

Regional Innovation Ecosystems Fostering Sustainable Development

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ABSTRACT

This paper examines experiences of the creation and implementation of Smart Specialization Strategies at 10 regions across Baltic Sea Region and then takes a deeper look into Häme portfolio creation at Häme Region in Finland. European Commission has recommended European regions to conduct regional development activities based on Smart Specialization Strategies to support regional innovation ecosystems and sustainable transformation. Smart Specialization work has shown that innovation and development policies in the Baltic Sea Region have led to higher performance and brought prosperity on varying grounds, either through science, knowledge and economy, or digitalization. Smart Specialization has contributed in a positive way to the focus and prioritization of innovation strategies and impacted to the innovation performance of the regions. However, the study concludes that neither inter-regional collaboration, Sustainable Development Goal implementation, nor economic transformation are yet a norm in the Baltic Sea Region.

Keywords: Smart specialization, Innovation ecosystem, Regional development, Innovation camps, Portfolio management, Sustainability, Participation

INTRODUCTION

Since 2014, European Union has recommended European regions to conduct development activities based on Smart Specialization Strategies (S3). These strategies aim to enhance prosperity of European regions by creating enabling conditions, accelerating research, development and innovation activities as well as supporting active stakeholder involvement for enhancing new entrepreneurial activities. Smart specialization approach embraces open innovation ecosystems supported by collaborative activities. (Asheim et al. 2019, EU 2021)

New concepts Smart Specialization Strategy for Sustainability or Sustainable Smart Specialization Strategy (S4) were introduced by European Commission for the new program period 2021–2027. Smart Specialization Strategies are ex-ante conditionality for EU regional funding programs. Smart Specialization is defined currently as “*a place-based approach characterized by the identification of strategic areas for intervention based both on the analysis of the strengths and potential of the economy and on an Entrepreneurial Discovery Process (EDP) with wide stakeholder involvement. It is outward-looking and embraces a broad view of innovation including but certainly not*

limited to technology-driven approaches, supported by effective monitoring mechanisms.” (EU 2021)

A recent study about “Prioritisation in Smart Specialisation in the EU” (EU 2021) systematically screened and assessed all available European S3 strategies to analyse if priorities set within the strategies correspond to regional innovation capabilities. Over 180 S3 strategies were evaluated. In most S3 strategies, a linkage between EU-funded projects in the field of research, development, and innovation and associated S3 priority areas exists. The study recommended that a better, more holistic delineation and specification of S3 priority areas is necessary to increase the effectiveness of smart specialisation. The study suggested also that adequate economic, scientific, and technological resources are required for implementation of successful S3 strategies. Concrete projects are elementary important for inducing the desired economic, environmental, and societal changes. Good governance structures and efficient monitoring practices are essential for successful implementation. Study also recommended more effective and participatory governance structures for the implementation of S3 strategies.

The European Commission’s Joint Research Centre (JRC) has been supporting smart specialization strategy activities across the Europe. Recently themes related to sustainability, climate change and circular economy have been increasingly emphasized. The guidelines, accompanied with a self-assessment tool for regions, have been proposed to support of regions’ effort in designing and implementing Smart Specialization strategies for sustainable transformation. JRC have worked together with the United Nations to share the EU experiences to achieve also Sustainable Development Goals 2030 agenda with localized place-based approach in Europe (Stancova, 2021).

SMART SPECIALIZATION – ENABLING REGIONAL ECOSYSTEMS AND SUSTAINABLE TRANSFORMATION

The SmartUp BSR study builds on ten cases in nine countries of the Baltic Sea Region. Large number of regional stakeholders involved in regional smart specialization strategy processes participated in project events to share their experiences and best practices. The aim was also to encourage participants to include Sustainable Development Goals 2030 into regional development activities. Activities included innovation camps and pilots, which endorsed and accelerated activities related to strategy content and chosen spearheads. This enhanced stakeholder participation and international collaboration widening the scope of the innovation ecosystem (Tukiainen and Hongisto 2020).

