tämän raportin suositukset tarjoavat pohjan kohdennetuille interventioille ja strategisille aloitteille spin-off-ekosysteemin kiihdyttämiseksi Pirkanmaalla. Yhtenevät linjaukset päättäjien, muiden sidosryhmien sekä yhteisöjen välillä ovat välttämättömiä spin-off-ekosysteemin kehittämiseksi. Suositukset korostavat rakenteellista mallia, joka tukee tutkijoita ja spin-off-yrityksiä, kannustaen hyödyntämään paitsi yliopiston resursseja myös laajempaa alueellista innovaatioympäristöä. Strateginen yhteensovittaminen ja yhteistyö sidosryhmien välillä ovat keskeisiä vision toteutumiseksi elinvoimaisesta spin-off-ekosysteemistä, joka edistää innovaatiota, kestävyttä ja talouskasvua alueella.

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1 Introduction to VIADUCT project

"Valorising public research to drive technology transfer and commercialisation through the creation of spin-off companies (VIADUCT)" is an international project funded by the Interreg Europe program, with contributions from member states.

The VIADUCT project aims to promote knowledge transfer and the commercialisation of public research by addressing key barriers related to the establishment and growth of spin-off companies through the enhancement of regional policy instruments. This ambitious objective will be achieved through targeted actions focusing on improving research infrastructure, fostering the exchange of experiences, exploring innovative approaches, and building capacity to identify, disseminate, and transfer best practices among regional policy actors.

Spin-off companies serve as significant sources of innovation, facilitating increased knowledge transfer among quadruple helix actors, including universities, research centres, and the public and private sectors. Moreover, spin-off companies can generate high-quality employment opportunities and offer high-value-added products and services, playing a crucial role in mobilising science, technology, and innovation and thereby driving regional cohesion and development. However, their creation faces substantial challenges related to research commercialisation, such as:

- Low entrepreneurship culture among researchers, where career orientation favours research and academic careers.
- Difficulty in identifying research results that can be turned into business ideas.
- Lack of business skills among researchers and research managers.
- Regulations that do not support knowledge transfer through spin-off companies.
- Limited access to funding due to a lack of tangible evidence for securing financing.
- High business risk and market uncertainty due to the disruptive nature of products or services.

The project consortium consists of seven partners: the University of Zaragoza (Spain), West Regional Development Agency (Romania), SATT Conectus Alsace (France), Kaunas Science and Technology Park, Public Institution (Lithuania), Western Development Commission (Ireland), Municipality of Pieve di Soligo (Italy), and the Council of Tampere Region (Finland), along with ASTP (Netherlands). The project's total budget is nearly 1.8 million euros, and it will be executed from March 2023 to May 2027.

2 Objectives and methodological approach

2.1 Introduction to the territorial analysis

One of the initial steps in the learning process undertaken within VIADUCT is to analyse how each region is handling the commercialisation of public research through spin-off creation. The objective of this analysis is to evaluate the effectiveness of current methodologies and support measures, identifying areas in which each region could enhance its practices by learning from others.

This analysis comprises three activities: a collaborative thematic survey, a regional study report, and an interregional analysis report. The survey and the regional report will be conducted independently by seven partners within their respective regions. The interregional report will compile the regional findings at the project level in a comparative manner, aiming to identify synergies among regions that may have emerged from the survey and regional reports.

2.2 Introduction to the VIADUCT Joint Thematic Survey

The joint thematic survey on Research-based Spin-off Creation, conducted as part of the VIADUCT project, aimed to collect valuable information to enhance the improvement of support and promotion measures for spin-off companies in various European regions. This effort contributes significantly to their growth and success.

The survey was collaboratively designed by project partners and targeted the following groups:

- **Spin-off Companies:** The survey was tailored for companies established with the goal of bringing innovations from public research laboratories or centres to the market. This encompassed both established spin-off companies and those in the planning or developmental phase.
- **Researchers and Business Founders:** The survey also reached out to researchers and business founders who had the potential or interest in establishing spin-off companies, or those who already had experience in this process.
- **Stakeholders and Supporters:** The survey was open to various stakeholders, including regional development agencies, research institutions, universities, funders, and others who support and promote the creation and growth of spin-off companies.

With this diverse participant base, the survey aimed to provide a comprehensive perspective on research-based spin-off creation and related developmental challenges. This comprehensive understanding further encourages collaboration and the sharing of good practices in these areas across seven European regions.

The survey was structured into six distinct sections, each assessing one of the primary barriers in the spin-off creation process: (1) lack of entrepreneurial culture, (2) challenges in identifying potentially transferable research results, (3) researchers' lack of business management skills, (4) difficulties in accessing funding, (5) legal procedures not conducive to spin-off company creation, and (6) challenges in consolidating existing spin-off businesses. Additionally, an additional question was included to evaluate if the success of a spin-off company was linked to the region's smart specialisation strategy.

2.3 Objective of the regional study report

The objective of the regional study report is to compile the survey responses at a regional level, aiming to draw conclusions about the effectiveness of current measures/methodologies in each region. The survey results are presented visually in Section 3 to enhance their interpretation.

2.4 Methodological approach

In Tampere Region, the survey was conducted between 26.10.23 and 1.11.23. The survey was distributed within the regional network, including the university, university of applied sciences, the local startup house, and other entities offering support for spinoff creation. A total of 51 responses were gathered. Figure 1 illustrates the distribution of responses by type of organisation.

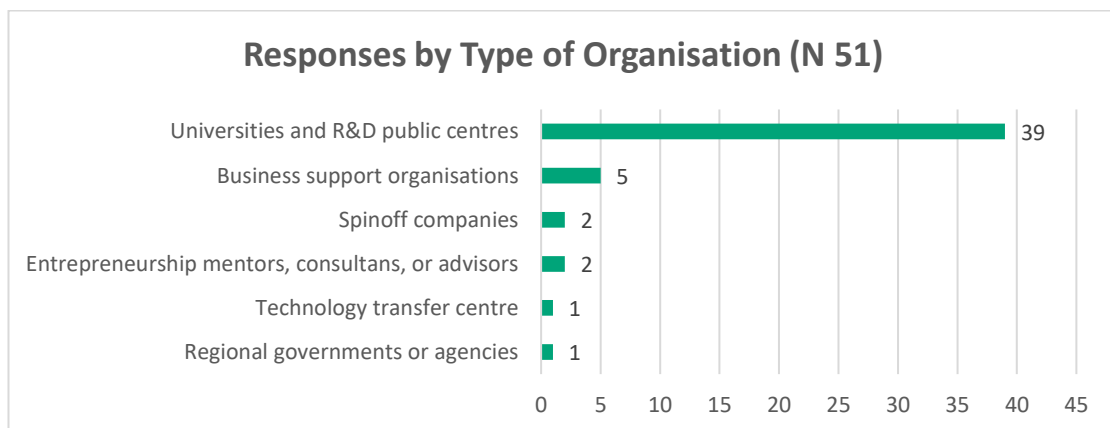


Figure 1. Overview of Respondent Organisation Types in Tampere Region

The majority of respondents (39) represented universities and R&D public centres. The remaining responses were from various sources, including business support organisations (5), spin-off companies (2), entrepreneurship mentors, consultants, or advisors (2), technology transfer centres (1), and regional governments or agencies (1).

Figure 2 illustrates the distribution of responses based on the positions of the respondents. Nevertheless, it is crucial to acknowledge that respondents may have multiple roles and have only indicated their primary role or the perspective from which they responded.

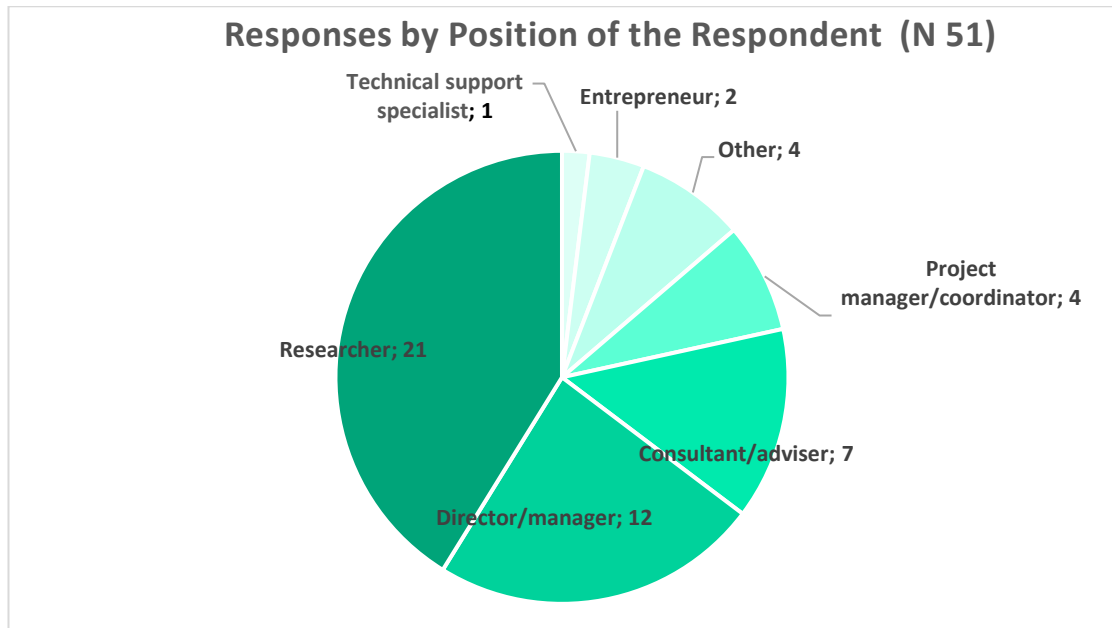


Figure 2. Overview of Respondent Positions in Tampere Region

The majority of respondents identified themselves as researchers (21) and directors/managers (12). The remaining responses were provided by project managers/coordinators (4), entrepreneurs (2), and technical support specialists (1). The respondents (4) who did not identify themselves from the given positions described themselves as specialists in commercialisation and innovation, business co-founders and teachers.

