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COMPETENCE REQUIREMENTS OF PROJECT MANAGERS IN PUBLIC SOCIAL WELFARE, HEALTHCARE, AND RESCUE SERVICES

Development of Project Manager Competence Model and Self-Assessment Tool for the Wellbeing Services County of Satakunta

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TIIVISTELMÄ

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Suomen sosiaali- ja terveysalalla ja pelastustoimessa on käynnissä merkittäviä rakenteellisia muutoksia, jotka edellyttävät yhtenäisiä projektinhallinnan käytäntöjä. Satakunnan hyvinvointialue tunnisti tarpeen yhtenäiselle osaamismallille ja itsearviointityökalulle projektipäälliköiden tueksi monimutkaisissa projekteissa.

Tässä opinnäytetyössä käytettiin sekamenetelmiä, joissa yhdistyivät kirjallisuuskatsaus, vertaileva analyysi, temaattiset haastattelut ja työpaja jäsennellyn osaamiskehyksen kehittämiseksi. Tutkimuksessa tunnistettiin kuusi keskeistä osaamisaluetta, 32 osaamisyksikköä ja 173 osaamiselementtiä, jotka muodostivat Satakunnan hyvinvointialueen projektipäälliköiden tarpeisiin räätälöidyn hierarkkisen mallin.

Tulokset osoittavat, että strukturoitu osaamismalli selkeyttää projektinhallinnan osaamisen määrittelyä, kun taas itsearviointityökalu tarjoaa käytännönläheisen mekanismin osaamisen arviointiin. Asiantuntijapalautteen avulla tehty validointi vahvisti kehyksen luotettavuuden ja soveltuvuuden.

Tutkimus edistää sekä teoriaa että käytäntöä tarkentamalla kompetenssimääritelmiä, parantamalla arviointimenetelmiä ja tarjoamalla standardoidun lähestymistavan projektipäällikön valintaan ja kehittämiseen. Tuleviin suosituksiin kuuluu arviointityökalun siirtäminen digitaaliselle alustalle ja jäsenneltyjen koulutusohjelmien integrointi käytettävyyden ja tehokkuuden parantamiseksi.

Avainsanat projektihallinta, projektipäällikkö, osaamisenarviointi, osaamisenhallinta, viitekehys

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ABSTRACT

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The Finnish social welfare, healthcare, and rescue services sector is undergoing significant structural changes, necessitating standardized project management practices. The wellbeing services county of Satakunta identified the need for a unified competence model and self-assessment tool to support project managers in navigating complex projects.

This thesis employed a mixed-methods approach, combining literature review, comparative analysis, thematic interviews, and workshop to develop a structured competence framework. The research identified six key competence areas, 32 competence units, and 173 competence elements, forming a hierarchical model tailored to the needs of project managers in the wellbeing services county of Satakunta.

The results demonstrate that a structured competence model enhances clarity in defining project management expertise, while the self-assessment tool provides a practical mechanism for evaluating competences. Validation through expert feedback confirmed the reliability and applicability of the framework.

The study contributes to both theory and practice by refining competency definitions, improving assessment methodologies, and offering a standardized approach to project manager selection and development. Future recommendations include transitioning the assessment tool to a digital platform and integrating structured training programs to enhance usability and effectiveness.

Keywords project manager, project management framework, competence self-assessment, competence model

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ABBREVIATIONS

AI	Artificial Intelligence
APM	Association for Project Management
ICB	Individual Competence Baseline for Project, Programme & Portfolio Management
IMPA	International Project Management Association
ISO	International Organization for Standardization
PMBOK	A Guide to the Project Management Body of Knowledge
PMCDF	Project Manager Competency Development Framework
PMI	Project Management Institute
PMO	Project Management Office
SFS	Finnish Standardization Association

1 INTRODUCTION

The Finnish social welfare, healthcare, and rescue services faced a remarkable change on 1.1.2023 when the wellbeing services counties were established under the reform of social welfare, healthcare, and rescue services, which has been one of the most significant administrative reforms in Finnish history (Ministry of Social Affairs and Health, 2024).

The responsibility of service provision of over 300 municipalities was transferred to 21 wellbeing services counties. The goal of the reform was to provide equal services, lower the gap of inequalities and decrease costs. The wellbeing services counties have self-governing authority, but they are funded by the central government, and do not have the rights for taxation. (Ministry of Social Affairs and Health, 2024).

The personnel were transferred to the new organizations as part of the integration, and new units and positions were also created, meaning that old and new as well as different work cultures clashed in the reform. All systems, processes and procedures were facing an enormous change.

The wellbeing services county of Satakunta (Sata region) has established one wellbeing services county strategy, which is complemented by programmes and plans (Wellbeing Services County of Satakunta, 2023a). The Sata region is currently undergoing a change programme with the aim of developing the wellbeing services county's service activities and structures. Structural, functional, systematic and knowledge-based changes and integrations are being made at the time this development project was undertaken. (Wellbeing Services County of Satakunta, 2023b.)

The Ministry of Social Affairs and Health states in the situation picture of the wellbeing services counties, that the reform is not being implemented at a sufficient speed and stronger acts are needed to meet the

needs of population and the criteria set for wellbeing services counties by the government (Ministry of Social Affairs and Health, 2024).

While the change program in the Sata region is carried out, a need to standardize and unify project and change management has been identified to effectively achieve the set goals and national requirements. Standardized project management has been recognized to increase the success rate of projects, when organization builds standardized project management processes and tools (Milosevic and Patanakul, 2005, p. 190-191). Milosevic and Patanakul (2005, p. 191) also argue that project managers with standardized project leadership skills may have a positive impact on project success.

An organization-wide project management model called SataPro (SataPro model) was introduced and accepted for implementation on the 24th of June 2024 by the executive committee of the Sata region (Wellbeing Services County of Satakunta, 2024).

The implementation of a project model in the Sata region initiated from the development of the management system of the organization. The Sata region has already adopted an ICT operating model and an enterprise architecture management model. The third part is to effectively implement the SataPro project management model. (Wellbeing Services County of Satakunta, 2024.)

The SataPro model includes management of individual projects, and portfolios, PMO as a support function, introduction of Thinking Portfolio® portfolio management tool, and a training plan of the model and the use on the project management software (Wellbeing Services County of Satakunta, 2025, slides 4 and 60).

Project management competence and motivation is introduced as one of the three elements building up the project culture (Wellbeing Services County of Satakunta, 2025, slide 6). The model identifies required project management competence elements such as methodological skills,

people management, business skills and content competence (Wellbeing Services County of Satakunta, 2025, slide 7), but lack the definition or criteria for these competence elements.

The projects in the SataPro model are classified with ABC-scale based on the risk and complexity of the project. A class A project is the most complex and require a most experienced project manager. Class B project requires a project manager with some experience, and a project manager of a class C project does not require any project management experience. While the project manager is responsible for the operative management of the project, the model does not specify the knowledge or skills required of a project manager or describe what is meant by an experienced project manager. (Wellbeing Services County of Satakunta, 2025, slides 15-18 and 32.) The description is limited to tasks and responsibilities (Wellbeing Services County of Satakunta, 2025, slide 34), which provides some insight into the competences required for effective project management.

Project managers are required to possess increasingly more skills and professional expertise to navigate a rapidly evolving operating environment within an organization still in its infancy. The project manager's skills are challenged not only by the reform, but also by the significant cost-saving pressure, which directly impact project management through constraints on resources and budgeting.

The Sata region identified the necessity of developing a project manager competence model, encompassing competence requirements, detailed descriptions, and criteria for selecting project managers for ABC-classified projects. Additionally, a standardized project management competence assessment tool was recognized as essential for evaluating the competence of project managers consistently and in uniform way. This thesis aims to address and fulfil these identified needs.

2 PURPOSE, OBJECTIVES, RESEARCH QUESTIONS, AND METHODS

The scope and objectives of the thesis was discussed with the R&D Director and PMO experts of the wellbeing services county of Satakunta. The scope was limited to competence model and assessment tool for project managers. The SataPro model was selected to act as the base reference for the competence required from project managers of the Sata region. Alignment with the SataPro model was a requirement for the thesis.

2.1 Background

The introduction of the SataPro model in 2024 marks a significant development in the strategic management of projects within the Sata region. The alignment of individual projects and portfolios, and the establishment of PMO functions are significant steps towards project-based management. The implementation of the Thinking Portfolio® portfolio management tool is designed to support the existing frameworks and bring a structured approach to project management.

Despite the promising framework of the SataPro model, there remains a critical gap in the definition and criteria of project manager competences. The current model acknowledges the importance of methodological skills, people management, business acumen, and content expertise but fails to provide explicit definition for these competences. This creates variation in the recruitment and development of project managers, especially for projects categorized under the ABC-classification.

Recognizing this challenge, the Sata region has identified the necessity for a project manager competence model. This model should not only outline the required competences but also provide clear descriptions and criteria for assessing the suitability of project managers for different

project classes. To address this need, a standardized competence assessment tool is essential, ensuring that project managers are evaluated uniformly and reliably.

2.2 Purpose of the Thesis

The purpose of the thesis was to identify key competences and design a unified competence framework and assessment tool for project managers, intended for use in the recruitment process or to support the professional development of project managers within the wellbeing services county of Satakunta.

This thesis contributes to existing literature and practical applications in the field of project management by providing insights into competence requirements of project managers within the Finnish social welfare, healthcare, and rescue services.

2.3 Objectives of the Thesis

The main objective of this thesis was to develop a project manager competence model. The competence model aims to harmonize taxonomy and terminology and provide a uniform list of competence requirements. The secondary objective was to establish assessment practices and develop a project manager self-assessment tool. To achieve these objectives, a project manager competence framework was necessary to be established.

The tangible deliverables of the thesis:

- Project manager competence framework
- Project manager competence model
- Project manager self-assessment tool
- Competence criteria for ABC-project classification

2.4 Research Questions

Four research questions were composed to be answered in the thesis, one main question and three supporting questions.

Main research question:

1. What are the essential competences required of project managers within the wellbeing services county of Satakunta?

Supporting research questions:

1. How can the competences of project managers be effectively assessed?
2. How can a competence assessment tool aid the wellbeing services county of Satakunta in selecting suitable project managers?
3. How can a competence model and assessment tool facilitate the professional development of project managers within the wellbeing services county of Satakunta?

2.5 Research Methods and Approach

The thesis employed mixed research methods to address a practical challenge by integrating theoretical insights with empirical data. This approach facilitated the development of a concrete and functional project manager competence model and self-assessment tool tailored to the needs of the Sata region.

The development project was divided into stages by outcomes presented in Figure 1 as light blue coloured arrow nodes on the left side of the process, the development phases presented in green, and the output presented in dark blue colour. This visualization provided a clear and concise structure for the development project and was easy to communicate to stakeholders.

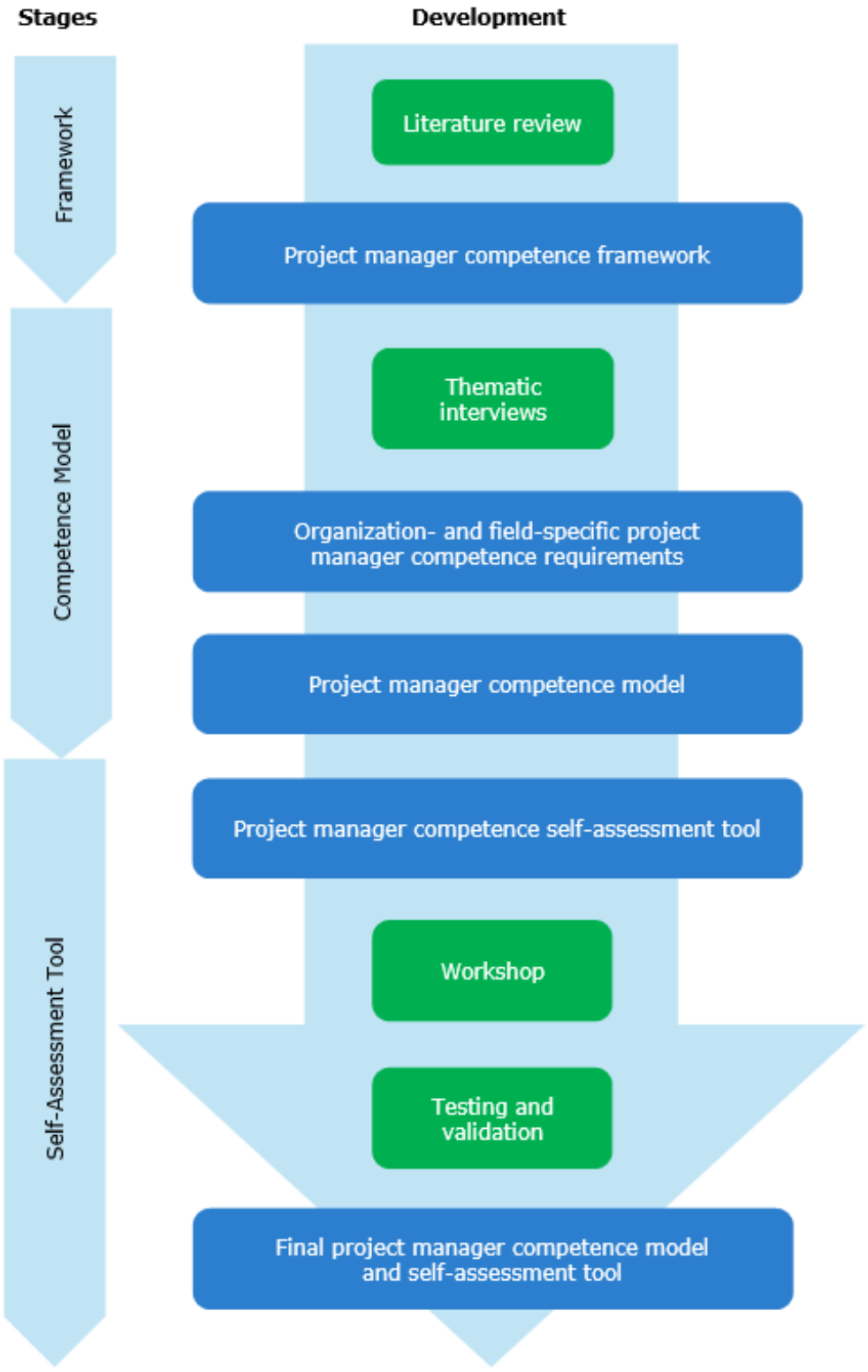

Figure 1. Process chart of the development project.