SmartUp study used a strategy framework from management science to examine the Smart Specialization strategy processes in each region. Based on the strategy diamond (Burgelman, 2008), the study introduced a model adapting the strategy diamond to serve as illustration for the process of regional strategy creation and revision: the Regional Strategy Diamond for Economic Transformation. The model as illustrated in Figure 1 was used to guide the analysis of the ten regional strategies.

The strategy diamond consists of five dimensions: strategy, competences, competitiveness, actions, and culture & leadership. These five dimensions are



Figure 1: Regional strategy diamond for economic transformation (Tukiainen and Hongisto, 2020).

interlinked. Each dimension drives the implementation process in significant way. The center of the diamond culture & leadership links other dimensions to each other. In this model strategy creation is one of the dimensions and is only partly responsible for the success needed to reach desired transformation. Actions (what region does) implement the strategy and induce real impact. The other two dimensions are equally important: competences including regional resources – economic, scientific, and technological. Competitiveness addresses how the region competes, but also how it collaborates. In ecosystems enhancing innovation and sustainability capability for collaboration is becoming increasingly important for meaningful change across the regions (Tukiainen and Hongisto 2020, Lappalainen et al 2015, Stancova 2021).

The emphasis on the process description of a specific implementing organization included the reality of how collaboration is steered in practice. In many cases collaborative strategic action is not necessarily led through strategy, but largely by balancing common and divergent elements between organizations. By collecting local evidence with the explicit procedural features as described in the model, the process of strategic creation and revision attempted to respond to the commonalities and divergencies among regions. The aim of the analysis was to provide a lens to make the Smart Specialization strategy process sufficiently easy to recognize, point to, and align with. The implementation plans are only relevant regarding to what an organization is realistically mandated to do within the innovation ecosystem.

Innovation Camps as Tools for Sustainable Change

The project organized six Innovation Camps in various locations across the Baltic Sea Region. The SmartUp Innovation Camps focused on chosen

“innovation challenges” based on regions’ smart specialization themes. The camps included several participatory workshops using creative facilitation methods and visualizations strengthening active stakeholder involvement. Camps of 1-3 days fostered bottom-up and needs driven innovation processes in regions providing an opportunity for ideation, experimenting and co-creation. Events also enhanced cross regional collaboration and gave insights for more efficient smart specialization strategy implementation.

Pilots related to innovation challenges addressed four themes relevant to all regions: healthy ageing, climate change, circular economy, and smart cities. The participants also were advised by experts from the Committee of European Regions and Joint Research Centre. Based on experiences during the project the SmartUp team created a Pilot Planning Methodology to encourage participation and to support the future S3 strategy implementation and practical work.

The findings of the study with respect to economic transformation and SDG implementation show a lot of future potential, which will help regions in the transition to a more sustainable regional innovation ecosystem. Based on place-based regional view, Smart Specialization Strategies could be a step towards a sustainable economic transformation across the regions.

OPEN PORTFOLIO MANAGEMENT PRACTICES FOSTERING COLLABORATIVE CHANGE

At Häme Region portfolio management tools were created, piloted, and taken in use to support implementation of regional smart specialization strategy SmartTavastia 2018–2021. The aim was to support collaboration among regional stakeholders, provide flexible monitoring and reporting practices over longer periods of time. The intent was also to enhance open innovation approach and provide better overview of on-going development activities across the region as well as enable collection of new development ideas for the future.

Development and funding programs are monitored via various IT-tools. However, these IT-tools typically focus on one development program or one funding instrument only. This has made monitoring regional development activities and assessing their long-term impact at a specific region difficult. Data about development projects was scattered in many different databases.