3 Analysis of Tampere region

3.1 Survey Results

In the upcoming sections, we will concentrate on the thematic analysis of the survey data across the six distinct sections. We will provide a detailed analysis and highlight the main findings for each question.

3.1.1 Promotion of entrepreneurial culture

Question: How do you evaluate the entrepreneurial culture among public researchers in your region?

In this question, respondents were asked to rate the entrepreneurial culture among public researchers on a scale of 1 (very unsatisfactory) to 4 (very satisfactory). Figure 3 illustrates that most respondents rated the entrepreneurial culture at 2 or 3. On average, in Tampere region, respondents evaluated the entrepreneurial culture among public researchers as 2.52.

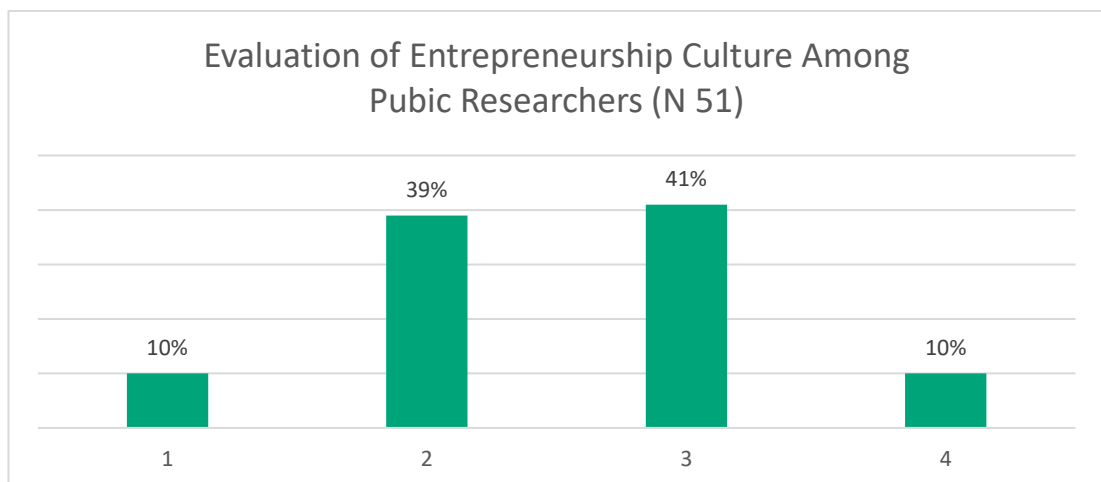


Figure 3. Evaluation of Entrepreneurial Culture Among Public Researchers

However, there are differences among the positions of respondents regarding how they evaluate the entrepreneurial culture among public researchers in Tampere region. While all other groups rated the entrepreneurial culture as satisfactory (average 2.4), researchers gave the lowest ratings (average 1.8).

Questions: How do you find the support measures to promote entrepreneurial culture among public researchers in your region?

In response to this question, respondents were requested to rate the effectiveness of the support initiatives designed to encourage entrepreneurial culture among public researchers, using a scale ranging from 1 (very unsatisfactory) to 4 (very satisfactory). As depicted in Figure 4, a majority of respondents provided a rating of 3. On average, respondents in Tampere region assessed the entrepreneurial support measures at 2.61.

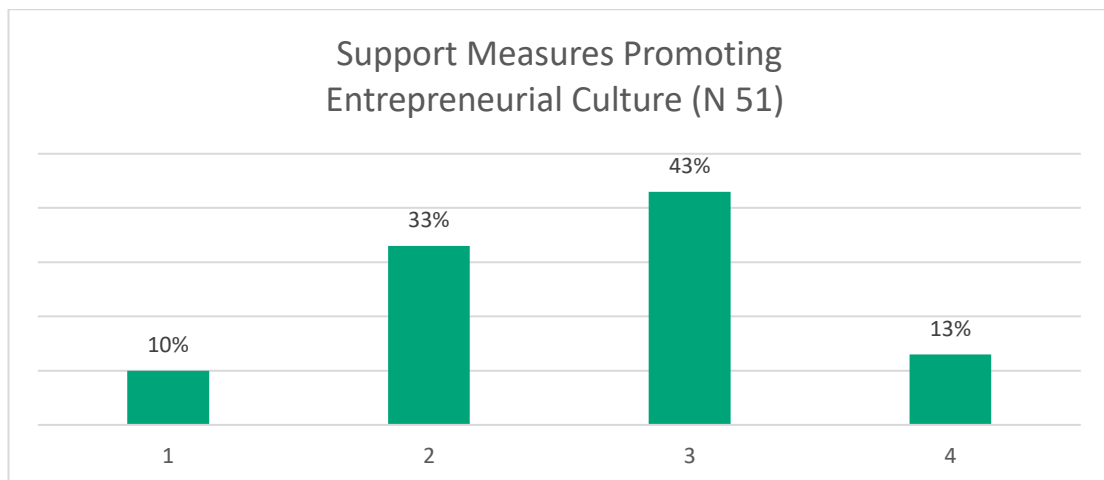


Figure 4. Support Measures Promoting Entrepreneurial Culture

Notably, researchers gave the lowest ratings among all respondent groups. Despite this, the average rating within the researcher category stood at 2.47. This indicates that although there are existing measures aimed at cultivating an entrepreneurial mindset, the overall entrepreneurial culture within the region does not meet the desired level of satisfaction.

Question: What public tools/initiatives could be implemented to promote the entrepreneurial culture amongst public researchers?

In response to this question, 49 participants shared valuable insights on the public tools and initiatives that could be implemented to foster entrepreneurial culture among public researchers. Their suggestions encompass a wide array of strategies:

- **Training and Networking:** Universities and public organisations should provide training for researchers to engage effectively with local startups, emphasising successful research-to-business (R2B) transitions. Cross-collaboration events and continuous engagement with entrepreneurs are crucial.

- **Technology Readiness Training:** Innovation departments should conduct training sessions on technology readiness levels, enhancing researchers' understanding of commercialisation readiness.
- **Resource Allocation:** Proper allocation of resources in universities/public organisations is essential to support R2B stages, considering costs related to Intellectual Property Rights (IPRs) and patents.
- **Application Writing Support:** Researchers should receive training in writing and reviewing applications, with a focus on practical commercialisation considerations. This should be done in collaboration with innovation teams.
- **Educational Initiatives:** Spin-off/commercialisation studies should be integrated as mandatory courses in research and doctoral education programs. Entrepreneurial studies should be emphasised within various disciplines.
- **Entrepreneurial Exposure:** Inviting researchers who have successfully transitioned from labs to commercial settings for talks and examples can inspire others. Exposure to real-life success stories is invaluable.
- **Financial Support:** Providing affordable loans/grants, early-phase funding, and scholarships can support researchers and entrepreneurs. Maintaining funding programs like Research-to-Business (R2B) funding is crucial.
- **Improving Visibility:** Enhancing the visibility of research-based entrepreneurship, sharing successful case studies, and providing networking opportunities with local entrepreneurs can raise awareness.
- **Industry-Academia Collaboration:** Strengthening cooperation between industries and academia across disciplines, promoting student collaboration, startup activities, and idea acceleration can inspire entrepreneurship.
- **Investor Connections:** Facilitating connections with venture capitalists, organising networking sessions with entrepreneurs who have secured series A, B, C funding, and involving international VCs can offer valuable insights.
- **Financial Support for Innovation:** Creating avenues for researchers to pursue entrepreneurship without risking job security and providing clear guidelines for seed funding applications, especially in English, would encourage entrepreneurial initiatives.
- **Research Commercialisation Education:** Offering consultancies, guidelines, and sparring services to refine ideas can assist researchers in commercialising their work. Focus should be on practical application and legislative advice.

- **Promotion and Awareness:** Promoting job opportunities, informing the private sector about research possibilities, and offering tools and initiatives for researchers can enhance awareness and engagement in entrepreneurial activities.
- **Enhanced Research Utilisation:** Encouraging periodic utilisation and commercialisation measures during long-term research projects can facilitate entrepreneurial efforts.
- **Supporting Independent Commercialisation:** Researchers should have more rights for independent commercialisation of their work. Funding organisations should allow turning public funding into private investments through shareholder positions.
- **Media Presence:** Leveraging mass media for promotion, conducting faculty walking tours, and actively seeking new spin-off-applicable projects can generate interest and opportunities.
- **Equal Opportunities:** Ensuring similar salary opportunities for researchers involved in commercial solutions and providing more innovation studies for students can foster an entrepreneurial environment within academic settings.