The thesis fell primarily under applied research, more precisely under the branch of constructive research. Both, the applied research and the constructive research, aim to develop new solutions, such as constructs, models, structures, plans, to address practical problems by applying theory into practice (Chandra & Harindran, 2017, chapter 1.3; Virtanen, 2006, p. 47–48).

Additionally, the thesis included qualitative research approach through semi-structured interviews and a workshop, and incorporated elements of qualitative analysis, such as thematic analysis of interview transcripts, and validation of the development results (Chandra & Harindran, 2017, chapter 1.4; Eskola & Suoranta, 2005, p. 86-87).

2.5.1 Literature Review

The literature review in this thesis served as a foundational step in the mixed-methods approach. A literature review provided a thorough overview of previous research on the topic. (Chandra & Harindran, 2017, chapter 2.2). It involved a systematic review of internationally recognized project management frameworks, standards, and guidelines to identify key competences and assessment practices relevant to project managers and identify gaps in current project management competence frameworks. By synthesizing insights from published sources, this phase established a theoretical basis for the development of the project management competence framework.

The literature review followed a structured process: source selection, comparative analysis, synthesis of findings, and use of literature review findings (Chandra & Harindran, 2017, chapter 2.4). The selection criteria included international recognition, relevance to project management competence, and accessibility. Guides and standards were prioritized, and they had to be accessible without any fees. Publications from the same publisher were excluded to avoid duplication. Four publications were selected. Additionally, books and prior studies were examined to deepen the content of the literature review. One project management

book and one master's thesis of the same topic as this thesis was selected.

A comparative analysis was used to identify common competence areas, gaps, and differences in project competence requirements and assessment methodologies between the selected project management. Particular focus was given to competences that align with the SataPro model of the Sata region. The review culminated in the creation of an initial project management competence framework, integrating key elements from existing models while addressing identified gaps with findings from the additional literature. This synthesis served as the theoretical foundation for subsequent phases of the research and development process.

2.5.2 Interviews

A semi-structured thematic interview was used to gather insights on organizational and field-specific competence requirements of project managers, and to refine the competence framework developed in the previous phase of the thesis, ensuring the project manager competence model was tailored to fit the needs of the Sata-region. The outline of the interview is presented in Appendix 1.

In semi-structured interviews the questions for the interviewees are the same open-ended questions, without pre-set options, which allows in-depth discussion (Eskola & Suoranta, 2005, p. 86). In a thematic interview, the themes of the interview have been determined in advance and communicated to the interviewees (Eskola & Suoranta, 2005, p. 86). The interviews undertaken in the thesis were a combination of a semi-structured and thematic interview, so that the theme of the interview remained on topic and the reliability and reproducibility of the interview was maintained.

The primary objective of the interviews was to provide qualitative data on the specific competence needs and requirements of project managers

of the Sata region. Secondary objective was to complement and refine the competence framework developed in the previous phase.

Selection criteria for the participants of the interview were experience in project management within the Sata region and that the participants had to be from different fields of expertise. Additionally, the interviewees had to be at least experienced to manage a class B project, as defined by the SataPro model. The interviewees were recruited by the PMO, by sending the candidates a notification of participation containing the information about the thesis, conduct of consent and the right of the interviewees, while doing so.

A thematic analysis of interview transcripts was undertaken to identify key project management competences. A comparison to the findings of the literature review was done to identify overlapping and new competences.

2.5.3 Workshops

A workshop was conducted with experts from the PMO of the Sata region to refine the competence model and assessment tool, and to validate the results for practical use. Also, the criteria level of competence for different project classes were determined in this phase of the thesis. The involvement of the PMO experts in the development process ensured the framework and tool are practical, clear, and aligned with the project management model of the Sata region.

The topic was approached with a creative thinking method to compose new ideas, following a structured process of creation, evaluation, and development. (Hamilton, 2016, chapter 2). For successful participation, the project manager competence model and self-assessment tool were sent to the participants in advance to familiarize themselves with.

2.5.4 Testing and Validation

Validation of the developed project manager competence model and self-assessment tool was done through testing by experts and in a workshop feedback session.

First, the self-assessment tool was sent to the interviewed project managers for testing and commenting. The selected project managers assessed their project management competence using the assessment tool, while simultaneously analysing the usability, content, and application of the tool. The results were then sent back to the author of the thesis for updating of the competence model and assessment tool.

After which, the project manager competence model and assessment tool were reviewed and commented by the experts from the PMO during a workshop.

2.6 Acceptance and Publication of the Results

The results of the thesis are presented to the director of R&D of the Sata region, who have the authority to decide whether the outputs of the thesis are acceptable and meet the requirements and set objectives. Many factors affect whether the project manager competence model and self-assessment tool are adopted, such as the maturity of the implementation of the SataPro model and the available resources, even if the model and the tool itself would be impeccable.

The deliverables of the thesis are handed over to the wellbeing services county of Satakunta when the thesis is approved by VAMK. The thesis report will be published in Theseus database.

2.7 Use of AI in the Thesis

In this thesis, Microsoft Copilot was used for ideation, translating text from Finnish into English, and in some cases to reformulate sentences and paragraph structures to make the text clearer and adhere to academic writing style. Microsoft Copilot was used in this thesis to define "competence" for Chapter 3.1, and to define "project management competence" for Chapter 3.2, on March 19, 2025. These were properly referenced and prompts used provided in-text. AI was not used for any other information retrieval for the thesis. The content of the thesis is created by the author, and all sources are properly cited and listed.

3 PROJECT MANAGEMENT COMPETENCE

To be able to answer the research questions and develop a project manager competence model and self-assessment tool for the wellbeing services county of Satakunta, it is important to know what has been previously researched and published on the subject. A literature review provided a thorough overview of previous research on the topic, serving as the foundational step in the development process, aiming to establish a theoretical framework for project manager competences.

3.1 Definition of Competence

The Oxford Learner's Dictionaries defines "competence" as "the ability to do something well" and as "a skill that you need in a particular job for a particular task" (n.d., accessed: March 19, 2025). This definition does not describe competence with sufficient accuracy, and a more detailed definition of competence is needed to understand what it means in the context of project management.

To obtain an overall definition of the term "competence", the Microsoft Word desktop application integrated with Microsoft 365 Copilot (Copilot) was utilized. The prompt provided was "Give me a definition of competence".

Copilot defined "competence" as "the ability to perform a task or job effectively and well". Copilot continued with "It encompasses the skills, knowledge, and attributes necessary to carry out specific duties competently.". (Microsoft 365 Copilot [Copilot], personal communication, March 19, 2025.)

The International Project Management Association (IMPA, 2015) defines individual competence in the *Individual Competence Baseline for Project, Programme & Portfolio Management* (ICB) as application of knowledge, skills and abilities to reach the set goals.

Based on the aforementioned definitions, a consensus of the term "competence" may be formed as specific set of knowledge, skills, and abilities to effectively and efficiently perform a particular job or task achieving the desired results.

3.2 Competence in Project Management

The literature presents several perspectives on project management, including individual competence encompassing knowledge, skills, attitudes, and characteristics (Artto et al., 2011, p. 27), as illustrated in Figure 2. Furthermore, project management competences can be categorized into three main categories: technical, behavioural, and business and other management competences (Finnish Standardization Association SFS [SFS], 2021, p. 20; Artto et al., 2011, p. 30).

Both the SFS-ISO 21502:2021 (SFS, 2021) and Artto et al. (2011) state that competences in a relevant area are necessary for project managers to effectively perform their roles and responsibilities. They highlight that field-specific competences are important to successful project management, although these are often omitted from discussions on project management competences. Different competences may be required at various stages of a project. Artto et al. (2011, p. 30) also argues that competences are related to their content, which aligns with knowledge areas and processes or with the behaviour of the project manager across different phases of a project, as shown in Figure 2.

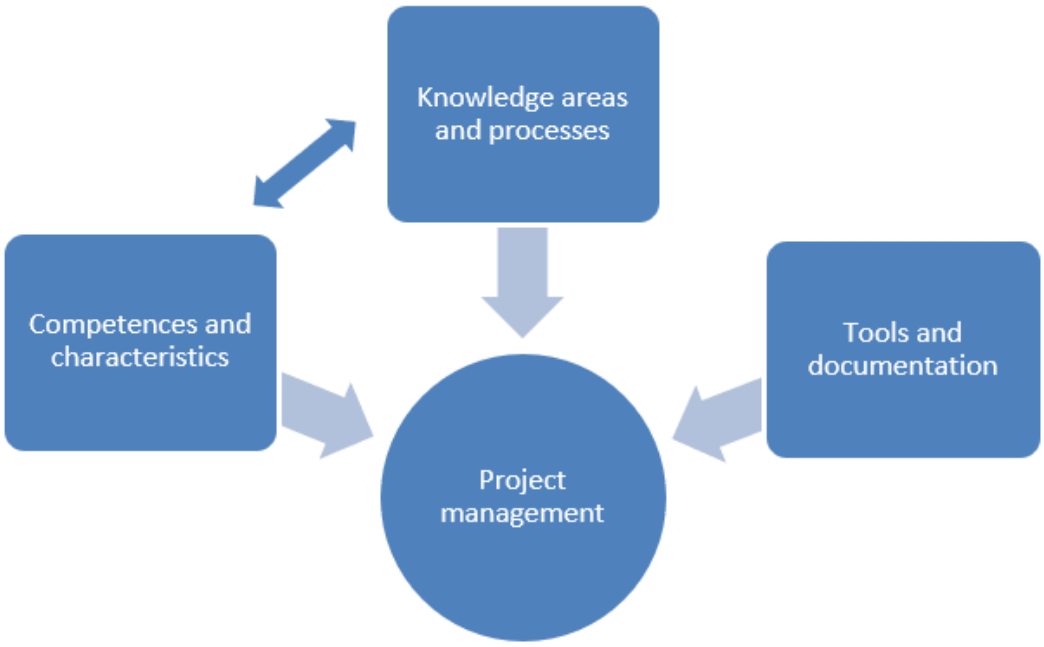

Figure 2. Three perspectives on project management (adapted, Artto et al., 2011, p. 28)

The Copilot AI mobile application (Microsoft) provided a definition of project management competence as follows "Project management competence refers to the combination of knowledge, skills, abilities, and behaviours required to successfully plan, execute, and deliver projects within defined constraints such as time, cost, scope, and quality. It encompasses a range of areas including technical knowledge, leadership skills, interpersonal skills, problem-solving abilities, adaptability, and strategic thinking.", when prompted with "Give me a definition of project management competence" (Copilot, personal communication, March 19, 2025).

Several project management institutes and associations have created their own project management competence frameworks and models in an attempt to standardize the concept of project management competences and help organizations identify their competence needs in the management of successful projects. The most known of these are the

Individual Competence Baseline for Project, Programme & Portfolio Management, *Version 4* (ICB) (IPMA, 2015), the *A Guide to the Project Management Body of Knowledge – Seventh Edition and The Standard for Project Management* (PMBOK® Guide) (Project Management Institute [PMI], 2021), *Project Manager Competency Development Framework – Third Edition* (PMCDF) (PMI, 2017), and the *APM Competence Framework – 3rd edition* (Association for Project Management [APM], 2023). Also, the standard *SFS-ISO 21502:2021 Project, programme and portfolio management — Guidance on project management* (SFS, 2021) have its own chapter for competences for project personnel.

Nijhuis, Vrijhoef, and Kessels (2018, p. 62) state in their research that there is no uniform list of project management competences, nor a taxonomy to compare or align them, which complicates the examination of previous studies. Despite the implication from project management certification systems that a universally consistent competence set exists, several challenges arise when choosing and implementing a project manager competence model within an organization. The significance of specific competences may differ based on various organizational contexts, project types, or characteristics, and this variability should be taken into account when applying a standardized framework.

Even though a universally agreed definition for project management competence is yet to be formed, on the basis of the perspectives and arguments presented above, and the concept of competence formed in the last paragraph of *Chapter 3.1 Definition of Competence*, project management competence can be defined as the knowledge, skills, abilities, attitudes, characteristics, and technical and business competences related to a specific field and content of a project, that are needed for the management of a project achieving the desired results.

3.3 Role of Experience in Project Management

Experience is recognized as a crucial part of successful project management. The SataPro model addresses the experience of project managers as the key requirement as competence to lead A- and B-classified projects (Sata region, 2025, slide 18). In the ICB (IPMA, 2015) experience is not recognized as competence itself, but as an indirect factor to competence.

Experience is essential for demonstrating and improving competence. It is crucial for a project manager's growth. To succeed, project managers must gain enough experience to enhance their competences. (IMPA, 2015). Experience will not be addressed in this thesis as a competence factor but may be added to the project management assessment tool if seen fit.

3.4 Assessment and Development of Project Management Competence

Artto et al. (2011, p. 31) divides competences into two distinct categories: current and target competences. Current competences have been acquired from earlier training and experience in project management. Some projects that a project manager takes part in, may require knowledge and skills the project manager does not yet possess, which Artto et al. (2011, p. 31) call the target competences. The gap between current and target competences, as well as the required and available competences must be identified and assessed for further education and continuous development of project managers in the organization (Artto et al., 2011, p. 31; SFS, 2021, p. 20). Failure to identify and clearly specify the current and available, and the target and required competences on both individual and organizational level should be considered as a constraint or risk to successful project management (Artto et al., 2011, p. 31; SFS, 2021, p. 20).

Competences may be assessed verbally or numerically. For instance, the APM Competence Framework (APM, 2023) and the PMCDF (PMI, 2017) provide a numeric scale for project management competence assessment, from 0 - Unaware to 5 - Expert, and from 1 – Low to 5 – High, respectively. This standardized numeric scaling enables the comparison of competences in the organization. Both the APM Competence Framework and the PMCDF provide deeper explanations of the required competences, giving criteria and applications of the competences.

The ICB (IPMA, 2015) approaches competence assessment dividing the competences into three main areas: people, practice, and perspective, which are complemented with knowledge, skills and ability requirements, and key competence indicators for self-assessment without a predefined numeric scale.