There are multiple funding sources for research, development, and innovation projects across Finland. The Finnish RD roadmap aims to increase RDI expenditure to 4% of GDP by 2030. The potential RDI funding sources include EU funding and national funding. For regional development projects the main funding sources are - EU structural funds European Regional Development Fund (ERDF) and European Social Fund (ESF), European Agricultural Fund for Rural Development (EAFRD); the national Sustainable Growth Programme for Finland boosting reforms and investments; Interreg programmes for cross regional development, Horizon Europe for RD programmes, and new Missions programmes by EU. There are also multiple sources of development funding by Finnish ministries, Business Finland, Finnish Academy, and many foundations e.g. the Finnish Research Impact

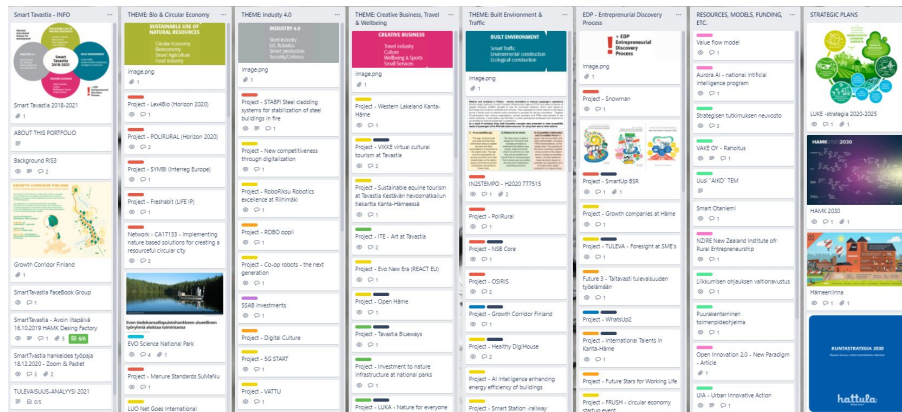


Figure 2: Smart Tavastia 2018-2021 – portfolio management tool with Trello.

Foundation. Häme Portfolio aims to collect data of all relevant development projects linked to regional smart specialization themes.

The first of regional development project portfolio was created in 2018 with an open platform tool Trello to enhance visibility, to identify gaps in funding allocation and to encourage across project collaboration. The aim was to enhance visibility and collaboration among stakeholders and to support open and systemic development approaches of local authorities, academia, businesses, and civil society. The first portfolio tool (Figure 2) provided on-line visibility to covered regional smart specialization themes and related development projects, EDP activities, funding sources and stakeholder strategies, but it had inadequate analysis and reporting capabilities.

Prior to development of the second version a benchmarking study was conducted with 18 Finnish regional councils. Based on responses variety of portfolio management tools had been used in the other regional councils before. They were used for mainly for internal reporting and monitoring purposes, and they covered only the projects funded by regional councils.

Häme Portfolio Management Tool Enables Strategic Steering and Supports Collaboration in Regional Ecosystem

The second portfolio management tool was designed to enable more efficient steering and monitoring practices. Participatory workshop was arranged at HAMK Design Factory and feedback from previous version and suggestions for the next version were collected from the regional stakeholders. The core team was assigned to deliver the next generation Häme Portfolio and it consisted of employees from Regional Council of Häme, development experts and developers from ThinkingPortfolio, the company selected to deliver the solution. A cloud-based portfolio application was tailored based on requirements, testing and feedback using agile development approach in three workshops with demo sessions. Pilot testing was conducted with regional stakeholders to collect their feedback and recommendations. Häme Portfolio was launched in March 2020. Data transfer of development project data from previous EU program period 2014–2020 was conducted during spring and summer 2020.