These comprehensive suggestions highlight the multifaceted approach required to cultivate an entrepreneurial culture among public researchers, emphasising training, financial support, collaboration, and awareness initiatives.

Summary for this section

In conclusion, the evaluation of the entrepreneurial culture among public researchers in Tampere region revealed varying perspectives. While most respondents rated the entrepreneurial culture at 2 or 3, researchers gave the lowest ratings with an average of 1.8, indicating room for improvement. The support measures promoting entrepreneurial culture received a rating of 2.61 on average, with researchers giving the lowest rating at 2.47. This suggests that despite the presence of initiatives intended to foster an entrepreneurial mindset, the region's overall entrepreneurial culture falls short of the desired satisfaction level.

To nurture an entrepreneurial culture among public researchers, respondents emphasised diverse strategies, including training, networking, technology readiness sessions, resource allocation, application writing aid, educational programs, exposure to success stories, financial backing, enhanced visibility, industry-academia collaboration, investor connections, innovation funding, research commercialisation education, awareness campaigns, improved research utilisation, independent commercialisation support, media promotion, and equal opportunities for researchers. These varied suggestions underscore the necessity for a multifaceted approach encompassing training, financial aid, collaboration, and education to cultivate entrepreneurial spirit in Tampere region.

3.1.2 Search and valorisation of research results

Question: Do you know who to turn to within your organisation and/or region if you identify a research result that could be brought to market?

In this question, respondents were asked about their awareness of the specific contacts to approach when identifying research results for potential commercialisation. The survey revealed that a majority of respondents (67%) are aware of the appropriate channels to navigate, indicating a clear understanding of the process. However, 23% of respondents expressed uncertainty in this regard, while for 10%, the question was not applicable, possibly due to their specific roles or circumstances. The distribution is depicted in Figure 5.

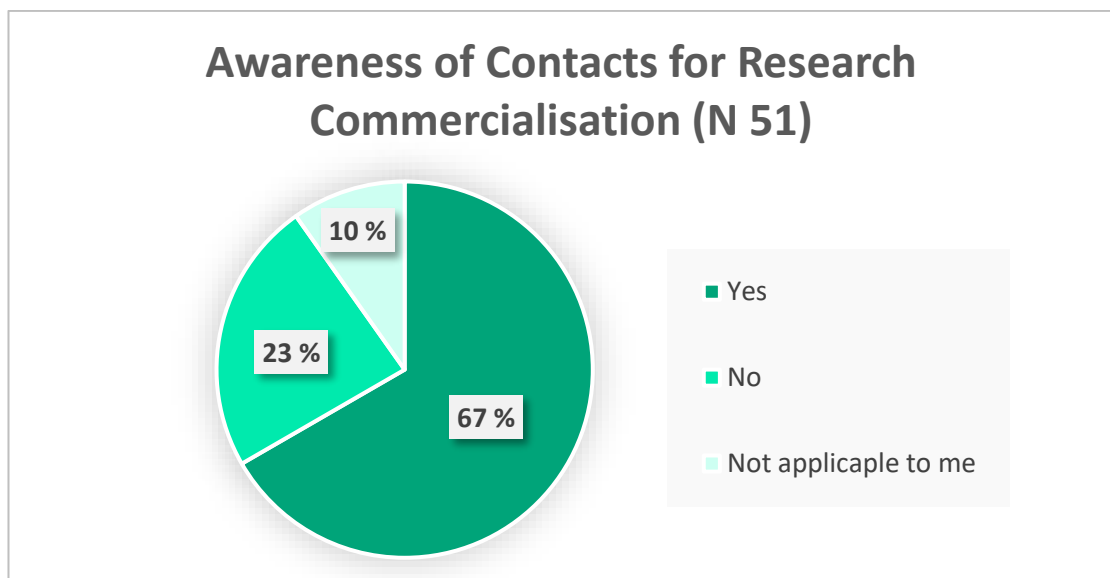


Figure 5. Awareness of Contacts for Research Commercialisation

Interestingly, among researchers, there is an even split: 50% are knowledgeable about the designated contacts, while the remaining 50% lack clarity in this aspect. This divide underscores the need for enhanced communication and clear guidelines within the researcher community regarding avenues for research commercialisation.

Question: How are research results with valorisation potential identified in your public research organisation?

In this question, respondents were asked about the methods employed within their public research organisation to identify research results suitable for valorisation. Specifically, the survey aimed to understand whether the organisation actively seeks out such results, if researchers independently communicate their findings, or if both methods are in practice. The responses varied: 39% of the respondents indicated that researchers proactively communicate their own findings; 29% reported that both the organisation and researchers

are proactive in this regard; 16% expressed a lack of awareness on this process; 14% indicated that the question was not applicable to their situation. Only 2% mentioned that the research organisation actively seeks research results to be valorised. The distribution of responses is illustrated in Figure 6.

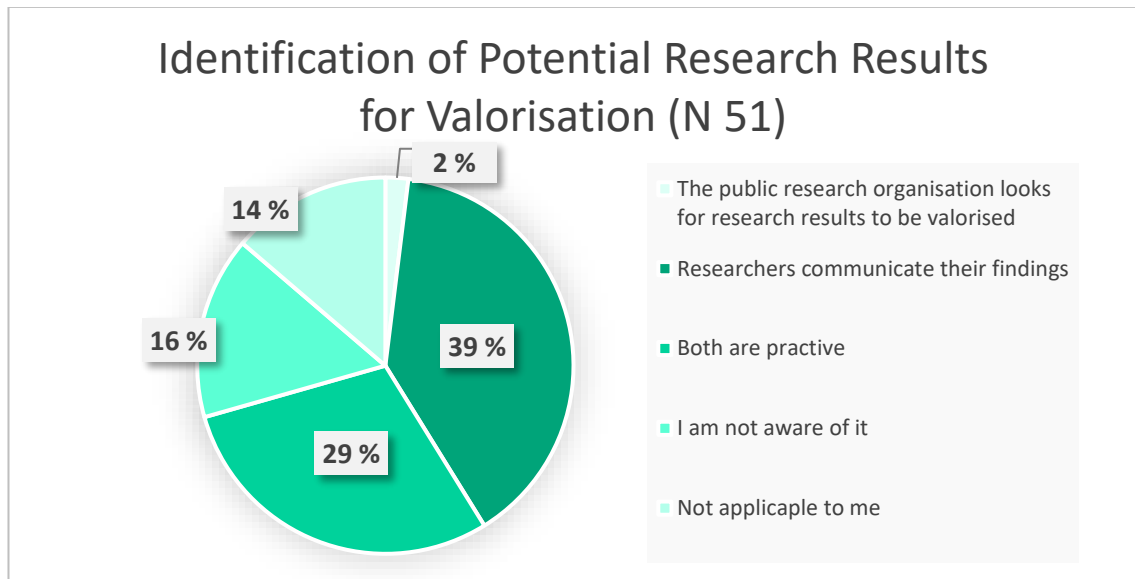


Figure 6. Identification of Potential Research Results for Valorisation

This diversity in approaches hinders the need for standardised and efficient methods to identify research results with valorisation potential, ensuring active communication channels between researchers and the organisation.

Question: How would you suggest improving the process of valorising research results within your organisation / region?

In this question the respondents were asked how they would suggest improving the process of valorising research results. 25 respondents shared their suggestions. In summary, suggestions for improving the process of valorising research results within the organisation/region include:

- **Empowering Research Group Leaders:** Research group leaders play a pivotal role. Their knowledge about commercialisation options and encouragement for researchers significantly impact results. However, they can also inadvertently hinder valorisation efforts.
- **Enhancing Business Model Development:** Efforts should focus on refining the business model by engaging with commercial buyers, potential investors like VCs, and local business angels. Merely discussing with local investors may not be sufficient.

- **Strengthening Communication:** Improved communication among various stakeholders is essential. Active scouting and frequent communication with research group/centre leaders can facilitate the process.
- **Creating Practical Commercialisation Strategies:** Commercialisation strategies should be considered practically from the early stages of research, even within research proposals. Actively seeking valuable results is crucial.
- **Enhancing Researchers' Market Knowledge:** Researchers should have a better understanding of market needs. Educational efforts should be directed towards researchers to enhance their knowledge about commercialisation.
- **University's Role:** The university plays a crucial role. Efforts should be made to educate researchers, monitor research projects, and maintain communication with Principal Investigators (PIs) during and after projects.
- **Active Involvement of Funding Organisations:** Funding organisations can proactively inquire about profitable business opportunities, taking the lead in supporting valorisation efforts.
- **Strengthening Collaboration:** Promoting more interaction between research groups and innovation services can foster a collaborative environment. Successful spin-offs should be given increased visibility.
- **Organising Pitching Sessions:** Conducting pitching sessions for researchers, directed towards potential investors and corporations, can facilitate networking and opportunities.
- **Proactive Approach by Management:** The organisations managing relevant instruments and services should adopt a proactive approach. Systematic dissemination of offerings can increase reach among potential beneficiaries.
- **Improving Internal Communication:** Enhancing internal communication and presence within faculties can further the valorisation process.
- **Enhancing Access to Research Infrastructure:** Ensuring better access to expensive research infrastructure can facilitate valuable research endeavours.