The frameworks also provide guidance on how to develop the competences of individuals. The ICB presents five different approaches are presented: self-development, peer-development, education and training, coaching and mentoring, and simulation and gaming. The chosen approach depends on individual or organizational preferences, the situation, and resource availability, often involving a combination of the aforementioned approaches (IPMA, 2015, p. 20). The PMCDF has a whole chapters dedicated to the development of portfolio, program, and project managers, providing a comprehensive development process, starting with review of competence requirements to implementing competency development plan. The implementation of a standardized competence development process will help organizations to comparably analyse competences, draw up development plans, and systematically develop project management competences of their project management personnel and use

3.5 Challenges in Project Management Self-Assessment

There are several challenges to recognize when implementing a project manager self-assessment tool. Competence self-assessment can introduce biases that affect the accuracy of the factual competences being evaluated. Flyvbjerg (2021) argues that understanding these biases is essential, as they can distort decision-making, leading to cost overruns, project delays, and unmet expectations.

One common bias is "overconfidence", where individuals may overestimate their abilities and skills, leading to an inflated self-assessment. This can result in a mismatch between perceived and actual competences. Another bias is "optimism bias", where individuals may have an overly positive view of their performance and potential outcomes, disregarding potential challenges and limitations. Additionally, "strategic misrepresentation" can occur when individuals deliberately exaggerate their competences for personal or professional gain. (Flyvbjerg, 2021, p. 534, 536.)

Flyvbjerg lists the top ten biases in project management in his article *Top Ten Behavioral Biases in Project Management: An Overview* (2021): "strategic misrepresentation", "optimism bias", "uniqueness bias", "planning fallacy", "overconfidence bias", "hindsight bias", "availability bias", "base rate fallacy", "anchoring", and "escalation of commitment".

These biases can distort the self-assessment process, making it difficult to obtain an accurate picture of true competences. Recognizing and addressing these biases, such as through tools like reference assessment (Flyvbjerg, 2021, p. 534–536), could improve project outcomes. In the thesis a reference assessment, such as a peer assessment, was not addressed.

3.6 Review and Comparative Analysis of Existing Project Management Competence Frameworks

As discussed in *Chapter 3.2 Competence in Project Management,* several frameworks has been published, from various internationally recognized organizations and associations, addressing project management competence, all of which providing a unique view and perspective on the topic. Through a comprehensive analysis of these internationally recognized frameworks, guidelines, and standards, this chapter seeks to identify key competence areas and elements relevant to project management.

This phase of the thesis is not only pivotal for shaping the competence framework but also for addressing gaps in existing methodologies. The outcomes of this phase guide the design of the project manager competence model and self-assessment tool, ensuring alignment with both theoretical insights and practical needs.

The project management frameworks selected for review and analysis are listed in Table 1 in an ascending order of publication. Four standards and guides were selected from four different publishers. The PMCDF from the Project Management Institute (PMI), the ICB Version 4.0 from IPMA, the AMP Competence Framework from APM, and SFS-ISO 21502:2021 from ISO published nationally by SFS.

The PMBOK® Guide by the PMI was excluded from the thesis as the PMCDF, also published by PMI, offers a comprehensive framework specifically for the competence development of project managers. Given that the PMCDF is based on the principles and processes outlined in the PMBOK® Guide (PMI, 2017, Chapter 1.3.2), including both sources would have resulted in redundant content. To avoid duplication, the PMCDF was selected as the primary reference from the PMI.

Table 1. Project management frameworks reviewed for the thesis.

Framework	Version/ Edition	Publisher	Year of publication
Individual Competence Baseline for Project, Programme & Portfolio Management (ICB)	Version 4.0	IPMA	2015
Project Manager Competency Development Framework (PMCDF)	3rd Edition	PMI	2017
APM Competence Framework	3rd Edition	APM	2021
SFS-ISO 21502:2021 Project, programme and portfolio management — Guidance on project management	2021	SFS	2021

By critically evaluating the existing frameworks, the review highlights their strengths, limitations, and applicability. The content of the project management frameworks was analysed.

3.6.1 Review of Project Management Competence Frameworks

The project management competence frameworks selected, were reviewed and analysed. These frameworks were: the *APM Competence Framework 3rd Edition* (APM, 2021), the *Individual Competence Baseline - Version 4.0* (ICB) (IPMA, 2015), the *Project Manager Competency Development Framework – Third Edition* (PMCDF) (PMI, 2017), and *SFS-ISO 21502:2021 Project, programme and portfolio management — Guidance on project management* (SFS-ISO 21502:2021) (SFS, 2021). Each framework provides guidance on project management competences, structuring assessment methodologies to improve individual and organizational effectiveness. While differing in scope and detail, these frameworks collectively emphasize technical knowledge, leadership qualities, competence evaluation, and strategic alignment.

All four frameworks provide structured approaches to defining project management competencies, though their categorization varies. APM

(2021) organizes competencies into four thematic areas: "Setting up for success", "Preparing for change", "People and behaviours", and "Planning and managing deployment". In contrast, ICB (IPMA, 2015 p. 26) presents competencies through the IPMA Eye of Competence, consisting of "People", "Practice", and "Perspective". PMCDF (PMI, 2017, section 1.3) adopts a three-tiered model; "Knowledge", "Performance", and "Personal competencies", while SFS-ISO 21502:2021 (SFS, 2021, p. 20) differentiates competencies as "Technical", "Behavioural", and "Business and Management-related".

Competence evaluation methodologies also vary significantly. The APM Competence Framework (APM, 2021 p. 5) utilizes a 0 to 5 rating system, ranging from Unaware to Expert, respectively, providing clear assessment criteria but lacking a structured evaluation template. ICB (IPMA, 2015, p. 35) employs a qualitative scaling system, assessing knowledge levels without specific numerical grading, leaving interpretability to users. The PMCDF (PMI, 2017, chapters 1.7 and 2.3) defines competency elements with performance criteria and evidence-based assessment, creating a detailed method for professional development incorporating a rating system from 1 to 5, including descriptions for each level. SFS-ISO 21502:2021 (SFS, 2021), however, does not specify an evaluation method, instead emphasizing competency integration into organizational practices.

Each framework aims to align project management competencies with organizational and industry standards. APM (2021, p. 3-6) stresses continuous improvement, ensuring competencies evolve to meet industry demands. Similarly, ICB (IPMA, 2015, p. 11) is methodology-agnostic, allowing adaptation to various sectors. PMCDF (PMI, 2017, section 1.3) integrates competency development with professional certification, supporting credential-based progression. SFS-ISO 21502:2021 (SFS, 2021, p. 5, 6, 9 and 20-21) provides guidance on governance and strategy alignment, underscoring the importance of competent personnel in successful project execution.

Although the frameworks share common goals, their application presents practical challenges. The APM lacks a standardized assessment template, which may hinder practical evaluation. The ICB, while comprehensive, faces interpretability challenges due to its open-ended assessment structure, excluding guidance for managing projects. The PMCDF despite its clarity, is multi-layered, which may require additional effort to implement effectively. The SFS-ISO 21502:2021 while broadly applicable, remains high-level and does not explicitly define competence evaluation methods.

3.6.2 Comparative Analysis of Project Management Competence Frameworks

The *APM Competence Framework* (3rd edition), *Individual Competence Baseline for Project, Programme & Portfolio Management - Version 4.0* (ICB), *Project Manager Competency Development Framework – Third Edition* (PMCDF), and *SFS-ISO 21502:2021 Project, programme and portfolio management — Guidance on project management* were compared to identify overlapping, gaps, and common elements between these frameworks. The results of the comparison are presented in Table 2.

Table 2. Comparison of project management frameworks

Framework	**APM Competence Framework**	**ICB Version 4.0**	**PMCDF**	**SFS-ISO 21502:2021**
Dimensions/ Areas	Technical, Behavioural, Contextual	Perspective, People, Practice	Knowledge*, Performance, Personal (Industry-specific, Organizational**)	Technical, Behavioural, and Business and Management Competences
Competence structure	3 levels	4 levels	3 levels	2 levels

Terminology of competence hierarchy	Outcomes, Competence, Knowledge and Application	Competence areas, Competence elements, Knowledge and Skills, Key competence indicators	Dimensions, Unit of competence, Competence elements	Competence categories, Competences
Number of competences/ competence elements/units of competence * **	29	28	16	37
Description of competences	Yes	Yes	Yes	No
Application of competence	Yes	Yes	Yes	No
Performance Criteria/ Competence Requirements	Yes	Yes	Yes	Not Specific
Source of evidence	No	Yes	Yes	Not Specific
Assessment tool	Yes	Yes	Yes	No
Rating system	Yes	No	Yes	No
Organization-specific	No	No	No	No
Industry-spesific	No	No	No	No

* PMCDF addresses knowledge as one of the competence areas, but is not defined in the framework

** PMCDF introduces two additional dimensions: industry-specific and organizational

*** Second level of hierarchical structures of frameworks are listed in the table to make the frameworks comparable

The APM, PMCDF, and ICB frameworks use multi-level structures, while the SFS-ISO 21502:2021 only 2-level structure, which originates from the different focus of the frameworks. The SFS-ISO 21502:2021 is a generic standard for project management, while the other three frameworks are designed specifically for project management competence assessment and development resulting in more detailed guidance.

The comparison reveals that despite the varied terminologies and structures, these frameworks share common elements such as the emphasis on **technical**, **behavioural**, and **management competences**. They also align with the need for competence requirements, performance criteria and evidence sources to assess project management competences effectively, apart from the SFS-ISO 25102:2021. The PMCDF uniquely integrates two additional dimensions (presented in parenthesis in Table 2); **industry-specific** and **organizational competences**, but does not define them in the framework, only guiding on a general level and giving examples how the competence areas can be applied to the framework in an organization (PMI, 2017, section 1.3.2).

The frameworks, such as APM, SFS-ISO 21502:2021, ICB, and PMCDF, classify competences using different terminologies: competences (APM, SFS-ISO 21502:2021), competence elements (ICB), and units of competence (PMCDF). Although these classifications operate at the same level, the differences in perspective across the frameworks result in variations that make the competences indirectly proportional. Furthermore, the competences and requirements are presented using diverse formats, which complicated direct comparison. These differences were carefully considered during the development of the competence framework.

Each framework has its own strengths based on the depth of assessment, flexibility, and intended use. The absolute strength of the APM is a clear competence rating system, the ICB covers the required knowledge, skills and competence indicators in great detail, and SFS-

ISO 25102:2021 provides a fundamental framework for defining competence requirements in technical project management.

However, among these frameworks, the *Project Manager Competency Development Framework 3rd Edition* (PMI) emerges as the most suitable model for comprehensive project manager competence development, distinguished by its usability, structured methodology, broad applicability, and extensive coverage. The PMCDF employs a systematic approach to competence development, detailing the areas of competence, associated competence requirements, assessment and development of competence, and implementation of the framework in an organization. The framework incorporates practical examples and an assessment tool with a structured rating system, thereby enhancing its applicability in professional contexts. Moreover, the PMCDF aligns with the PMI Talent Triangle™, which categorizes competencies into three essential domains: "Technical Project Management", "Leadership", and "Strategic and Business Management". (PMI, 2017, chapters 3, 6 and 7, and appendix X3.)

This comparative analysis highlights that while all four frameworks provide structured competence guidance, their assessment methodologies and practical integration vary. APM and PMCDF offer systematic evaluation methods, whereas ICB and SFS-ISO 21502:2021 provide flexibility but lack detailed assessment tools.

4 DEVELOPMENT OF PROJECT MANAGER COMPETENCE MODEL AND SELF-ASSESSMENT TOOL

The development of the project manager competence model and self-assessment tool were conducted in a structured manner. The development process started from the development of a suitable project management competence framework by reviewing and analysing existing frameworks, followed by the development of a project manager competence model and self-assessment tool through literature review and interviews, ending with the testing and validation of the project manager competence model and assessment tool.

The output of the previous phase served as the foundation for further refinement in subsequent phases. The evaluation of the output of the phases served as gateway decision points, whether the output meets the criteria or not, to move to the next phase.

The literature review phase in *Chapter 3.6* served as the foundational step in the development process, aiming to establish a theoretical framework for project manager competences.

4.1 Development of Project Manager Competence Framework

The objective of this phase of the thesis was to develop a preliminary project manager competence framework that served as the foundation for further refinement in subsequent phases. The focus was on translating insights gained from the literature review into a structured competence framework that provided a way to categorize and define competences that are essential for project management. The framework consolidated theoretical foundations with practical applicability, bridging the gap between research and practice.

Through comparative analysis, it was observed that project management competence models tend to emphasize three broad areas: technical, behavioural, and management-related competences. However, the multidisciplinary and complex organization and the requirements of the SataPro model highlighted the need for a more granular classification. The synthesis of findings led to the conclusion that a competence framework should encapsulate six distinct competence areas: Technical and methodological competences, Leadership and interpersonal competences, Strategic and business management competences, Personal skills and characteristics, Industry-specific competences, and Organizational competence.

The Technical and methodological competence area derived from technical competence categories present in existing models, this area includes knowledge of tools, methodologies, and project management processes, as presented in Appendix 2. It was concluded that this domain should remain a fundamental pillar as it ensures that managers possess essential technical expertise. All four frameworks covered this area of expertise as critical for a project manager.

The Leadership and interpersonal competence area based on behavioural competences observed in frameworks such as ICB and PMCDF. This category was established to encompass leadership qualities, conflict resolution, negotiation skills, and team management.

Recognizing the significance of aligning projects with business objectives, the Strategic and business management competence area was informed by models like the PMI Talent Triangle™, which advocates for strategic competences. It was concluded that project managers must understand financial principles, risk management, and strategic alignment.

Expanding upon the behavioural and people dimensions in the frameworks, the Personal skills and characteristics competence area was formed to highlight personal attributes such as professionalism, ethics,

cognitive ability, and resourcefulness. Only nine competences out of 110 from the frameworks could be classified to this category, as presented in Appendix 2.

Given the observation that PMCDF acknowledges industry-specific competences without explicitly defining them, the Industry-specific competence area was included to ensure that the competence framework being developed encompasses the industry-specific competence requirements, which will be completed at a later stage of this thesis.

The Organizational competence area was established by synthesizing concepts from PMCDF's reference to organizational competence and emphasis of the SFS-ISO 21502:2021 on governance and alignment with organizational strategy. It was concluded that project managers must understand organizational structures, governance, and stakeholder management to operate effectively within the internal operating environment. These competence requirements were clarified through interviews at a later stage of the thesis.