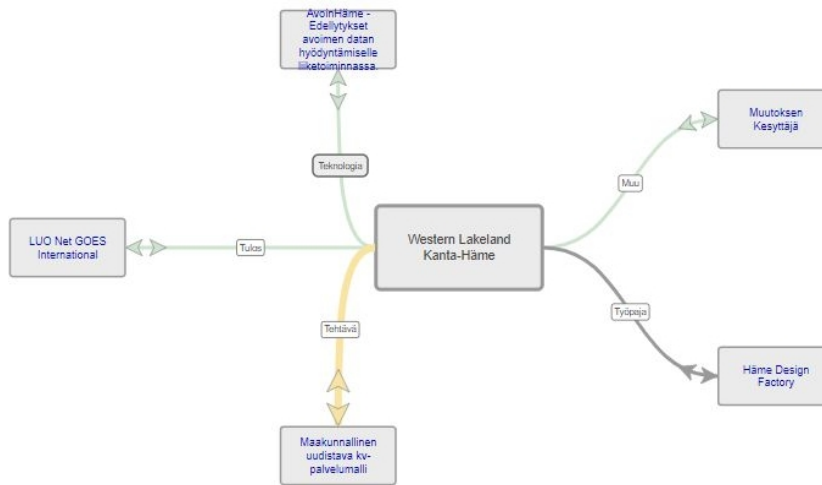


Figure 3: Häme Portfolio tool - visualization of development project connections.

Design principles aimed for usability and simplicity. The focus was on the main functionalities. The intent was to provide support for better regional development project management practices, encourage collaboration and knowledge sharing and enable better alignment of projects with strategic development themes. Also steering, monitoring, and evaluation functionalities were added for individual projects, as well as to strategic development programs.

The Häme Portfolio management tool has good search capabilities of ongoing and past projects, and versatile analysis and reporting tools. Projects can be interlinked to form larger entities to contribute sustainable solutions related wider societal, economic, and environmental challenges. Interaction and collaboration between projects can be described and visualized (see Figure 3). Häme Portfolio also has a section for project ideas and suggestions. This feature can be used prior to official funding calls to support stakeholder collaboration and formation of larger projects.

Häme Portfolio supports strategic development themes of the Finnish Research, Development, and Innovation (RDI) Roadmap (Ministry of Education and Culture 2021). It complements new partnership model encouraging collaboration among projects and regional stakeholders and it supports innovation ecosystem development. It is the first cloud-based portfolio management tool for regional development in Finland. Häme Portfolio enhances also new ways of working and collaboration thus strengthening innovative public sector. Based on open innovation principles experiences of new portfolio management tool has been openly shared with other Finnish regions in the national network meetings of smart specialization professionals from regional councils.

The future activities include finetuning the practices related to long term impact evaluation both at project as well as program level. Häme Portfolio will be used for evaluation of the new regional Smart Specialization

Strategy - Smart Häme 2022-2025 and for monitoring long term impact to sustainability, and SDGs.

RESULTS AND CONCLUSION

The analysis of regional strategies based on the balance of the five dimensions of the Regional Strategy Diamond: strategy, actions, competitiveness, competence, and culture & leadership. The Diamond can be used as an active continuous tool for regions to secure positive results from the implementation of the Smart Specialization strategy and avoid imbalances between dimensions. Regions may have well formulated strategies but may be missing the competences to put them into action or vice versa. Regions cannot be successful without competitive and competent strategies and actions. All the Baltic Sea regions were analyzed in the study to help the regions to find out their bottlenecks and achieve the balance between Regional Strategy Diamond dimensions.

The results related to Häme Portfolio capability to steer strategic development and encourage collaboration at regional innovation ecosystem looks promising. Several other Finnish regions are also renewing their portfolio management practices. The work continues with a longitudinal study so that long term impact can be evaluated.

Addressing Sustainable Development Goals 2030 challenges all stakeholders operate differently. Globalization, digitalization, and climate change demand new approaches from RDI activities linked with regional development. It is essential to bring businesses, industries, public sector, and academia closer to each other for sustainable development. Open innovation practices and regional innovation ecosystems enhance stakeholder participation and accelerate sustainable development. Cross regional collaboration enables sharing and applying better practices. Digitalization and new interconnected open tools provide possibilities for new ways of working, collaboration with development projects across regions, countries, and continents. Action acceleration combined with sense of responsibility and sense of urgency is needed to induce and support successful concrete projects and concrete results – aiming for true impact.

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