Summary for this section

In conclusion, the insights gathered from responses regarding the search and valorisation of research results in Tampere region offer valuable perspectives. A notable majority (67%) of respondents are aware of the appropriate contacts within their organisation or region when identifying research results for market potential. However, a noteworthy 50-50 split among researchers suggests a need for clearer communication channels in this aspect.

Regarding the identification of research results for valorisation, 39% of respondents observed that researchers take the initiative to communicate their findings, highlighting the proactive role of researchers in this process.

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Suggestions for improvement centred around empowering Research Group Leaders, emphasising their pivotal role in facilitating the valorisation process. Enhancing business model development through engagement with commercial buyers, investors, and local business angels was stressed, emphasising practical approaches. Strengthening communication, practical commercialisation strategies, researchers' market knowledge, and active involvement of funding organisations emerged as key themes. Collaboration, organising pitching sessions, proactive management approaches, internal communication enhancements, and improved access to research infrastructure were highlighted as crucial areas for enhancement.

These recommendations underscore the significance of clear communication, proactive engagement, practical commercialisation strategies, and robust support from various stakeholders. Addressing these aspects can notably enhance the valorisation process of research results in Tampere region, fostering a more streamlined and effective pathway from research to market.

3.1.3 Business management skills of researchers

Question: Do you think it is easy for public researchers to create a multidisciplinary team to launch a business project?

In this question, respondents were asked to assess the ease with which public researchers can form multidisciplinary teams to initiate a business project, using a scale ranging from 1 (very difficult) to 4 (very easy). The results indicate that a significant majority (80%) of respondents perceive the creation of multidisciplinary teams by researchers as either very difficult or difficult, with an average rating of 1.94, as shown in Figure 7.

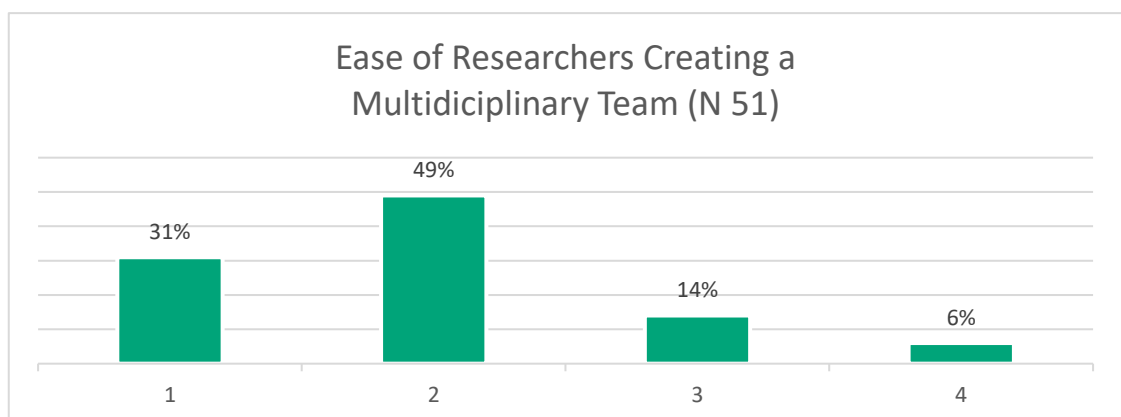


Figure 7. Evaluation of the Ease of Public Researchers in Creating Multidisciplinary Teams for Business Projects

However, researchers themselves view this task slightly more positively, rating the ease of forming multidisciplinary teams at 2.19. This suggests a varied perspective among researchers, with some finding it relatively easy while others perceive it as challenging, highlighting the diverse experiences and opinions within the research community.

Question: Do you think public researchers have sufficient knowledge to create and manage their own spin-off?

In this question, respondents were asked to assess whether public researchers have the necessary expertise to establish and manage their spin-off companies, using a scale ranging from 1 (definitely not) to 4 (yes, absolutely). A significant majority (82%) expressed doubt about researchers' ability, providing ratings of 1 or 2. Conversely, only 18% affirmed researchers' competency, rating it as 3 or 4, resulting in an average score of 1.88. Figure 8 provides a visual representation of these evaluations.

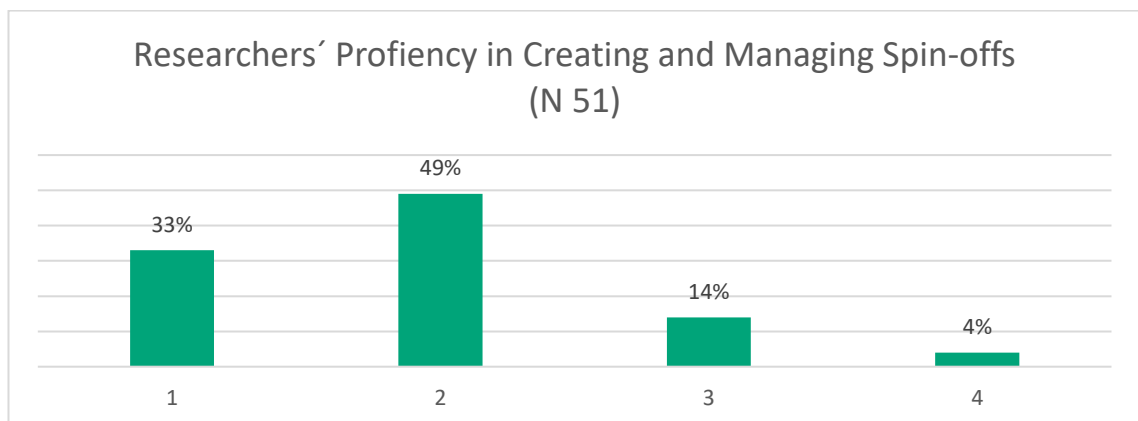


Figure 6. Researchers' Proficiency in Establishing and Managing Spin-Offs

Despite this scepticism, researchers themselves rated their knowledge slightly higher, averaging 2.04. Notably, university personnel tended to perceive researchers' expertise more positively, albeit still below a satisfactory level, with an average rating higher than those from individuals outside the university community.

Question: In which business areas do you think there is a need for training?

In this question, respondents were asked to pinpoint the four most vital business areas where researchers require training. Predominantly, respondents emphasised the necessity for training in marketing, sales, and negotiations, as depicted in Figure 7.



Figure 7. Priority Training Areas for Researchers to Better Establish Spin-offs

Furthermore, respondents identified several other key areas that demand attention. These include finance, strategy, leadership, and team management. Additionally, training in legal and communication was highlighted. While areas such as distribution, digital competences, human relations, and internationalisation were considered to require comparatively less training, respondents also underscored the importance of additional domains. Specifically, project management, business development, and market segmentation were recognised as crucial areas necessitating further training and development. These insights illuminate the diverse spectrum of training needs among researchers, emphasising the multifaceted nature of skills required in the contemporary entrepreneurial landscape.

Question: What measures do you think would be useful to improve the entrepreneurial skills of public researchers?

In this question the respondents were asked what measures they think would be useful to improve the entrepreneurial skills of public researchers. 48 respondents shared their thoughts. The suggestions provided by the respondents highlight several key measures that could be useful to improve the entrepreneurial skills of public researchers:

- **Case Examples and Colleague Experiences:** Learning from real-life examples and experiences of colleagues and successful entrepreneurs can provide valuable insights.
- **Inviting Guest Speakers:** Inviting experienced entrepreneurs as guest speakers or hiring staff with entrepreneurial backgrounds can offer practical knowledge and mentorship.

- **Training Programs and Networking:** Providing courses on commercialisation, establishing a network of Business Developers, and encouraging researchers to participate in entrepreneurial communities can enhance their skills and connections.
- **Internship Programs:** Allowing researchers to work as entrepreneurs through internships with local startups or other existing companies provides hands-on experience.
- **Coaching and Mentoring:** Offering coaching, mentoring, and workshops can provide personalised guidance and support.
- **Financial Support:** Providing financing options and early business loans can encourage researchers to explore entrepreneurial opportunities.
- **Educational Initiatives:** Integrating entrepreneurial education into the academic curriculum and offering training packages can build foundational knowledge.
- **Cultural Understanding:** Developing a deeper understanding of social needs, trends, and cultural factors can help researchers align their innovations with market demands.
- **Incentives and Rewards:** Introducing incentives and rewards for valuable contributions in entrepreneurship can motivate researchers to explore commercialisation avenues.
- **Practical Market Research Skills:** Training researchers to conduct effective market research enhances their ability to identify market needs and opportunities.
- **Networking Platforms:** Establishing networking platforms where researchers can meet individuals with complementary expertise fosters collaboration.
- **Flexible Training Opportunities:** Offering courses during working hours and providing study credits for entrepreneurial training supports researchers' skill development without disrupting their work schedules.
- **Early Education:** Starting entrepreneurial training at the Ph.D. level ensures that researchers are equipped with necessary skills from the beginning of their careers.
- **Entrepreneurial Environment Exposure:** Immersing research teams in entrepreneurial environments and experiences cultivates an entrepreneurial mindset.
- **Private and Public Funding:** Facilitating access to private funding sources, especially venture capital and angel investors, enables researchers to explore entrepreneurial ventures.
- **Reward Systems:** Implementing reward systems for valuable contributions encourages researchers to engage in entrepreneurial activities.
- **Regular Training:** Providing regular training sessions and opportunities for researchers interested in entrepreneurship ensures continuous skill development.
- **Interaction with Investors:** Facilitating frequent interactions with investors helps researchers understand investor perspectives and expectations.