The competences from the analysed frameworks were systematically categorized under the newly established competence areas of the preliminary competence framework, as detailed in the table in Appendix 2. This recategorization process was later utilized to consolidate and unify the competences within a new competence model.

Following this refinement, preliminary definitions for the newly categorized competence areas were formulated, as presented in Table 3. These definitions will be continually updated and expanded as the thesis progresses, ensuring alignment with evolving insights and research developments.

Table 3. Definitions of new competence areas.

Competence area	Definition
Technical and methodological competences	This competence area includes the technical competences needed for a successful project management execution.
Leadership and interpersonal competences	This competence area includes leadership and communication skills, and the ability to inspire, guide, and collaborate with individuals and teams to achieve project goals effectively.
Strategic and business management competences	This competence area includes the ability to understand the business environment, make decisions that contribute to organizational value, and manage projects in a way that supports business success.
Personal skills and characteristics	This competence area includes the intrinsic qualities, behaviours, and personal attributes.
Industry-specific competences	This competence area includes the specialized knowledge, skills, and expertise required to effectively manage projects within a particular industry.
Organizational competence	This competence area includes knowledge of the organizational structure, culture, and processes.

The outputs of this phase were used as a framework for a semi-structured thematic interview in the next phase of the thesis.

4.2 Thematic Interviews

This phase of the thesis aimed to provide qualitative input for the refinement and extension of the competence framework and for the design of a competence model and self-assessment tool. Expert opinions and experiences regarding project management competences required within the wellbeing services county of Satakunta were collected through semi-structured thematic interviews to allow for flexibility while focusing on predefined topic. The main focus of the interviews was on the industry- and organization-specific competences not covered in the existing project management competence frameworks analysed in the previous phase of the thesis.

4.2.1 Interview Structure and Participant Demographics

The interviews were conducted remotely in Finnish using Microsoft Teams with recording capability. The interviews were recorded, transcribed, and the results were translated into English. One hour was reserved for an interview. The duration ranged from 34 to 45 minutes. The outline of the interview is presented in Appendix 1. The questions were not sent to participants in advance to keep the interview intuitive. Only the theme and objectives of the interview were revealed to the participants in advance.

Three project management professionals were recruited for interview from within the Sata region. Participants were experienced project managers from various fields, ensuring a broad perspective on competences required in different project contexts, as shown in Table 4. All the interviewees had education related to project management and a degree of higher education, which increased the reliability of the interview results. All participants met the pre-set criteria for the interview, as their demographics confirmed they were qualified to lead a B-class project.

Table 4. Demographics of the participants in the interview.

Demographics	**PM1**	**PM2**	**PM3**
Field of project management experience	Social welfare and healthcare	ICT	Rescue services
Experience as project manager in years	4,5	4,5	2
Degree of education	Master's degree	Master's degree	Master's degree
Education related to project management	Yes	Yes	Yes
Project management certification	No	Yes	No

The interviewees were asked to describe their perspectives on what qualities define a good project manager, including the skills and knowledge required for the role in the Sata region. The interviewees were asked to answer of the perspective of their professional field of expertise to gather insight in the industry- and organization-specific competence requirements.

Following this, they were presented with the project manager competence framework developed in the previous phase of the thesis to guide the interview. All six competence areas, "Technical and methodological competences", "Leadership and interpersonal competences", "Strategic and business management competences", "Personal skills and characteristics", "Industry-specific competences", and "Organizational competences", were covered in the interview one by one, by asking the interviewee what project management competences they consider falling under the category. The competence requirements of project managers identified through the interviews were compiled into a table in Appendix 3 and classified by competence areas.

4.2.2 Interview Results and Analysis

Across all three Project Managers, several core competences were consistently emphasized, such as budget management, project lifecycle management, stakeholder engagement and management, people management, leadership skills, financial expertise, strategic knowledge, and knowledge of industry- and sector-specific regulations and organizational structure. All of which were identified in the literature review as well, supporting the project manager competence framework developed in *Chapter 4.1*.

The importance of procurement competence was particularly emphasised by Project Manager 1 and Project Manager 2. Project Manager 1 identified public procurement as one of the key competences, stating "procurement competence is also one of the key competence areas of a project manager, especially in public procurement".

Even though the organization has centralised procurement services guiding procurement, especially large procurements, Project Manager 1 strongly highlighted the procurement competence of project managers:

> By this, I mainly mean that procurement services naturally also help projects in large procurements, but in many projects small procurements are made in which it is not possible to get the expertise of procurement services or they do not have the resources to be involved in everything […] I don't mean that there should be different skills, but that the same kind of expertise is of course in a much narrower form than procurement experts have.

Project Manager 2 highlighted the knowledge of internal procurement processes and competence in making procurement specifications. Project Manager 2 also pointed out challenges of lack of common terminology in cross-sectoral collaboration: "Otherwise, it just doesn't work at all, because we don't speak the same language in social welfare and health care that is spoken in ICT."

The highest deviation between the project managers' responses arose in areas of personal skills and characteristics, and industry- and organisation-specific competences. A total of, including duplicates, 37 personal skills and characteristics, 18 industry-specific competences, and 26 organization-specific competences, were identified during the interviews (Appendix 3). Some were mentioned only by one participant, for instance in the Personal skills and characteristics competence area: "resilient under pressure" (PM1), "innovative" (PM2), and "unprejudiced" (PM3).

The primary objective of the thesis was to identify these industry- and organization-specific competences, as the existing literature does not specify the competence requirements for project managers in these areas. The Project Managers remarked as follows, when discussed about industry- and organization-specific competences:

Project Manager 1:

> […] in general, if we think about social welfare and health care projects, then knowledge of the entire health and social services system. Understanding of all the things that affect it, just like national policies, legislation, things like that.

Project Manager 2:

> […] It's really useful when you know the social welfare and health care field, of course. […] It also helps that I know the structures of the organization, so I can perhaps more easily utilize the existing networks [...] well, of course, just like the basic legislation and regulations and ethical guidelines that apply to the social and health care sector, and then if we talk about social and health care information management.
>
> […] this kind of enterprise architecture perspective on this entity, that we kind of work according to the fact that we support the long-term goal. […] The service architecture is also one of the most important.

Project Manager 3:

> […] knowledge of the statutory duties related to that rescue operation [...] in general, to recognize that when, what kind of thing in the wellbeing services county and maybe then in a smaller frame of reference there in your own area of operation [...] what can and cannot be included in that particular or that project and, of course, recognizes the values and strategy of the wellbeing services county.

The Project Managers were asked which competence area they consider most important for a project manager. All interviewees considered people-oriented competences, such as leadership skills and social skills, to be the most important. Project Manager 1 stated that "I would think that leadership is the most important thing". Personal attributes and soft skills were emphasized by the Project Manager 2:

> What you are looking for in terms of personal characteristics, I think it's a really important thing […] is able to work independently, but still cooperate with others. Yes, I'm such a supporter of soft skills.

Project Manager 3 brought up entity management, but also stated ”leadership and personal skills, […] these are the most important”.

The competence areas were presented to the interviewees in both Finnish and English to avoid misunderstandings. However, it turned out that the “Technical and methodological competence” area was difficult to understand without further questions or more detailed explanations. All three misunderstood the competence area to encompass technological competences. Project Manager 1 asked for further questions, while Project Manager 3 stated:

> It is then related, for example, to this system to be deployed, if there is a project tool, it manages or what is deployed then of course knows the system.

Project Manager 2 answered in a similar way: “[…] of course, you have to know the product, if it's a deployment project, what you're deploying”. To address the technical and methodological competence requirements associated with the management and execution of a project during the interview’s, more detailed questions were necessary. Additionally, the discussion had to be steered toward the relevant topics using examples.

The interviews highlighted challenges encountered in interpreting the competence framework. Consequently, the framework was revised, leading to the redefinition of the "Technical and Methodological Competence" area as the "Technical Project Management Competence" area and the “Organizational Competences” as the “Organizational Familiarity” to avoid misrepresentation.

The project management competence requirements and highlighted competence areas identified in the interviews were utilized in the development of the project manager competence model and self-assessment tool in the next phase of the thesis.

4.3 Development of Project Manager Competence Model and Self-Assessment Tool

In this phase the theoretical and qualitative insights gathered in earlier phases are transformed into tangible outputs. Findings from the literature review and interviews were used to identify key project management competences to be organized into a unified and structured taxonomy. The objective of this phase was to design the project manager competence model and create a corresponding self-assessment tool based on the refined framework from the previous phase of the thesis.

4.3.1 Defining Project Management Competence Hierarchy

A need of establishing a hierarchy and adopting uniform terminology was identified to organize competences systematically for the competence model. The reviewed project management frameworks structured these competences into multi-level hierarchies, as shown in Table 2. The APM and PMCDF frameworks had three-level hierarchies, while the ICB utilized a four-level hierarchy. The SFS-ISO 21502:2021 was interpreted to have structured the competences into two levels. Additionally, the frameworks used different terminology to define different hierarchical levels.

A three-level hierarchy and corresponding terminology were derived from the ICB and PMCDF: **Competence area**, **Competence unit**, and **Competence element**. The term "Competence area" was adopted from the ICB, while "Competence unit" and "Competence element" from the PMCDF. Although the PMCDF refers to the highest competence level as "Dimension", this term was deemed unsuitable for the intended purpose of the thesis. The hierarchical structure of competences is illustrated in Figure 3.

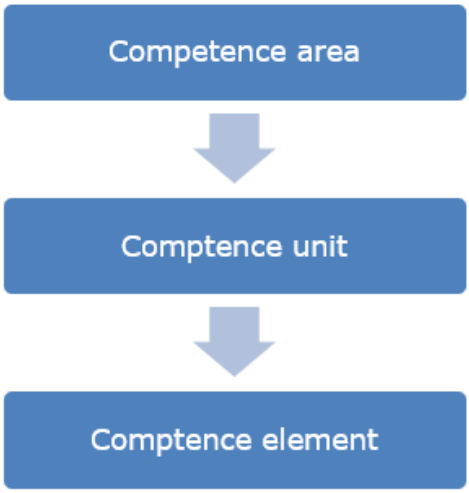

Figure 3. Hierarchical structure of competences.

This three-level hierarchical structure was used throughout the thesis to develop a structured taxonomy and unified understanding of the competences.

4.3.2 Development of Project Manager Competence Model

The competence requirements compiled from different sources in the previous phases were analysed to identify similar and unique competences. Duplications were removed and a unified and harmonized list of competences was established as presented in Appendix 4. It can be observed that the competence requirements extracted from the project management frameworks focus on leadership skills and technical management of a project. Instead, the interviews also managed to cover industry- and field-specific, and organisation-specific competence requirements as well as personal characteristics. To ensure the competence framework is aligned with the SataPro model, requirements from the SataPro model were incorporated into the competence model (Appendix 4).

Despite comprehensive list of sources, field-specific and organization-specific as well as personal qualities and other soft skills were given little attention, so additional sources from the literature were needed. The book *Project business* (2011) by Artto K., Martinsuo M., Kujala J. was chosen to complement the list of project management competence requirements (Appendix 4). The book comprehensively contained the qualities required of a project manager. The competence requirements identified by Artto et al. (2011, p. 219–228) were compiled in the table in Appendix 4.

Another additional source was found in the Theseus database, a master's thesis study conducted by Haapala, M. (2019) on the development of a project manager's competence management model for Fortum's Loviisa power plant. Haapala (2019) had also collected competence requirements through thematic interviews and used international project management frameworks, such as the SFS-ISO 21500 standard, PMBOK by PMI and IPMA ICB framework, as sources. Haapala's literature review did not cover the APM Competence Framework nor PMCDF by PMI. The competence requirements listed by Haapala were applied in the thesis, compiling them in the table in Appendix 4. All industry- and organization-specific competence requirements listed by Haapala (2019) were excluded.

As presented in Appendix 4, a total of 129 competences required of a project manager were identified: 22 were identified for technical project management, 17 for leadership and interaction skills, 9 for strategic and business management, 48 for personal skills and characteristics, 15 for industry-specific competence, and 18 for knowledge of the organization. These competence requirements were structured into manageable entities, 32 competence units, presented in Table 5, and 173 competence elements, presented in Appendix 6. Definitions for each competence unit was composed (Appendix 5).

Table 5. Structuring competence elements into competence areas and units.

Competence area	**Competence unit**
Technical Project Management	Project entity management
	Project scope, benefit and objective management
	Project budget and cost management
	Project schedule management
	Project resource management
	Project quality management
	Project risk management
	Project stakeholder and communication management
	Project information and document management
	Project procurement, contract and supplier management
	Project management methodologies
	Project management standards and guides
	Technical proficiency in relevant tools and systems
Leadership and Interpersonal Competences	Management skills
	Leadership skills
	Interaction and communication skills
Strategic and Business Management Competences	Strategic project management competences
	Business skills
	Financial expertise
Personal Skills and Characteristics	Leadership attributes
	Analytical and critical skills
	Creativity and innovation
	Social skills
	Organizing and productivity skills
	Flexibility and tolerance to pressure
Industry-Specific Competence Area	Legislation and regulation
	Service systems
	External operating environment
	Substance and technology expertise
Organizational Familiarity	Structures and management systems
	Strategy and organizational culture
	Processes and procedures

This refined taxonomy ensures intelligibility and clarity, and comprehensive coverage of all the essential skills and knowledge for managing projects. The competence model, including taxonomy and descriptions, is validated later in the thesis through workshops, testing and feedback.

4.3.3 Development of Project Manager Competence Self-Assessment Tool

The refined competence framework and model, including competence requirements (Appendix 6), served as the foundation for developing the competence assessment tool. In alignment with the scope of the thesis, the assessment tool was designed as a self-assessment tool for project managers.

The participants of the interviews highlighted the significance of behavioural competences alongside technical skills, leading to the integration of situational judgement questions into the assessment tool. The competence elements related to personal skills and characteristics were transformed into structured statements, for instance, the description "Enthusiastic and motivating" was reformulated as "I know how to inspire and motivate, and I encourage others to perform at their best."

The assessment tool was developed using Microsoft Excel and comprised three sheets: Starting Page, Self-Assessment Form, and Results (Appendix 7). The Starting Page provided an introduction, instructions, and a detailed rating system. The Self-Assessment Form was structured according to the competence model established in the previous phase of the thesis and was divided into six sections, each representing a distinct competence area. Each section began with a brief introduction, instructions, and a competence-specific rating scale. The competence units were systematically organized according to the competence framework, with each unit accompanied by competence elements to be assessed and rated.