These measures collectively contribute to enhancing the entrepreneurial skills of public researchers, fostering a culture of innovation and commercialisation within academic and research settings.

Summary for this section

The responses evaluating the business management skills of researchers in Tampere region have unveiled both challenges and opportunities. A significant 80% of respondents find the creation of multidisciplinary teams for business projects difficult, posing a potential hurdle for collaborative entrepreneurial endeavours. However, researchers themselves are relatively more optimistic, rating the ease of forming such teams at 2.19.

Moreover, an overwhelming 82% of respondents doubt researchers' ability to create and manage their own spin-off companies, giving an average rating of 1.88. This scepticism contrasts with researchers' self-assessment, averaging 2.04, indicating a minor disparity in perception between researchers and external respondents.

In terms of essential training areas, marketing, sales, and negotiations were identified as top priorities by respondents. While areas such as distribution, digital competences, human relations, and internationalisation were considered to require comparatively less training.

The respondents' suggestions on how to improve the entrepreneurial skills of researchers highlight the need for experiential learning and knowledge-sharing. Recommendations include drawing lessons from real-life examples, inviting guest speakers, establishing robust training programs, and encouraging active participation in entrepreneurial communities. Internship programs, coaching, mentoring, and financial support emerged as pivotal aspects. Integrating entrepreneurial education into academic curricula, enhancing researchers' understanding of market needs, and providing networking opportunities were emphasised. Early education, exposure to entrepreneurial environments, and access to diverse funding sources were also underscored.

In conclusion, these findings emphasise the necessity of a comprehensive approach to enhance the entrepreneurial skills of public researchers in Tampere region. These entrepreneurial skills go beyond mere business management skills. Bridging the perception gap, implementing tailored training programs, and nurturing a supportive ecosystem promoting collaboration and experiential learning can empower researchers, thereby driving innovation and fostering successful commercialisation efforts within the academic community.

3.1.4 Regulatory and legal framework

Question: How familiar are you with the legal framework that applies to spin-offs?

In this survey question, respondents were asked to gauge their familiarity with the legal framework governing spin-offs, using a scale ranging from 1 (very unfamiliar) to 4 (very familiar). The responses revealed that the majority of participants (37%) indicated being "very unfamiliar" with the legal framework. Conversely, only a small percentage (16%) claimed to be "very familiar," resulting in an average familiarity rating of 2.20, as illustrated in Figure 8.

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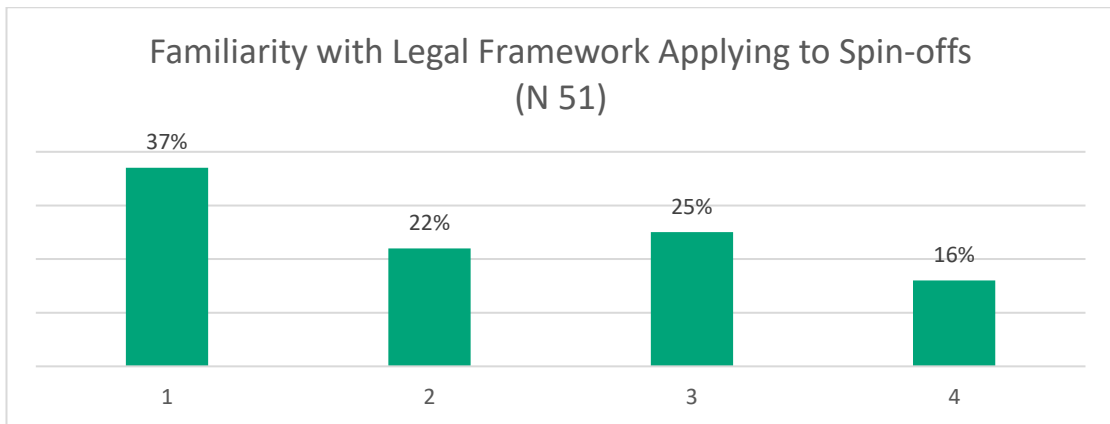


Figure 8. Familiarity with Legal Framework Applying to Spin-offs

Notably, among researchers, the familiarity with the legal framework that applies to spin-offs was even lower, with an average score of 1.62. These findings highlight a notable gap in understanding, particularly among researchers, emphasising the need for increased awareness and education regarding the legal aspects surrounding spin-off ventures.

Questions: Do you think it is easy for public researchers to set up a spin-off from an administrative and legal point of view?

In this survey question, participants were asked to assess the ease of setting up a spin-off from an administrative and legal standpoint, using a scale ranging from 1 (very difficult) to 4 (very easy). The responses revealed that a majority of respondents (65%) perceived this process as challenging, indicating scores of 1 and 2. In contrast, 30% found it relatively easy, and only 4% deemed it very easy, resulting in an average rating of 2.15, as depicted in Figure 9.

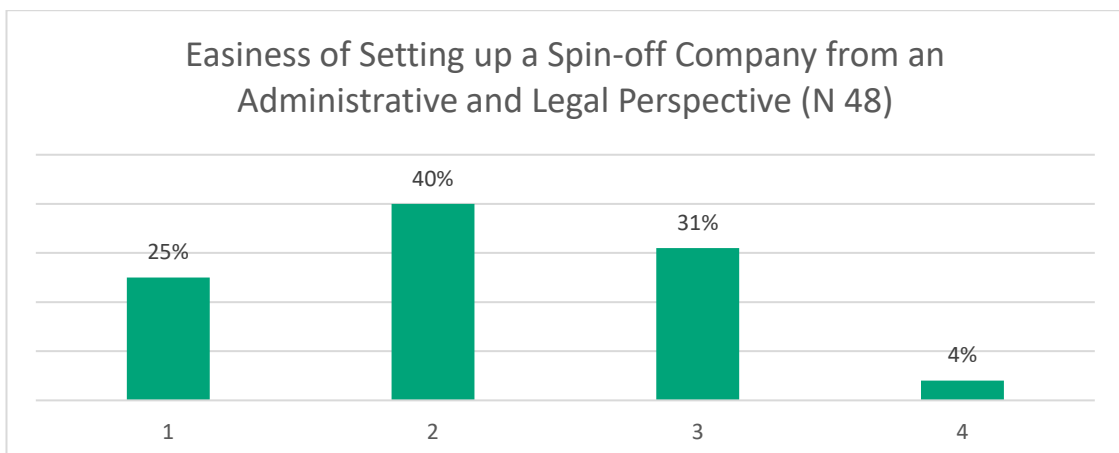


Figure 9. Easiness of Setting up a Spin-off Company from an Administrative and Legal Perspective

It is noteworthy that researchers, in particular, rated the process at an average of 1.8, indicating a relatively higher level of difficulty perceived within this group. These findings highlight the complexities faced by public researchers when navigating the administrative and legal aspects of establishing spin-off companies, emphasising the need for simplified processes and enhanced support in this domain.

Question: How could the regulatory and legal framework for the creation of spin-offs be facilitated?

In response to this question, 23 participants shared valuable insights on how the regulatory and legal framework for spin-offs could be streamlined and facilitated. Their suggestions span various key areas, emphasising the need for education, consulting services, transparency, language accessibility, simplified processes, organisational support, and knowledge sharing. The following measures were highlighted to enhance the regulatory and legal landscape for the creation of spin-offs:

Training and Education:

- Providing comprehensive training materials and courses focused on the regulatory and legal aspects associated with spin-offs.
- Integrating this crucial information into the standard education curriculum for researchers, ensuring they are well-informed from the outset.

Consulting and Legal Services:

- Offering specialised consulting services tailored for new entrepreneurs, specifically focusing on legal matters to guide them through the complexities.
- Providing access to legal counsellors who can be consulted, recognising varying familiarity levels with legal matters among individuals.
- Establishing dedicated legal services to advise researchers and startups, ensuring fair treatment and equitable agreements for all parties involved.

Transparency and Clear Guidelines:

- Enhancing transparency throughout the entire process, including the provision of public templates and clear, easily understandable process descriptions.
- Clearly defining ownership of research results, preferably favouring researchers, to mitigate potential conflicts and disputes.

Language Accessibility:

- Ensuring that all relevant information and services are available in English, catering to a broader audience, especially international researchers, and entrepreneurs.

Simplifying Transfer of Intellectual Property (IP):

- Creating a streamlined and entrepreneur-friendly process for transferring intellectual property (IP) from universities to startups.
- Ensuring clarity and favourability in terms of IP ownership and transfer to encourage entrepreneurial initiatives.

Organisational Support:

- Establishing a dedicated organisation specifically focused on handling the regulatory and legal aspects of spin-offs.
- Universities taking an active role in providing facilitation and support, ensuring that researchers have access to necessary legal guidance and resources.

Avoiding Overcomplication:

- Steering clear of introducing new campaigns or activities that might complicate the regulatory and legal processes further, focusing on simplification and clarity instead.

Knowledge Sharing and Experience:

- Organising workshops, lectures, and sessions where founders can share their experiences, offering practical insights into dealing with legal aspects.
- Making consultancy, training resources, and checklists readily available to guide researchers through the legal framework, enhancing their understanding and confidence.

In summary, the facilitation of the regulatory and legal framework for spin-offs necessitates a comprehensive approach involving education, specialised legal consultation, transparency, language accessibility, simplified processes, strong organisational support, and knowledge sharing. By implementing these measures, researchers and entrepreneurs can be empowered with the essential knowledge and resources needed to navigate the legal landscape effectively, fostering a supportive environment for the creation of successful spin-off ventures.

Summary for this section

The responses evaluating the regulatory and legal framework in Tampere region indicated a moderate familiarity with the legal framework for spin-offs, averaging a score of 2.20. Setting up a spin-off from an administrative and legal standpoint was perceived as moderately challenging, with an average rating of 2.15.

To facilitate the regulatory and legal framework for spin-offs, respondents proposed several key measures. These include educational initiatives such as training materials and integrated curriculum components focusing on legal aspects. Consulting services and access to legal experts were highlighted to provide personalised guidance, ensuring fair treatment for both entrepreneurs and researchers. Transparency and clarity were emphasised through the availability of public templates, well-defined processes, and clear ownership guidelines to prevent conflicts.

Language accessibility, especially in English, was underscored to cater to a broader international audience. Simplifying the transfer of Intellectual Property (IP) from universities to startups and ensuring favourable terms for entrepreneurial initiatives were suggested. Organisational support, including the establishment of dedicated entities and university facilitation, was recommended to provide researchers with essential legal guidance.

Overcomplication was discouraged, emphasising the need to avoid introducing complex campaigns or activities. Knowledge sharing sessions, including workshops, lectures, and consultancy services, were proposed to provide practical insights into handling legal aspects.

In summary, the facilitation of the regulatory and legal framework for spin-offs hinges on educational initiatives, legal consultation, transparency, language accessibility, simplified processes, organizational support, and knowledge sharing. These measures collectively empower researchers and entrepreneurs, equipping them with essential information and resources to navigate the legal landscape effectively, fostering an environment conducive to spin-off creation.

3.1.5 Funding and financing mechanisms

Question: Are you aware of the existing funding support mechanisms for spin-offs in your region?

In this question, participants were asked to indicate their awareness of funding support mechanisms available for spin-offs in their region, using a scale ranging from 1 (definitely not) to 4 (yes, absolutely). The results revealed that a significant majority, constituting 60% of the respondents, expressed familiarity with the existing funding mechanisms, assigning scores of 3 and 4. However, 40% of the participants indicated a lack of awareness, providing scores of 1 and 2. On average, the respondents' awareness level was calculated to be 2.75, showcasing a moderate overall awareness of these funding opportunities. This data is visually represented in Figure 10.

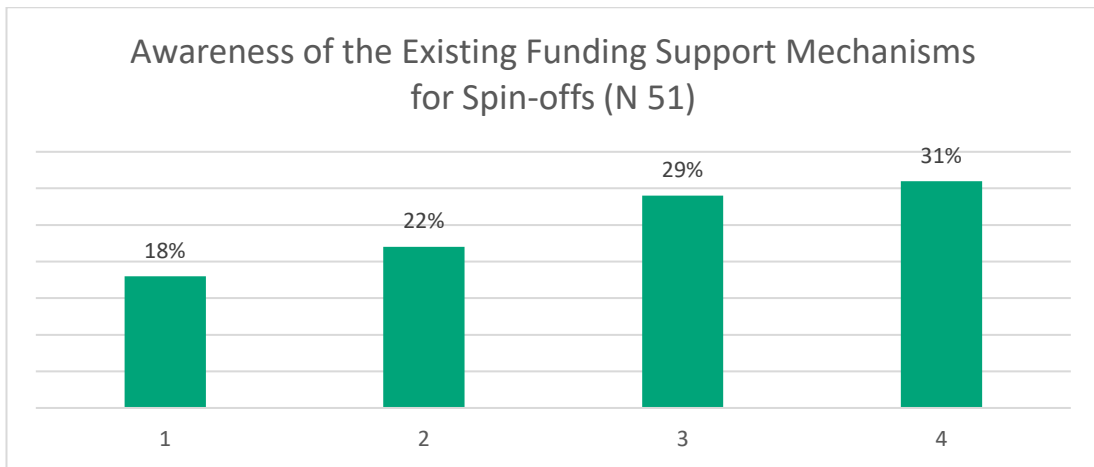


Figure 10. Awareness of the Existing Funding Support Mechanisms for Spin-offs

Interestingly, when the data was further analysed based on respondent groups, researchers displayed a notably lower average score of 2.02. This discrepancy suggests that researchers, specifically, might not be well-informed about the funding mechanisms that support spin-offs, while other groups of respondents exhibit a higher level of familiarity with these resources.

Question: In your experience, do you think that public researchers know where to go to obtain this funding?

In this question, participants were asked to share their perspectives on whether public researchers are aware of the appropriate channels to obtain funding. The responses revealed that a significant majority, comprising 65% of the participants, believe that public researchers lack knowledge about where to obtain funding. Conversely, 31% of the respondents expressed the belief that researchers are aware of these funding sources. A small percentage, 4%, found the question not applicable to their situation. These findings are visually depicted in Figure 11.

Perception of Public Researchers' Awareness about Funding Sources (N 51)

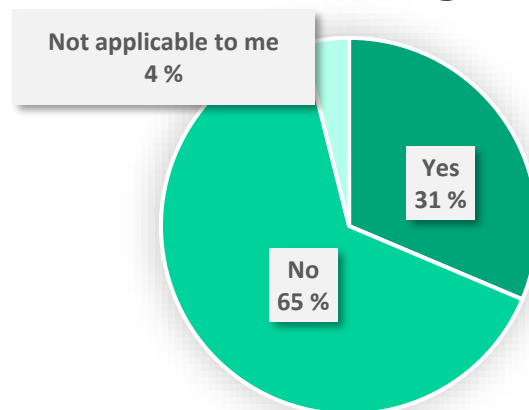


Figure 11. Perception of Public Researchers' Awareness about Funding Sources

Interestingly, when examining the responses specifically from researchers, the concern becomes even more pronounced. A noteworthy 71% of researchers indicated that they are uncertain about the avenues available for obtaining funding, highlighting a critical gap in awareness within this specific demographic.

Question: How would you improve the existing financial support for the creation of spin-offs (new methods of support, more funding, better conditions, facilitating the process...)?

In response to this inquiry, 26 participants shared their perspectives on improving the current financial support for spin-offs. The feedback received was rich and varied, reflecting a range of opinions on the topic. While some respondents commended the existing support and tools, describing them as highly effective, others offered valuable suggestions for further enhancements:

- **Educational Support:** Initiating training programs to educate entrepreneurs about effective fund utilisation and reporting, addressing existing system loopholes, such as reporting requirements, to prevent misuse.
- **Interactive Culture:** Encouraging an interactive atmosphere that fosters early-stage discussions with both national and international Venture Capitalists (VCs), promoting dialogue and support during the fundraising process.
- **University Funds:** Establishing funds within universities to support their startups, enabling regions to cultivate and sustain their entrepreneurial ecosystems.

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- **Reducing Bureaucracy:** Simplifying the application and funding procedures, minimising bureaucratic hurdles, and offering seed funding with accessible, low-threshold, and low-risk instruments, especially during initial stages.
- **Market-Driven Funding:** Prioritising funding for exploratory approaches aligned with market needs, ensuring financial support is provided based on market demand and relevance.
- **Network Building:** Creating a networking platform and providing documentation in English to enhance communication and collaboration among entrepreneurs, investors, and institutions.
- **Angel Investing:** Encouraging increased angel investments from the private sector to complement public funding, thereby diversifying the funding sources available to entrepreneurs.
- **Transparency:** Establishing clear listings of funding sources, specifying criteria for various types of innovations (such as deep tech), simplifying the identification of relevant funding parties for entrepreneurs.
- **Business Development Focus:** Implementing a more rigorous approach from a business development perspective, granting funding based on achieved business development goals to ensure effective fund utilisation.
- **Funding Instrumentation:** Introducing new funding instruments tailored to early-stage spin-offs, providing a range of options for financial support.
- **Information Accessibility:** Compiling comprehensive information about available funding sources, systematically categorising them based on the aspects of the spin-off process they cover, and ensuring this information is readily accessible to entrepreneurs.
- **Taxation Considerations:** Advocating for changes in taxation policies to create a more favourable environment for startups and spin-offs.