A structured rating system was developed to enable a comprehensive assessment of the distinct competence elements, presented in Table 6. To inform its design, existing competence frameworks were examined for their approaches to rating systems. The ICB framework provided a rating tool but lacked a defined scale (IPMA, 2015, p. 35). The PMCDF incorporated an assessment scale ranging from 1 to 5, accompanied by descriptions for each proficiency level (PMI, 2017, Chapter 2.3). Similarly, the APM framework included a 0–5 assessment scale, offering interpretations for different levels and explanations for both knowledge and application (APM, 2021, p. 5). The APM rating system was selected as the basis for adaptation. However, as it did not incorporate experience-based evaluations or situational judgement question descriptions, these units were integrated into the rating system under development to enhance its applicability (Table 6).

Table 6. First version of rating system.

Scale	Description	Knowledge	Application	Experience	Skills / Describe me
0	**Unaware**	No awareness	N/A	N/A	None
1	**Aware**	Basic awareness	No application is expected.	No experience	Very little
2	**Developing**	Practical knowledge	Simple and supervised application	Some experience	Some
3	**Proficient**	Comprehensive knowledge	Independent application in moderate complexity	Moderately experience	Moderately
4	**Advanced**	Detailed knowledge	Application in complex situations	Experienced	Much
5	**Expert**	Expert level knowledge	Expert level application	Very experienced	Very much

In this phase of the thesis a comprehensive project manager competence model and self-assessment tool was developed. The competence model covers project manager competence requirements on three-level structure. Definitions were formulated to competence areas and units.

The self-assessment tool was created, accompanied by a 6-scale rating system. The competence model and self-assessment tool were refined in the subsequent phase.

4.4 Refinement of Project Manager Competence Model and Self-Assessment Tool through a Workshop

This phase centres on gathering collective feedback from experts of two experts of the Project Management Office (PMO) to refine the project manager competence model and self-assessment tool. The workshop, designed as a collaborative and interactive session, provided a platform for evaluating, critiquing, and enhancing the developed framework and tool (Hamilton, 2016, Chapter 2).

The workshop was conducted online in a single session. Prior to the workshop, the facilitator distributed the project manager competence model and self-assessment tool to participants for review, along with an outline of the workshop objectives. At the start of the session, the facilitator provided a brief overview of the objectives, competence model, and assessment tool. The workshop structure included a formal presentation phase, interactive discussions focused on critical analysis, a brainstorming session, and a collaborative process for refining and updating the competence model and self-assessment tool.

During the workshop, important observations were received from PMO experts about the competence self-assessment tool, its content, terminology and usability. PMO expert 1 noted that the assessment tool covers competence elements outside of the competence requirements of a project manager stated in the SataPro model. For instance, initiation of a project is not defined as a task for the project manager, but for the project owner. The new expression was "Knowledge of the phases of the project life cycle". Similarly, "Preparing a project description" was changed to "Project description content knowledge and literacy" for the same reason.

Overlaps and ambiguities in terms of comprehensibility were corrected during the workshop. Minor changes were made to terminology, for example "Risk mitigation" was clarified to "Selection and implementation of risk management measures", and "Designing infrastructure, processes, and systems for managing information and documents within the project" to "Planning and communicating policies and responsibilities for managing information and documents within a project".

The competence area of Strategic and business management competences caused the most confusion, as knowledge of strategy was also mentioned in the competence area of Organizational familiarity. Talking about business in a public sector organisation also sparked discussion. As a result, it was decided to change the name of one competence unit and remove competence elements related to strategy and procurement expertise to avoid duplication and misrepresentation.

As part of the workshop process, project competence criteria for different project classes were established, leading to the conclusion that assessment criteria should be defined exclusively for technical project management proficiency, and leadership and strategic competence, while personal attributes and knowledge of industry and organization remain outside the scope of formal classification. Technical and operational competences can be acquired and developed over time, whereas personal traits are inherent and less adaptable. This conclusion was reinforced by a remark made during the interview with Project Manager 2:

> [..] what kind of attitude that person is equipped with and just the fact that they are able to do independent work, but still cooperate with others, I would like to highlight it as the most important thing really, because everything else is relatively easy to learn if that attitude is right.

Project competence criteria were neither defined for the competence area of Industry-specific competences nor Organizational familiarity. The workshop concluded that knowing them is not essential for managing a successful project, but that they are elements of competence that

support and facilitate successful project management. PMO expert 2 pondered: "You are as if you are able to find out about those things at that point.", when discussed about the knowledge of industry and organization. This observation was supported by the interview response of Project Manager 3 that field-specific skills are not necessarily needed, when asked whether a project manager from outside the field can act as a project manager. The "Legislation and regulation" was the only competence unit of the aforementioned competence areas where criteria were defined.

In the workshop, one of the experts made the observation that the classification criteria between A and B projects is still unclearly defined in the SataPro model. This caused challenges in defining the criteria for project manager competence requirements.

The importance of demonstrating competence and ensuring its validation was emphasized during the workshop. The requirement for evidence of competence and proof of experience is also explicitly outlined in the ICB (IPMA, 2015, p. 16) and PMCDF (PMI, 2017) frameworks. Based on this, a clarification was added to the self-assessment tool, stating that self-assessment results are not definitive indicators of competence and should not be used as sole proof of proficiency. Instead, supplementary evidence, such as documented experience, should be considered, particularly in recruitment contexts.

As an outcome of this phase of the thesis, a refined project manager competence framework, model, self-assessment tool, and criteria for different project classes were developed. In the subsequent phase, the updated competence model and self-assessment tool will undergo testing and validation, with further refinements made as needed.

4.5 Testing and Validation of Project Manager Competence Model and Assessment Tool

The objective of this phase was testing the developed project manager competence model and self-assessment tool and validate their ability to measure project management competences effectively in public social welfare, healthcare, and rescue services. Piloting ensured the tool operated as intended, identified areas for improvement, and validated its practicality, accuracy, and usability in the wellbeing services county of Satakunta.

Two participants in the interviews (Project Managers) and two experts from the PMO tested and validated the developed competence model and self-assessment tool. The self-assessment tool was sent to the Project Managers via email, and a deadline was given for feedback. Instructions for the testing and evaluation of the self-assessment tool was attached to the invitation to participate in the piloting. The participants were informed of the estimated time to fill the self-assessment form, and instructed how to give feedback about the content, competence requirements included, structure of the self-assessment tool, and the and the sufficiency of the instructions.

Feedback was collected from Project Managers through email and in the workshop from the PMO experts. Project Manager 1 remarked:

> The tool seems very good to me. The instructions are sufficient, and the competence areas are included comprehensively. So, a good whole.

Project Manager 2 also considered the comprehensive coverage of the required competences of project managers to be a good thing but remarked that the assessment tool is too detailed as it is and takes too much time to fill in terms of usability:

> A wide overage is a good thing from the point of view of evaluation, but on the other hand, from the point of view of usability, some kind of streamlining could be worth considering.

The reliability and biases of self-assessment were also challenged by Project Manager 2:

> I wonder how much the result also depends on what kind of projects the person filling in has experience with. The more extensive projects you have led, the better you can also understand what it actually takes to lead a large, complex project. This also easily raises the criteria by which you evaluate yourself. On the other hand, the distortion is yes in the instructions of the attention support, and it is also good to take it into account in the implementation when instructing the process of how we use the tool.

On the other hand, a person may have only a basic knowledge of project management and related terminology but still be very competent in internalising new information and applying it in practice. A project manager might possess extensive knowledge, yet their ability to effectively apply it remains lacking. Project Manager 2 pondered how to assess oneself in such situations on the provided scale:

> On the other hand, you may have comprehensive knowledge, but the skills in applying the knowledge are still not the best possible. How should you compartmentalize yourself in these situations?

While providing constructive feedback, Project Managers 1 and 2 pointed out some minor areas for refinement. The competence requirement for basic IT skills in the technical project management competence area overlaps with the personal skills and characteristics competence area. Competence element of basic IT skills was removed from the competence area of technical project management. Project Manager 1 also identified an error in the Results sheet, where the interpretation of experience was expressed in years. This detail was unintentionally retained from the draft stage and was not intended for inclusion in the test version submitted.

During the validation of the competence framework, minor challenges arose, with time constraints being the most significant obstacle. The competence model and self-assessment tool needed to be distributed to

participants before the PMO workshop. However, a potential risk was identified: significant issues or major refinements could arise during the workshop, potentially undermining the validation efforts elsewhere. To address this, an iterative approach was adopted, continuously updating the self-assessment tool as feedback was received. Additionally, the PMO was provided with the most recent version of the tool just days before the workshop to ensure alignment with the latest refinements. This risk was also seen as an opportunity to refine the competence framework in a higher pace than planned.

The aforementioned scheduling challenge and overlapping development and testing caused one of the Project Managers to test an outdated version and give feedback on subjects that had already been updated in the self-assessment tool through the workshop.

This last phase of the development process, the testing and validation, resulted in a finalized project manager competence framework, model, and self-assessment tool that were user-friendly, practical, and aligned with needs and requirements of the wellbeing services county of Satakunta in project management competence evaluation.

5 RESULTS

The objective of the thesis was to develop a project manager competence framework, including a practical competence model and self-assessment tool to be used in recruitment of project managers or for self-assessment in professional development of project managers within the wellbeing services county of Satakunta. The results of the thesis are presented in this chapter.

The results demonstrate the successful development of a comprehensive competence model and a validated self-assessment tool, both of which address gaps in existing frameworks and meet the needs of the Sata region.

5.1 Project Manager Competence Framework

The project manager competence framework illustrated in Figure 4 was created through a review and comparative analysis of widely recognized project management frameworks. It was further refined based on insights gathered from thematic interviews with project managers and a workshop with experts from the PMO.

Figure 4. Final project manager competence framework.

The developed project manager competence framework is divided into six competence areas: Technical project management competences, Leadership and interpersonal competences, Strategic and business management competences, Industry-specific competences, Personal skills and characteristics, and Organizational familiarity. Each competence area is depicted in equal size within a honeycomb-like illustration, emphasizing their equal importance in successful project management. The interconnected nature of these competence areas is represented by two-way arrows forming connections between each block of the honeycomb.

The project manager competence framework is structured to highlight the significant connections between opposing competence areas. For instance, a good understanding of the organization and its internal processes contributes to effective strategic project management. Leadership qualities, as personal characteristics, are directly reflected in people management and conflict resolution. Additionally, a solid knowledge of the field and its terminology aids in selecting appropriate project management methods and approaches, thereby facilitating stakeholder cooperation and communication.

To ensure the framework is both practical and user-friendly, a definition of its scope was developed for each competence area, as outlined in Table 7. These definitions provide a high-level overview of the competence units within each area. Uniform definitions enhance clarity and coherence, improve the framework's usability, and minimize the risk of misunderstandings.

Table 7. Definitions of final competence areas.

Competence area	**Definition**
Technical project management competences	This area encompasses the ability to apply structured processes, methodologies, project management tools, and technical skills to manage the lifecycle of a project effectively. It includes understanding and adapting to project-specific needs while ensuring efficiency, quality, and alignment with objectives. This competence area focuses on the technical execution of a project.
Leadership and interpersonal competences	This competence area focuses on leadership and communication skills, and the ability to inspire, guide, and collaborate with individuals and teams to achieve project goals effectively. It encompasses the skills necessary to motivate, influence, and manage people in a way that drives project success. It includes building and maintaining relationships, facilitating, decision-making, conflict resolution, and crisis management.
Strategic and business management competences	This competence area focuses on the ability to understand the business environment, make decisions that contribute to organizational value, and manage projects in a way that supports business success. It involves bridging the gap between the technical aspects of project execution and the larger strategic

	goals of the organization. It ensures that projects are not only completed on time and within scope but also deliver measurable business value aligning with the strategy.
Personal skills and characteristics	This competence area focuses on the intrinsic qualities, behaviours, and personal attributes. It encompasses self-awareness, adaptability, and the ability to positively influence team dynamics through personal strengths. It highlights the importance of integrity, confidence, and a proactive mindset in achieving project success. These are individuals' internal attributes and characteristics.
Industry-specific competences	This competence area refers to the specialized knowledge, skills, and expertise required to effectively manage projects within a particular industry. This area recognizes that each industry has unique standards, regulations, and stakeholders. It encompasses the ability to apply industry-relevant expertise, comply with sector-specific regulations, and understand the external environment in which projects operate.
Organizational familiarity	This competence area involves understanding the organizational structure, culture, and processes. It emphasizes the ability to navigate organizational complexities, foster collaboration, comply organizational policies, and ensure seamless integration of projects into the overall internal environment.

5.2 Project manager competence model

Building upon the developed project manager competence framework, a project manager competence model and self-assessment tool were created. Thematic interviews were conducted to identify the competence requirements of project managers within the wellbeing services county of Satakunta. A competence hierarchy for the model was established through a literature review of existing project management frameworks. The competence model and self-assessment tool were further refined through a workshop with experts from the PMO and tested and validated by project management professionals from the Sata region.

As illustrated in Figure 5, a three-level hierarchical project manager competence model was structured to ensure unified taxonomy and understanding of the competence requirements of project managers of the Sata region. The three levels of the model are "Competence area" as the highest level of the model, "Competence unit" in the middle, and "Competence element" as the most detailed level of the model containing the practical and operational competence requirements of project managers. The final competence model consists of 6 competence areas, which are divided into 32 competence units and further into 173 competence elements, presented in Appendix 6, including the definitions of competence areas and units.

As with the competence areas, definitions were also formulated for the competence units to describe their key content, which are presented in Appendix 5. No separate definitions were formulated for the competence elements, as they were considered to be self-explanatory.