In summary, the enhancement of financial support for spin-offs should focus on educational initiatives, bureaucracy reduction, fostering interactive cultures, facilitating networking, encouraging private sector involvement, ensuring transparency, and providing diverse, tailored funding options. Addressing these key areas can render the support system for spin-offs more robust, adaptable, and responsive to the needs of entrepreneurs, thereby promoting innovation and economic growth.

Summary for this section

In conclusion, the findings related to the funding and financing mechanisms for spin-offs reveal several key insights. Firstly, there is a significant gap in awareness regarding existing funding support mechanisms for spin-offs, particularly among researchers, indicating a need for increased dissemination of information within this group. Secondly, the majority of respondents, including a high percentage of researchers, believe that public researchers lack knowledge about where to obtain funding for their projects, highlighting the importance of improving accessibility to funding resources.

To address these challenges and enhance financial support for spin-offs, the respondents offered valuable suggestions. The proposed improvements encompass various aspects, including educational support programs to educate entrepreneurs about funding usage and reporting, fostering an interactive culture for early-stage discussions with investors, establishing university funds to support startups, simplifying application processes, aligning funding with market demands, building extensive networks, encouraging private sector involvement through angel investing, ensuring transparency in funding sources, implementing a business development-focused approach, introducing diverse funding instruments tailored to early-stage spin-offs, enhancing information accessibility, and advocating for favourable taxation policies.

In summary, the enhancement of financial support for spin-offs should focus on education, reducing bureaucracy, fostering interactive cultures, facilitating networking, encouraging private sector involvement, ensuring transparency, and providing tailored funding options. By addressing these areas, the support system for spin-offs can become more robust, adaptable, and responsive to the needs of entrepreneurs, ultimately promoting innovation, and contributing to economic growth in the region.

3.1.6 Business creation and consolidation

Question: What kind of support do you consider essential for setting up a spin-off business?

In this question, respondents were asked to choose the four most crucial types of support for setting up a spin-off business. The results indicated that funding opportunities and legal, fiscal, and financial consultancy were identified as the most essential forms of support. Additionally, having a contact network, business consultancy, and assistance in building a team were deemed somewhat important. Incubation programs and training were perceived as the least critical aspects, as depicted in Figure 12.

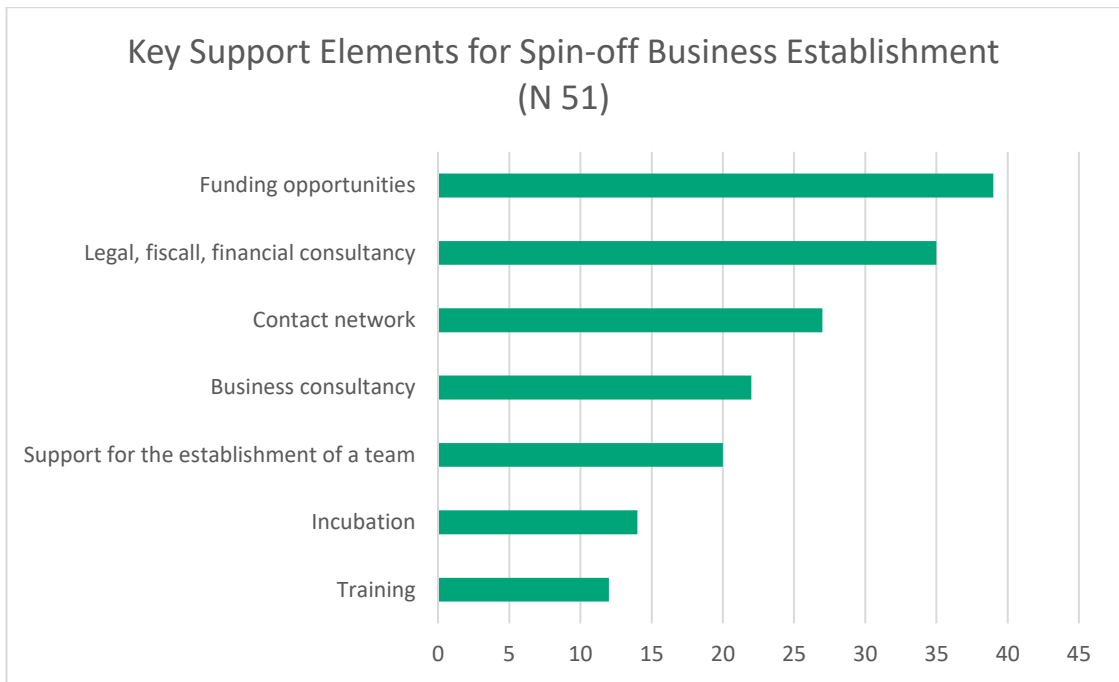


Figure 12. Key Support Elements for Spin-off Business Establishment

Beyond the provided options, respondents also highlighted other vital areas. These included access to university labs during fundraising, assistance in identifying, developing, and nurturing business opportunities and innovations, effective marketing strategies, and access to private funding sources. These additional aspects underline the multifaceted nature of support necessary for the successful establishment of a spin-off business.

Question: At what stages in the consolidation of a spin-off are there specific support programmes / initiatives in your region?

In this question, respondents were queried about the existence of specific support initiatives at different stages of spin-off consolidation in Tampere region. Among the respondents, incubation emerged as the most widely recognised support mechanism. Additionally, support initiatives related to venture building, scale-up, and internationalisation were also acknowledged, as depicted in Figure 13.

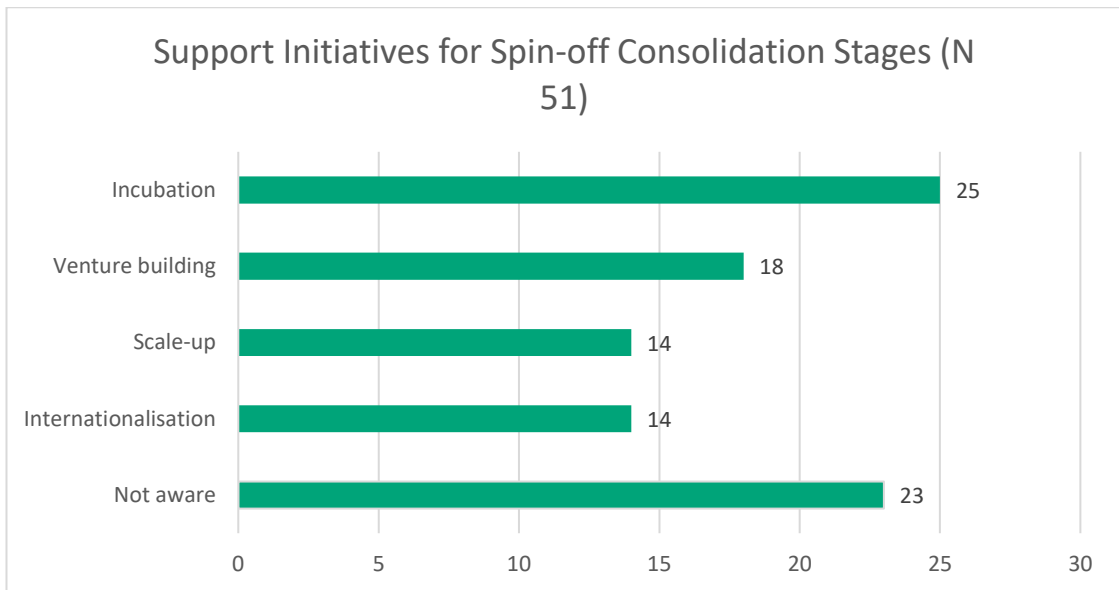


Figure 13. Support Initiatives for Spin-off Consolidation Stages in Tampere Region

While respondents acknowledged the presence of support programs spanning from incubation to scale-up stages, there were concerns raised about their effectiveness. Some participants noted that these programs were either insufficient or implemented in an unprofessional manner. Notably, recognition of the pre-incubation stage was also observed among respondents.

However, it is concerning that a significant portion of the respondents, precisely 45%, expressed a lack of awareness regarding regional support programs for spin-off consolidation. This lack of awareness was particularly prominent among researchers, with a substantial majority of 76% reporting their unawareness of regional initiatives tailored to their needs.

Question: What do you miss in your regional policy to consolidate and/or scale spin-off businesses?

In response to the inquiry about the missing components in the regional policy for consolidating and scaling spin-off businesses, approximately 10 respondents provided their insights. The feedback received was diverse, reflecting a range of perspectives on this matter.

Some individuals expressed uncertainty or a lack of clear ideas about the existing gaps in the regional policy. One respondent specifically highlighted the absence of a network comprising experienced entrepreneurs who have successfully secured funding in various rounds (such as series A, B, C). They emphasised the necessity for a forum where entrepreneurs can share their experiences, providing mutual motivation and support.