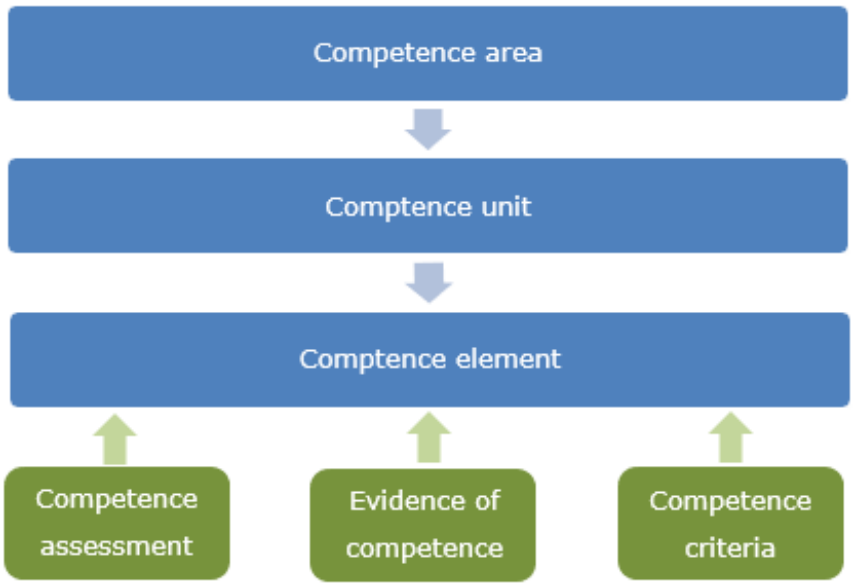

Figure 5. Final project manager competence model.

The model was complemented with operations, presented in Figure 5: Competence assessment, Evidence of competence, and Competence criteria. Competence assessment refers to the developed self-assessment tool, Evidence of competence to proof to be provided to verify competence, and Competence criteria to the required competence of a specific project or project class. The required level of competence of project managers in ABCD-classified project are illustrated in Table 8. The required levels of competence were established in a workshop with experts from the PMO. The same scaling used was from 0 to 5, as used in the project manager competence self-assessment tool in Appendix 7.

Table 8. Level of competence requirements of project managers on a scale of 0-5 for different ABCD-project classes.

			Project Class			
Nr	**Competence area**	**Competence unit**	**A**	**B**	**C**	**D**
1	Technical Project Management	Project entity management	4	3	2	1
2		Project scope, benefit and objective management	4	3	2	2
3		Project budget and cost management	4	3	2	1
4		Project schedule management	4	3	2	2
5		Project resource management	4	3	2	1
6		Project quality management	4	3	2	1
7		Project risk management	4	3	2	1
8		Project stakeholder and communication management	4	3	2	1
9		Project information and document management	4	3	2	2
10		Project procurement, contract and supplier management	4	2	1	0
11		Project management methodologies	4	3	2	1
12		Project management standards and guides	3	2	1	0
13		Technical proficiency in relevant tools and systems	3	2	1	1
14	Leadership and Interpersonal Competences	Management skills	4	2	1	1
15		Leadership skills	4	2	1	0
16		Interaction and communication skills	3	2	1	1

17	Strategic and Business Management Competences	Strategic project management competences	3	2	1	0
18		Business skills	3	2	1	0
19		Financial Expertise	4	2	1	0
20	Personal skills and Characteristics	Leadership attributes	N/A	N/A	N/A	N/A
21		Analytical and critical skills	N/A	N/A	N/A	N/A
22		Creativity and innovation	N/A	N/A	N/A	N/A
23		Social skills	N/A	N/A	N/A	N/A
24		Organizing and productivity skills	N/A	N/A	N/A	N/A
25		Flexibility and tolerance to pressure	N/A	N/A	N/A	N/A
26	Industry-Specific Competence Area	Legislation and regulation	4	3	2	1
27		Service systems	N/A	N/A	N/A	N/A
28		External operating environment	N/A	N/A	N/A	N/A
29		Substance and technology expertise	N/A	N/A	N/A	N/A
30	Organizational Familiarity	Structures and management systems	N/A	N/A	N/A	N/A
31		Strategy and organizational culture	N/A	N/A	N/A	N/A
32		Processes and procedures	N/A	N/A	N/A	N/A

The competence areas of Personal skills and characteristics, and Industry-specific competences, and Organizational familiarity was excluded from the scope of formal classification, as the classification of personal attributes were considered impractical, and the industry-specific competence and organizational familiarity was concluded to be unessential when recruiting a project manager. The technical project management competences, leadership and interpersonal skills, and strategic and business management competences were concluded to be the most important for a project manager.

5.3 Project Manager Competence Self-Assessment Tool

The development of project manager competence self-assessment tool presented in Appendix 7 was one of the objectives of the thesis. The development of the competence framework and model were means to an end to establishing a foundation for the self-assessment tool. The

self-assessment tool compiles all the competence levels of the model into a single structured form. The self-assessment tool was created by building upon the output of the previous phase of the development process.

In the thesis, Microsoft Excel was chosen as the platform for the competence self-assessment tool, as it was available through the Vaasa University of Applied Sciences and easily transferred to the organization when the thesis outputs were handed over. A further development proposal is to move the self-assessment tool to a platform that serves its purpose better, such as competence assessment in competence development or recruitment situations.

The structure of the self-assessment tool is logical providing guidance to the user how to proceed and how to use the rating system. The competence areas, units and elements are sorted in a logical order for a systematic assessment of competences. A 0 to 5, Unaware to Expert, respectively, rating system was adopted. Because of the distinctive nature of the different competence areas, four different categories were needed to assess against: "Knowledge", "Application", "Experience", and "Skills / Describes me". Each level of the scaling was described for each category of competence. The scaling to be used for each competence area is provided in the instructions in the beginning of the part.

The project manager competence self-assessment tool provides instant interpretation of the competence level while filling the assessment form. After each competence unit an average of the selected competence levels are drawn, accompanied by an interpretation according to the rating system. After each competence area, similar interpretation is provided. The results are compiled in a separate Results-sheet, for an overview of the competence level of the user. The results are provided on a competence unit level on the Results-sheet, accompanied by a personal competence map on a competence area level. The competence map gives insight on the balance of the competence of the project manager and

gives direction on what the strengths are, and which area of expertise should be developed.

The entire thesis culminated in a tested and validated project manager competence model and self-assessment tool.

5.4 Evaluation of Results and their Reliability

The thesis successfully met its objectives, resulting in the development of a well-defined project manager competence model and a corresponding self-assessment tool. The final competence framework aligns with established SataPro project management model of the wellbeing services county of Satakunta, while incorporating specialized requirements for social welfare, healthcare, and rescue services, along with elements that enhance organizational familiarity.

The structured competence model of competence areas, units, and elements ensures a thorough assessment of the essential skills and knowledge required for project managers. However, the project faced minor challenges regarding reliability, notably the small sample size for interviews and validation, and the difficulty in grouping non-technical competence requirements, and biases of self-assessment. The self-assessment tool was refined through feedback from interview participants and collaboration with PMO experts.

From the outset, reliability and evaluation were key considerations in the development process. The final phase involved rigorous testing and validation to ensure the self-assessment tool’s practicality, relevance, and alignment with the SataPro model. Active engagement from key stakeholders within the wellbeing services county of Satakunta further strengthened its applicability.

The project manager competence model and self-assessment tool developed in this thesis are considered to be reliable, but somewhat impractical, based on constructive feedback. While excessive coverage was considered beneficial, some level of streamlining could be worth considering for usability. If every competence element outlined in the assessment tool is essential for the project manager's role was questioned during the testing and validation. Completing this self-assessment could easily take more than 30 minutes, as each section requires careful self-evaluation. As it stands, there is quite a bit of checkbox ticking involved, and a more concise and streamlined assessment tool could be beneficial to be created based on the self-assessment tool developed in this thesis.

The interpretation of the rating system and its excessively harsh criteria were also criticized. Project Manager 2 highlighted that "even if a person may only have basic knowledge of the topic, he/she can be effective in searching of information and apply it in practice". Additionally, experience with large, complex projects enhances a project professional's understanding but may lead to biases, such as overly self-critical assessments, as stated by Project Manager 2 and supported by Flyvberg (2021) in his article *Top Ten Behavioral Biases in Project Management: An Overview*. To mitigate this, a comment was added to the assessment tool, cautioning users about the potential biases of self-assessment and emphasizing that it should not be the sole measure of competence.

The thesis research was conducted in English and the assessment tool was translated into Finnish before testing and validation. When translating, it was noted that some words are difficult to translate directly without changing the meaning. This was noticed especially in the vocabulary related to leadership and management. The project manager competence model and self-assessment tool are intended to be use in Finnish, so the validation in Finnish was justified and crucial for the reliability of the results.

At this stage, qualitative evaluation remains the only method to assess the effectiveness of the competence model and self-assessment tool. The broader organizational benefits can only be measured over time, once sufficient experience has been gained in their application and project managers, along with the entire organization, have had the opportunity to familiarize themselves with the SataPro model. For instance, conducting a competence assessment for all project managers could serve as an indicator of the tool's practicality while establishing a baseline for organizational project management competence and identifying development needs.

The thesis was carried out adhering to the principles of good research integrity. All research measures were documented, and sources are cited. The reliability of sources was critically assessed. The use of artificial intelligence in language correction or other use in the thesis are reported in accordance with the instructions of Vaasa University of Applied Sciences. The thesis followed the guidelines of the wellbeing services county of Satakunta and Vaasa University of Applied Sciences, as well as EU regulations and Finnish national laws concerning the processing of personal data, information and consent of the interviewees, confidentiality, and data protection.

6 DISCUSSION AND CONCLUSION

This thesis examined the competence requirements of project managers within the wellbeing services county of Satakunta, focusing on the development of a structured competence model and self-assessment tool. The research was driven by the need to standardize project management competences, ensuring alignment with the SataPro model and addressing gaps in existing frameworks. Through literature review, thematic interviews, workshops, and validation processes, the study established a comprehensive competence framework tailored to the specific needs of project managers in the sector of public social welfare, healthcare, and rescue services in which the wellbeing services county of Satakunta operates.

The findings contribute to both theoretical and practical aspects of project management competence, offering insights into the essential skills required for effective project execution and providing a structured approach to competence assessment. The following sections discuss the theoretical and practical contributions of this research, answering the predefined research questions.

6.1 Theoretical Contributions

This thesis contributes to the academic discourse on project management competence by addressing fundamental research questions related to competence frameworks and assessment methodologies.

1. What are the essential competences required of project managers within the wellbeing services county of Satakunta?

The study identified six key competence areas, structured into 32 competence units and 173 competence elements, providing a hierarchical framework for project management expertise. By integrating insights from literature, comparative analysis, and empirical data, the research offers a refined taxonomy of project management skills applicable to the

public sector. The thesis provides a comprehensive list of personal characteristics and project management competences specific to the industry and organization, addressing gaps in existing frameworks. The competence model aligns with established frameworks such as the APM Competence Framework (APM), Project Manager Competency Development Framework (PMCDF) and the Individual Competence Baseline (ICB), reinforcing its theoretical validity.

Beyond its immediate application, this research contributes to broader theoretical discussions on project management competence by refining existing models and offering a structured approach to defining expertise. The findings suggest that project management competence should be viewed as a dynamic construct, evolving with industry demands and organizational changes. This perspective can inform future studies on competency development in various sectors, extending beyond the well-being services county of Satakunta.

2. How can the competences of project managers be effectively assessed?

The thesis developed a self-assessment tool that enables systematic evaluation of project management competences. The tool was synthesised from existing literature and expert interviews. By incorporating structured rating criteria, the tool facilitates objective assessment, ensuring consistency in competence evaluation. The study highlights the importance of standardized terminology in competence assessment, proposing that a unified vocabulary enhances reliability and applicability across different project classifications.

The implications of this research extend to the broader field of competence assessment in project management. The structured approach to self-assessment can serve as a foundation for developing standardized evaluation methods across industries. Additionally, the findings emphasize the need for continuous refinement of assessment tools to ensure alignment with evolving project management practices and changing operating environment.

These theoretical contributions advance the understanding of project management competence, providing a structured approach to defining and assessing essential skills within the Finnish social welfare, healthcare, and rescue services.

6.2 Practical Contributions

Beyond theoretical advancements, this thesis delivers practical contributions that directly impact project management processes within the wellbeing services county of Satakunta.

3. How can a competence assessment tool aid the wellbeing services county of Satakunta in selecting suitable project managers?

The self-assessment tool developed in this thesis serves as a practical solution for evaluating competence of project managers. By streamlining recruitment processes, organizations can apply the model to objectively assess proficiency of candidates across predefined skill areas. This structured approach eliminates ambiguity in hiring decisions and ensures that selected professionals possess the necessary qualifications for different project classifications, and are able to provide evidence of competence.

The broader implications of this research suggest that standardized competence assessment tools could enhance recruitment practices across various sectors. Organizations beyond the wellbeing services county of Satakunta could adopt similar frameworks to improve hiring efficiency and ensure alignment between skills of project managers and organizational needs.

4. How can a competence model and assessment tool facilitate the professional development of project managers?

The project manager competence model also functions as a developmental resource, providing foundation for competence management model for project managers within an organisation. A training program

may be structured based on the model. The self-assessment tool enables project managers to identify skill gaps and plan targeted learning strategies. The project manager competence model provides actionable insights that help individuals navigate their growth while ensuring alignment with organizational competence standards.

The findings have significant implications for professional development programs in project management. By integrating structured self-assessment tools into training initiatives, organizations can foster continuous learning and skill enhancement among project managers. Additionally, the research highlights the importance of aligning competence frameworks with industry-specific requirements to maximize their practical utility.

6.3 Recommendations for Further Research and Development

During the research and development work, several observations worth further research came up. The differences in competence requirements between externally funded projects and internal development projects would require closer examination, particularly regarding the competence needs related to internal processes and guidelines.

A streamlined and concise self-assessment tool is suggested in the form of a short questionnaire, focusing on the evaluation of competence at the unit level, rather than competence element level. Additionally, a recruitment-specific form is suggested, featuring an open text field for documenting evidence of competence as illustrated in the competence model (Figure 5), thereby enhancing reliability and facilitating the recruitment process.

To enhance the usability of the self-assessment tool developed in this thesis, transitioning it to a more user-friendly digital platform would significantly improve accessibility and ease of use for project managers.

Furthermore, the creation of a competence management model, and an internal training program for project managers is recommended, potentially delivered as self-study material to support learning in project management, as wished by one of the interviewees. The results of this thesis would serve as valuable resources in this learning process, ultimately enhancing the organization's overall capability to lead projects effectively. An existing project management competence framework is recommended, such as the Project Manager Competency Development Framework by the Project Management Institute (2017) to support the competence management and development of project managers. The project manager competence model and self-assessment tool developed in this thesis align with the PMCDF.

6.4 Lessons Learned

The thesis provided a suitable challenge and allowed me to review all the study material and familiarize myself with all the broadly acknowledged standards, guides, and frameworks of project management while conducting the research of competence requirements. By revisiting the project management practices, the knowledge became more ingrained. Some aspects were entirely new and had not been covered during my studies.

It was rewarding and educational to discuss the topic with skilled and experienced project managers. The interviews offered insights into practical project management. By testing the self-assessment tool myself, I was able to evaluate my own competences and identify my strengths and weaknesses as a project manager. Through the thesis, I now know which areas of competence I need to develop and which strengths to leverage.

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APPENDICES

Appendix 1. Outline of thematic interviews

1. Describe a good project manager: What is he like? What does he need to know? What are his strengths?
2. What are the professional skills needed as a project manager in the wellbeing services county of Satakunta?
3. What information does a project manager need?
4. What skills does a project manager need?
5. Which project manager's competences or areas of expertise are emphasized in your [this interviewee's field]?

[The competence framework created during the thesis was presented to the interviewee to guide the interview]

6. What skills do you think the [competence area of the framework] requires from a project manager?
   (all six competence areas were covered during the interview)
7. Which of these competence areas do you consider most important for a project manager?
8. Describe the future project manager in the wellbeing services county of Satakunta: What is he or she like? What does he need to know in the future? What are the competences he/she need to develop?
9. How do you think project management skills should be developed in the wellbeing services county of Satakunta?

Appendix 2. Categorization of competences under new competence areas

Framework	Competence area	Competence	Technical and Methodological Competences	Leadership and Interpersonal Competences	Strategic and Business Management Competences	Personal Skills and Characteristics	Industry-specific Competences	Organizational Competences
APM	Setting up for success	Life cycles	X					
		Governance arrangements			X			
		Sustainability			X			
		Financial management			X			
		Business case			X			
		Portfolio shaping			X			
	Preparing for change	Procurement	X					
		Reviews			X			
		Assurance			X			
		Capability development		X				
		Transition management			X			
		Benefits management	X					
	People and behaviours	Stakeholder engagement and communication management	X					
		Conflict resolution		X				
		Leadership		X				
		Team management		X				
		Diversity and inclusion		X				

		Ethics, compliance, and professionalism				X		
	Planning and managing deployment	Requirements management	X					
		Solutions development	X					
		Quality management	X					
		Integrated planning	X					
		Schedule management	X					
		Resource management	X					
		Resource capacity planning			X			
		Budgeting and cost control	X					
		Contract management	X					
		Risk and issue management	X					
		Change control	X					
ICB	**Perspective**	Strategy			X			
		Governance, structure and processes						X
		Compliance, standards and regulations					X	
		Power and interest				X		
		Culture and values						X
	People	Self-reflection and self-monitoring				X		
		Personal integrity and reliability				X		
		Personal communication		X				
		Relationships and engagement		X				
		Leadership		X				
		Teamwork		X				

		Conflict and crisis		X				
		Resourcefulness				X		
		Negotiation		X				
		Result orientation				X		
	Practice	Project design	X					
		Requirements, objectives and benefits	X					
		Scope	X					
		Time	X					
		Organisation and information	X					
		Quality	X					
		Finance			X			
		Resources	X					
		Procurement	X					
		Plan and control	X					
		Risk and opportunities	X					
		Stakeholders	X					
		Change and transformation	X					
PMCDF	**Performance compe-tences**	Project Integration Manage-ment	X					
		Project Scope Management	X					
		Project Time Management	X					
		Project Cost Management	X					
		Project Quality Management	X					
		Project Human Resource Management	X					
		Project Communications Management	X					

		Project Risk Management	X					
		Project Procurement Management	X					
		Project Stakeholder Management	X					
	Personal competences	Communicating		X				
		Leading		X				
		Managing		X				
		Cognitive ability				X		
		Effectiveness				X		
		Professionalism				X		
SFS-ISO 21502:2021	**Technical competences**	Pre-project activities	X					
		Overseeing a project	X					
		Directing a project	X					
		Initiating a project	X					
		Controlling a project	X					
		Managing delivery	X					
		Closing or terminating a project	X					
		Post-project activities	X					
		Planning	X					
		Benefit management	X					
		Scope management	X					
		Resources management	X					
		Schedule management	X					
		Cost management	X					
		Risk management	X					

		Issues management	X					
		Change management	X					
		Quality management	X					
		Stakeholder engagement	X					
		Communication management	X					
		Managing organizational and societal change			X			
		Reporting	X					
		Information and documentation management	X					
		Procurement	X					
	Behavioural competences	Leadership		X				
		Team building		X				
		People management		X				
		Coaching		X				
		Negotiation		X				
		Conflict management		X				
	Business and other competences related to management	Context			X			
		Project governance			X			
		Project life cycle	X					
		Project organization and roles	X					
		Organizational knowledge						X
		Contractual knowledge	X					
		External environment management			X			
		Total	63	20	14	9	1	3

Appendix 3. Project manager competence requirements identified through interviews.

Competence areas	Project manager 1	Project manager 2	Project manager 3
Technical and Methodological Competences	• Budget management and monitoring • Procurement management • Project lifecycle management • Project planning • Project evaluation and reporting • Project content management • Entity management	• Change management • Knowledge and understanding of project management • Compliance with project protocols • Project Roles (Steering Group Role, Owner Role, Product Owner, Project Manager Role, Subproject Manager Role, Coordinator Role) • Relationships and counterparts of project personnel (internal and external) • Stakeholder management • Identify and manage different levels of a project • Identification and management of interests and impacts • Project lifecycle management • Budget management • Technological expertise • Knowledge of the project objects and content	• Schedule management • Project entity management • Project planning • Competence resource management • Project expertise • Knowledge of project roles • Tesk distribution equally • Carrying out the project according to plan • Setting sub-goals • Change management • Interim reporting • System expertise • Document and information management • Knowledge of project tools • Stakeholder identification and management • Budget management • Procurement management • Human resource management • Knowing the project's target audience

		• Research methodological knowledge • Objective management • Project management methodology skills (waterfall model, scrum, agile development models) • Competence resource management • Project prerequisite management • Managing interests and impacts • Understand the authorizations of decision-making • Analyzing the current state and setting a goal • Situation monitoring and assessment • Reporting • Procurement management • Document and information management • Defining and managing scope • Requirements management	

Leadership and Interpersonal Competences	• Leadership • People management • Leadership skills • Gets his subordinates to give their best • Work task coordination • Project team management • Operational management • Coaching leadership	• Change management skills • People management • Project team management • Good communication skills (oral and written) • Knows how to inspire people • Create a safe atmosphere for co-creation • Stakeholder cooperation • Co-creation skills • Stakeholder engagement • Networking and the ability to network • Multi-professional cooperation • Cross-sectoral cooperation • Facilitation skills • Competence management • Take into account people's different strengths • Identifying competence needs • Managing resistance to change • Expression skills • Reporting skills	• Leadership skills • Supervising skills • Interaction skills • Identifying competence needs • Good communication skills • Participating, interviewing and attending various events • Presentation skills and making presentation material • Transformational • Crisis management
Strategic and Business Management Competences	• Financial acumen • Strategic management • Expertise in public tendering and procurements • Knowledge of the act on public procurement and concession contracts • Project finance competence	• Knowledge of strategic objectives • Strategic expertise • Strategic alignment of the project • Project impact on enterprise architecture • Knowledge of financial instruments • Project finance • Mutual efficiencies and synergies of projects • Understanding cost-benefit analysis • Feasibility analysis skills • Public procurement expertise	• Budgeting skills • Expertise in applying for grants and funding • Procurement expertise • Knowledge of sectoral financial instruments and channels • Is able to promote and make the project known • Synergies and cross-sectoral benefits • Identifying needs

Personal Skills and Characteristics	• Pressure tolerance • Organizing skills • Self-management ability • Self-development ability • Accountability • ICT-skills	• Self-development • Creative • Innovative • Brave • Application skills • Ability to work alone and in a team • Able to control many things on many different levels • Cooperative • Able to be precise • Able to make decisions • Ability to get along with different people • Accountability • Listening skills • Analysing skills • Knowledge synthetization skills (able to combine information from different sources into new information) • Solution-orientation	• Realistic • Knows how to search for information • Can think outside the box • Reliable • Analytic • Identifying the right information • Cooperative • Knowledge application skills • Unprejudiced • Objective • Wants to constantly develop themselves • Understands that you can't know everything yourself • Knows how to ask for help •
Industry-Specific Competences	• Knowledge of the health and social services system • Legislation • Field-specific substantive expertise • Knowledge of the national situation • Policies at national level	• Industry-specific terminology • Knowledge of the industry • Knowledge of different sectors • Cross-sectoral collaboration • Industry-specific regulatory knowledge, national legislation and regulations, ethical guidelines, EU regulations • Integration opportunities and interfaces of different sectors	• Industry knowledge and experience • Knowledge of industry-specific legislation • Knowledge and familiarity with statutory duties • Knowledge of the steering ministries/authorities and their impact on project funding • Knowledge of sectoral partnership networks • Knowledge of sectoral events • Knowledge of the "scene"

Organizational Competences	• Knowledge of the strategy • Knowledge of the change programs • Knowledge of the project portfolio • Knowledge of the SataPro project management model • Organizational knowledge • Knowledge of the organizational structure • Knowledge of the decision-making processes • Knowledge of the management system • Knowledge of the service package • Knowledge of internal networks • Knowledge of internal guidelines	• Organizational knowledge • Knowledge of the organizational structure • Network knowledge • Knowledge of organizational reforms • Knowledge of enterprise architecture • Knowledge of service architecture • Knowledge of the project portfolio • Knowledge of the organization's competence • Knowledge of the organization's resources • Knowledge of in-house companies • Knowledge of processes and guidelines	• Knowledge of the organizational structure • Knowledge of cost center structure • Knowledge internal guidelines (procurement, travel) • Familiarity with the values and strategy of the wellbeing services county

Appendix 4. Project manager competences from different sources

Competence area	Competence	APM	ICB	PMCDF	SFS-ISO 21502:2021	SataPro model	Artto et al.	Haapal, M.	Project Manager 1	Project Manager 2	Project Manager 3	Total
Technical Project Management Competences	Project organization and role management		X		X	X	X			X	X	6
	Project content, information and document management		X		X	X	X	X	X	X	X	8
	Project benefit and objective management	X	X		X	X	X	X		X	X	8
	Project budget and cost management	X	X	X	X	X	X	X	X	X	X	10
	Project change management	X	X	X	X	X	X	X		X	X	9
	Project communication management	X		X	X	X	X	X				6
	Project control, monitoring and reporting	X	X	X	X	X	X	X	X	X	X	10
	Project entity management								X		X	2
	Project integration management			X	X	X	X	X		X		6
	Project issue management	X		X	X	X		X				5
	Project life cycle management	X		X	X	X	X	X	X	X		8
	Project management methodologies and methods	X			X	X	X			X		5
	Project planning	X	X	X	X	X	X	X	X		X	9
	Project scheduling management	X	X	X	X	X	X	X			X	8
	Project resource management	X	X	X	X	X	X	X		X	X	9
	Project procurement, contract and supplier management	X	X	X	X		X	X	X	X	X	9

	Project quality management	X	X	X	X	X	X	X				7
	Project risk management				X	X	X	X				4
	Project scope and requirement management	X	X	X	X	X	X	X		X	X	9
	Project stakeholder management	X	X	X	X	X	X	X		X	X	9
	SataPro model and Thinking Portfolio -system					X			X	X	X	4
	Technical proficiency in relevant tools and systems	X	X	X		X	X	X		X	X	8
Leadership and Interpersonal Competences	Leadership and supervising skills	X		X	X		X	X	X		X	7
	Emotional intelligence							X				1
	Operational management					X			X		X	3
	Change management and managing resistance to change	X	X	X	X	X	X	X		X	X	9
	Project team management	X		X	X	X	X	X	X	X		8
	People management	X		X	X	X			X			5
	Creating a safe work atmosphere									X		1
	Conflict resolution and crisis management	X		X	X		X	X			X	6
	Communication and presentation skills	X		X		X	X	X		X	X	7
	Reporting and briefing skills	X	X	X	X	X	X			X	X	8
	Decision-making and delegation					X	X	X		X		4
	Negotiation and influencing skills			X			X				X	3
	Cultural competence and diversity sensitivity	X		X	X		X	X		X		6
	Mentoring and coaching						X	X	X			3
	Capability and competence management				X			X		X		3
	Facilitation skills							X		X		2
	Networking, cooperation, stakeholder engagement, and relationship management	X				X	X	X		X	X	6
	Strategic alignment and adaptability to strategic changes	X					X	X	X	X		5
	Strategic expertise									X		1

Strategic and Business Management Competences	Project's impact on enterprise architecture									X		1
	Interest and impact management						X			X		2
	Business acumen and competence	X				X	X					3
	Value realization and benefit management	X				X	X	X			X	5
	Public tendering and procurement competence								X	X	X	3
	Financial acumen and competence	X				X	X	X	X	X	X	7
	Sustainability	X										1
Personality and Characteristics	Self-awareness and self-monitoring		X									1
	Commitment	X						X				2
	Realistic						X				X	2
	Analytic									X	X	2
	Unprejudiced										X	1
	Brave to make decisions									X		1
	Empathic			X								1
	Precise									X		1
	Innovative									X		1
	Ability to work alone and in a team						X			X		2
	Adaptability and flexibility			X								1
	Creative							X		X		2
	Inspirational									X		1
	Organizing skills						X		X			2
	Resourcefulness		X	X							X	3
	Co-creation and cooperating skills									X	X	2
	Genuine							X				1
	Knowledge application and sythetization skills								X	X	X	3

	Multitasking						X			X		2
	Humble										X	1
	Listening skills						X			X		2
	Literary skills						X					1
	Meticulous							X				1
	Loyal							X				1
	Efficient							X				1
	Productive							X				1
	Responsible							X				1
	Able to make decisions									X		1
	Reliable							X			X	2
	Honest							X				1
	Holistic thinking							X				1
	Conceptual thinking							X				1
	Enthusiastic							X				1
	Resilience under pressure								X			1
	Prioritization and self-management		X				X		X			3
	Integrity and accountability		X	X					X	X		4
	Objective and diplomatic			X				X			X	3
	Critical thinking							X				1
	Problem-solving skills			X			X					2
	Change and development readiness			X				X	X	X	X	5
	Optimistic and self-motivational							X				1
	Speaking and language skills							X				1
	Result oriented		X				X	X				3