Another respondent pointed out the inadequate support provided, expressing concerns that companies are often left to navigate challenges independently after the initial stage. They stressed the need for courage, vision, and innovative approaches, emphasising that reliance on outdated methods hampers progress. This respondent highlighted the importance of fostering creative chaos and activities that encourage innovation, thereby generating new opportunities. They emphasised the significance of continuous interaction within the ecosystem, particularly in the deep-tech sector.

Furthermore, suggestions included the establishment of a specialised incubator catering specifically to research-based startups/spin-offs, facilitating easier connections to investors, and the presence of early-stage investors willing to take higher risks during the seed phase. These responses collectively underscore the importance of supportive networks, innovative thinking, ongoing interaction, and accessible resources and funding. Addressing these aspects is vital for the effective consolidation and scaling of spin-off businesses in the region.

Summary for this section

In summary, the findings from the Business Creation and Consolidation section provide valuable insights into the critical aspects of establishing and scaling spin-off businesses in Tampere region.

First and foremost, the survey identified funding opportunities and legal, fiscal, and financial consultancy as fundamental pillars for establishing a spin-off business. However, respondents also emphasised other crucial areas, such as access to university labs during fundraising, business opportunity identification, development, nurturing, innovations, marketing, and private funding. These diverse needs highlighted by entrepreneurs extend beyond traditional support channels.

Secondly, concerning specific support programs at various consolidation stages, incubation emerged as the most recognised mechanism. Despite the acknowledgment of stages ranging from incubation to scale-up, respondents expressed dissatisfaction with the execution of these programs, citing them as either insufficiently developed or unprofessionally implemented. Notably, the pre-incubation stage was also recognised. However, a significant portion of respondents, especially researchers, reported a lack of awareness regarding regional initiatives, indicating a potential communication gap between support providers and entrepreneurs.

Lastly, feedback on missing elements in regional policies highlighted several key areas. Entrepreneurs emphasised the need for a supportive network of experienced peers, underscoring the importance of forums where entrepreneurs can exchange experiences and inspire one another. There was unanimous agreement on the absence of sustained support, with companies often feeling neglected after the initial stages. Respondents emphasised the necessity for courage, vision, and innovative strategies, advocating for a departure from outdated methods to encourage creative chaos and innovation. Other suggestions included

the establishment of tailored incubators for research-based startups, simplified connections to investors, and the involvement of early-stage investors willing to take risks. These recommendations underscore the significance of continuous interaction, innovative thinking, and accessible resources and funding opportunities for the successful consolidation and scaling of spin-off businesses in the region.

These insights collectively highlight the urgent need for a more comprehensive and professionally implemented support ecosystem. Addressing gaps in awareness, implementation, and the types of assistance offered to entrepreneurs is crucial. This approach will foster an environment conducive to innovation, growth, and success within the realm of spin-off businesses.

3.1.7 Smart Specialisation Strategy (S3)

Question: Do you think that a higher percentage of the spin-offs created in your region are framed within the priority/specialisation areas defined by the region, or on the contrary, do you think that there are no significant differences¹?

There were 17 responses to the question regarding whether the alignment of spin-offs with regional priority/specialisation areas are diverse and reflect a range of perspectives.

Some respondents expressed the opinion that there are no significant differences in the specialisation areas of spin-offs in their region. They attributed the variation to factors such as university department focus, creativity fostered, and entrepreneurial motivation. For them, the specificity of the sector did not play a crucial role in the establishment of spin-off companies within their organisation.

On the contrary, there were participants who identified clear specialisation patterns, particularly in fields like ICT (Information and Communication Technology) and related sectors, such as connectivity, laser technology, smart mobility, health, energy, or material technology. They emphasised the ICT sector as a major specialisation area in their region, aligning with the focus of spin-offs.

Additionally, some respondents indicated a lack of awareness regarding the specific definitions of priority areas in their region, expressing uncertainty about the terminology used (such as "S3"). These individuals found it challenging to provide a definitive answer due to limited access to relevant information in their roles.

Overall, the responses indicate a varied understanding of the relationship between spin-offs and regional priorities. While some participants perceive a direct link between the activities of spin-offs and regional emphasis, others are less aware of the specific definitions and

¹ Tampere Region's smart specialisation strategy (S3) outlines its key areas of expertise, focusing on (1) responsible and sustainable industry transition, (2) smart and sustainable communities, (3) wellness technologies and services, and (4) the culture and digital experience sector.

emphasise factors like university focus and the nature of the entrepreneurial ecosystem as influential elements in spin-off specialisation.

Summary for this section

The responses regarding the alignment of spin-offs with regional Smart Specialisation Strategy (S3) reflect diverse perspectives. Some respondents perceive no significant differences in specialisation areas, attributing variations to factors like university focus and entrepreneurial creativity. Others identify clear specialisation patterns, especially in ICT and related sectors. Some participants lack awareness of specific priority areas, leading to uncertainty. These varied responses emphasize the complexity of aligning spin-offs with regional strategies and highlight the need for enhanced communication and awareness initiatives.

4 Conclusions: Accelerating the spin-off ecosystem in Tampere Region

The survey mapping the spin-off creation landscape in Tampere Region, focusing on spin-off company establishment and consolidation, has provided valuable insights into the current state and potential areas for improvement. This analysis, part of the larger VIADUCT project, aimed to compile survey responses at the regional level to draw conclusions about the effectiveness of current measures and methodologies in Tampere region. The findings underscore the following key points and are compiled in figure 14 (p. 35).

Strengths

Tampere region boasts commendable strengths in the establishment and consolidation of spin-off companies. Notably, researchers demonstrate a proactive approach to valorising research, displaying a high level of awareness and utilisation of suitable contacts for identifying marketable research results. There is also a recognition of the need for entrepreneurial skills development, with researchers showcasing a willingness to participate in training and experiential learning programs. The region's moderate familiarity with the legal framework governing spin-offs further indicates a foundational understanding of the regulatory landscape. Diverse specialisation patterns, particularly in Information and Communication Technology (ICT) and related sectors, reflect a conducive environment where researchers actively contribute to translating their research into innovative products and services.

Weaknesses

However, challenges exist, with significant weaknesses identified. A notable communication gap among researchers hampers the identification and transfer of research findings with market potential, hindering the efficient commercialisation of research. The absence of ongoing support and communication after the initial stages contributes to a sense of neglect among companies in the region. Forming multidisciplinary teams for business projects proves challenging, hindering collaborative efforts crucial for innovative entrepreneurship. External scepticism about researchers' capabilities to create and manage spin-off companies indicates a perception gap that may affect collaboration and investment opportunities. Limited awareness of specific priority areas aligned with the regional Smart Specialisation Strategy (S3) also poses challenges, hindering strategic planning and alignment with overarching developmental goals.

Opportunities

Amidst these challenges, numerous opportunities for improvement have been identified. Clearer communication channels for identifying research results and valorisation opportunities offer significant potential for bridging the gap between research findings and commercialisation. Empowering Research Group Leaders to facilitate the valorisation process emerges as a pivotal opportunity, potentially driving the translation of research into market-ready products and services. Practical engagement with commercial buyers, investors, and business angels presents a promising avenue for business model development and valuable insights. Strengthening communication, commercialisation strategies, market knowledge, and the active involvement of funding organisations offers an opportunity to create a robust support system. Entrepreneurial education within academic curricula and networking opportunities presents valuable avenues for nurturing future entrepreneurs.

Threats

While opportunities abound, potential threats must be addressed to ensure a vibrant and supportive entrepreneurial environment. The lack of support for creating multidisciplinary teams poses a significant threat, hindering collaborative efforts and hindering the innovative potential of diverse skill sets. Limited awareness of specific priority areas aligned with the regional S3 poses a threat, making strategic planning challenging and hindering alignment with overarching developmental goals. Skepticism and a lack of confidence in researchers' entrepreneurial abilities pose a potential threat, potentially discouraging collaboration and investment opportunities.



Figure 14. SWOT analysis of the Research-based spin-off creation in Tampere region.

Conclusions

In conclusion, this regional analysis provides a nuanced understanding of the entrepreneurial culture, research valorisation, business management skills, regulatory framework, funding mechanisms, and alignment with regional strategies in Tampere region. The findings emphasise the importance of enhancing communication channels, fostering proactive engagement, providing practical training, and strengthening support networks. Addressing these aspects is crucial to creating a robust ecosystem that nurtures innovation, fosters entrepreneurial spirit, and supports the successful creation and consolidation of spin-off businesses in Tampere region.

The regional spin-off ecosystem could benefit from a more structured model that would support researchers and spin-offs in their ventures. Such an ecosystem ought to build on leverage not only from the university or its traditional support service providers (such as TTOs) but the wider regional innovation environment. Strategic alignment across university community, public sector and the manifold service providers is called for. This would connect the regional entrepreneurial service system more firmly to the needs of the initiatives boosting research commercialisation. Such collaboration could have large impact on the region and beyond.

This report serves as a foundation for such targeted interventions and strategic initiatives, aiming to capitalise on strengths, address weaknesses, seize opportunities, and mitigate potential threats. By aligning efforts with the identified areas for improvement, Tampere region can enhance its spin-off ecosystem, fostering a dynamic environment conducive to innovation, economic growth, and the sustained success of spin-off ventures.