	Solution oriented							X		X		2
	Systematic						X					1
	Professionalism and ethical	X	X	X	X		X	X				6
	Technical skills						X		X			2
	Confidence and self-assurance			X								1
Industry-Specific Competence Area	Industry-specific regulations and policies	X	X						X	X	X	5
	Knowledge of social welfare and healthcare service system								X	X		2
	Knowledge and familiarity with statutory duties										X	1
	Industry- and sector-specific substantive expertise								X	X	X	3
	Knowledge of different cross-sectoral interfaces									X		1
	Knowledge of sectoral partnership networks						X				X	2
	Knowledge of sectoral events										X	1
	Knowledge of the steering and governing authorities and impact to the project										X	1
	Knowledge of rescue service system										X	1
	Knowledge of industry-specific ICT systems									X		1
	Industry- and field-specific terminology									X		1
	Knowledge of national situation								X			1
	Industry-specific standards	X	X					X				3
	Industry-specific best practices and guidelines	X	X							X		3
	External environment and industry development				X		X					2
Organizational Familiarity	Organizational and administrative structure		X		X	X	X	X	X	X	X	8
	Knowledge of cost centre structure										X	1
	Knowledge of the management system and decision-making processes							X	X			2
	Knowledge of service package							X				1
	Knowing the organization								X	X		2

	Knowledge of the strategy and objectives		X						X	X	X	4
	Knowledge of project portfolio	X							X	X		3
	Knowledge of enterprise architecture									X		1
	Knowledge of service architecture									X		1
	Knowledge of internal networks							X		X		2
	Knowledge of the change program and organizational reform								X	X		2
	Organizational processes, policies and guidelines		X		X	X	X	X	X	X	X	8
	Supporting functions		X							X		2
	Knowledge of in-house companies									X		1
	Knowledge of organizational resources									X		1
	Organizational culture and values		X								X	2
	Governance and compliance within organization		X		X	X	X	X				5
	Knowledge of organizational competence		X			X				X		3

Appendix 5. Definitions of final competence units

Competence area	Competence unit	Definition
Technical Project Management	Project entity management	The competence unit of project entity management focuses on the management of the project life cycle and project integration management, as well as the operational management of the project, on a general level. This includes initiating, planning, executing, monitoring, and completing a project. Managing the project as a whole requires expertise in all areas of project implementation.
	Project scope, benefit and objective management	The competence unit of project scope, benefit and objective management focuses on defining, managing and aligning the project scope and objectives to ensure the delivery of strategic value and targeted benefits.
	Project budget and cost management	The competence unit of project budget and cost management focuses on the effective planning, monitoring, management, and optimization of project financial resources to ensure project success within the set budget.
	Project schedule management	The competence unit of project schedule management includes planning, organizing, and tracking tasks to ensure that the project is completed on time. Managing a project schedule requires knowledge of different monitoring and evaluation methods.
	Project resource management	The competence unit of project resource management ensures the timely allocation and efficient utilization of people, materials, and technology to achieve the project's goals.

	Project quality management	The competence unit of project quality management ensures that the project outputs meet the defined quality criteria and stakeholder expectations.
	Project risk management	The competence unit of project risk management involves identifying, assessing, and mitigating potential threats that could affect the success of the project.
	Project stakeholder and communication management	The competence unit of project stakeholder and communication management includes identifying, analysing and engaging project stakeholders and ensuring that information flows efficiently between internal and external stakeholders throughout the project lifecycle.
	Project information and document management	The competence unit of project information and document management ensures the systematic storage, processing and distribution of all project-related information, materials and recordings.
	Project procurement, contract and supplier management	The competence unit of project procurement, contracts, and supplier management ensures that the necessary goods, services, and resources are procured cost-effectively, adhering to compliance and the set budget.
	Project management methodologies	The competence unit of project management methodologies is based on the selection of appropriate methodologies, which ensures that the project is carried out efficiently, achieving the objectives and staying within the scope, budget and time constraints.
	Project management standards and guides	The competence unit of project management standards and guides serve as frameworks to ensure consistent, high-quality, and compliant project management at all stages of the project lifecycle.
	Technical proficiency in relevant tools and systems	The technical proficiency of the essential systems and software ensures seamless project management, data processing and presentation, communication and personnel management.

Leadership and Interpersonal Competences	Management skills	The competence unit of management skills covers the skills and characteristics related to long-term planning and decision-making. The project manager must be able to manage and direct the project comprehensively, manage operations and changes in a project, and deal with resistance to change. Decision-making and delegation skills are essential, as they enable efficient use of resources and smooth project progress.
	Leadership skills	The competence unit of leadership skills focuses on leading and managing a project team and human resource managerial skills. A project manager must be able to lead a team, manage human resource management and resolve conflicts.
	Interaction and communication skills	The competence unit of interaction and communication skills are central to the work of a project manager. Good communication and presentation skills help in clear and effective communication.
Strategic and Business Management Competences	Strategic project management competences	The competence unit of strategic competences focuses on the larger strategic alignment of the project and impact enterprise architecture.
	Business skills	The competence unit of business competence covers the project manager's ability to understand the realities and goals of the business. This includes identifying financial and business benefits, maximizing value creation, and gaining an in-depth understanding of the company's performance indicators (KPIs).
	Financial expertise	The competence unit of finance expertise focuses on the financial aspects of project management. This includes the knowledge of financial instruments, and special expertise in the documentation and reporting of grants and funding.

Personal skills and Characteristics	Leadership attributes	The competence unit of leadership attributes refers to the personal qualities and abilities that make a person a good leader. A project manager must be reliable, responsible and able to make difficult decisions. They are able to inspire and motivate the team and show commitment to the project.
	Analytical and critical skills	The competence unit of analytical and critical skills encompasses the ability to analyse information, think critically and solve problems. The project manager must be accurate, systematic and realistic, and be able to acquire and create new information.
	Creativity and innovation	The competence unit of creativity and innovation includes skills related to open-mindedness, innovativeness and creativity. The project manager must be able to change and develop and focus on results and solutions.
	Social skills	The competence unit of social skills encompasses skills related to interacting with others. A project manager must be able to work in a team, and identify and regulate emotions. Empathy and diplomacy are also important.
	Organizing and productivity skills	The competence unit of organizing and productivity skills includes skills related to efficiency and productivity. A project manager must be able to organize, manage several things at a time, and have good written and IT skills.
	Flexibility and tolerance to pressure	The competence unit of flexibility and resistance to pressure encompasses the ability to adapt to changing situations and withstand pressure. A project manager must be flexible, optimistic and enthusiastic, and tolerate stress well.
Industry-Specific Competence Area	Legislation and regulation	The competence unit of legislation and regulation focuses on the project manager's ability to understand and manage the legal and regulatory requirements related to the industry. This unit of competence is particularly important in ensuring that the project operates in accordance with the law and complies with all relevant regulations and standards.

	Service systems	The competence unit of service systems focuses on the project manager's ability to understand and navigate the structures and operating principles of the social welfare, healthcare and rescue service systems.
	External operating environment	The competence unit of external operating environment competence unit focuses on the project manager's ability to understand and navigate the external operating context of the project.
	Substance and technology expertise	The competence unit of substance and technology expertise focuses on the project manager's technical and industry-specific capabilities, which are central to the implementation of the project. The project manager has an in-depth understanding of the project's implementation area, its terminology, and the technologies and information systems in use.
Organizational Familiarity	Structures and management systems	The competence unit of structures and management systems focuses on the project manager's ability to understand and utilize the organization's structures, management systems, and architectures in project implementation.
	Strategy and organizational culture	The competence unit of strategy and organizational culture focuses on the project manager's ability to understand the organization's strategic goals, values, objectives and culture.
	Processes and procedures	This competence unit of processes and procedures focuses on the project manager's ability to manage and understand the organization's resources, processes, and support functions. A project manager is able to optimize available resources and processes to achieve project efficiency and goals.

Appendix 6: Final project manager competence model

1. Technical project management

This area encompasses the ability to apply structured processes, methodologies, project management tools, and technical skills to manage the lifecycle of a project effectively. It includes understanding and adapting to project-specific needs while ensuring efficiency, quality, and alignment with objectives. This competence area focuses on the technical execution of a project.

1.1 Project entity management

The competence unit of project entity management focuses on the management of the project life cycle and project integration management, as well as the operational management of the pro-ject, on a general level. This includes initiating, planning, execut-ing, monitoring, and completing a project. Managing the project as a whole requires expertise in all areas of project implementa-tion.

1 SataPro model
2 Knowledge of the phases of the project life cycle (initiation, planning, execution, control, monitoring, closing, interruption)
3 Project description content knowledge and literacy
4 Creating Project Management Plan
5 Understanding and Selecting Project Management Approaches and Methods
6 Project Organization (structure, roles, responsibilities, practices, supervision, decision-making, reporting)
7 Directing and Managing Project Execution and Work
8 Closing Project Phase and Transitioning to New Project Phase
9 Monitoring and Evaluating Project Progress and Reporting Project Status
10 Identifying and Managing Project Changes and Issues
11 Closing Project and Preparing Final Report
12 Collecting Project Lessons Learned and Stakeholder Feedback

1.2 Project scope, objective, and benefit management

The competence unit of project scope, benefit and objective management focuses on defining, managing and aligning the project scope and objectives to ensure the delivery of strategic value and targeted benefits.

13 Collecting, documenting, and prioritizing stakeholder elements and acceptance criteria
14 Structuring and setting project scope
15 Defining project deliverables, goals, and objectives
16 Identifying dependencies between desired benefits, deliverables, outcomes, and other projects
17 Defining project work packages (Work Breakdown Structure) and structuring phases
18 Monitoring and managing scope (Scope creep) and implementing changes
19 Ensuring the project delivers value and aligns with strategic objectives
20 Validating project deliverables and outcomes

1.3 Project budget and cost management

The competence unit of project budget and cost management focuses on the effective planning, monitoring, management, and optimization of project financial resources to ensure project suc-cess within the set budget.

21 Estimation of project costs
22 Setting the project budget
23 Planning for project cost management
24 Knowledge of cost centers and invoicing
25 Monitoring, managing, forecasting, and reporting project costs
26 Earned Value Method
27 Managing changes to the project budget

1.4 Project schedule management

The competence unit of project schedule management includes planning, organizing, and tracking tasks to ensure that the project is completed on time. Managing a project schedule requires knowledge of different monitoring and evaluation methods.

28 Preparing a schedule management plan
29 Identifying tasks required for project execution
30 Estimating workload and task duration

31 Sequencing tasks, defining dependencies, and creating a schedule
32 Gantt chart
33 Critical Path Method (CPM)
34 Program Evaluation and Review Technique (PERT)
35 Rolling Wave Principle
36 Milestones and gates
37 Activity network
38 Buffer determination
39 Monitoring, controlling, forecasting, and reporting the project schedule
40 Managing schedule changes

1.5 Project resource management

The competence unit of project resource management ensures the timely allocation and efficient utilization of people, materials, and technology to achieve the project's goals.

41 Identifying resource needs (people, facilities, equipment, tools, materials, software)
42 Developing a resource management plan
43 Acquiring and allocating resources
44 Resource levelling
45 Monitoring and reporting resource usage
46 Managing resource conflicts

1.6 Project quality management

The competence unit of project quality management ensures that the project outputs meet the defined quality criteria and stakeholder expectations.

47 Identifying project quality elements and defining quality indicators
48 Developing a quality management plan
49 Monitoring and evaluating project performance and result quality
50 Managing quality deviations (corrective and preventive actions)

1.7 Project risk management

The competence unit of project risk management involves identi-fying, assessing, and mitigating potential threats that could affect the success of the project.

51 Identifying sources of risk
52 Identifying and assessing risks and opportunities
53 Evaluating and analyzing risks and opportunities
54 Selection and implementation of risk management measures
55 Monitoring and reporting risks
56 Identifying sources of risk

1.8 Project stakeholder and communication management

The competence unit of project stakeholder and communication management includes identifying, analysing and engaging project stakeholders and ensuring that information flows efficiently be-tween internal and external stakeholders throughout the project lifecycle.

57 Identifying internal and external stakeholders and their communication needs
58 Classifying stakeholders based on interests and influence
59 Defining information flows and communication channels
60 Preparing a communication plan and stakeholder engagement strategy
61 Managing stakeholder expectations and engagement, ensuring smooth communication

1.9 Project information and document management

The competence unit of project information and document man-agement ensures the systematic storage, processing and distri-bution of all project-related information, materials and recordings.

62 Planning and communicating policies and responsibilities for managing information and documents within a project
63 Defining the information to be managed and reported
64 Producing project-related information and documentation, such as plans, reports, and presentations
65 Storing, tracking, and sharing project information for project management, implementation, and decision-making
66 Handling and archiving project documentation for externally funded projects
67 Managing documents and information in accordance with regulations, guidelines, and information security practices

1.10 Project procurement, contract and supplier management

The competence unit of project procurement, contracts, and supplier management ensures that the necessary goods, services, and resources are procured cost-effectively, adhering to compliance and the set budget.

68 Identifying procurement needs
69 Preparing a procurement plan
70 Ensuring compliance with procurement laws, regulations, and internal procedures
71 Preparing and conducting procurement and tendering processes
72 Evaluating and selecting suppliers
73 Negotiating and concluding contracts
74 Implementing and monitoring procurements
75 Managing and monitoring contracts and supplier relationships

1.11 Project management methodologies

The competence unit of project management methodologies is based on the selection of appropriate methodologies, which ensures that the project is carried out efficiently, achieving the ob-jectives and staying within the scope, budget and time constraints.

76 Predictive (Waterfall)
77 Iterative
78 Incremental
79 Adaptive
80 Agile project management
81 Scrum
82 Kanban
83 Scrumban
84 SAFe
85 Hybrid project management
86 PRINCE2
87 Lean project management

1.12 Project management standards and guides

The competence unit of project management standards and guides serve as frameworks to ensure consistent, high-quality, and compliant project management at all stages of the project lifecycle.

88 Project Management Body of Knowledge (PMBOK)
89 SFS-ISO 21502:2021 Project, program, and portfolio management. Guidance on project management
90 IPMA Individual Competence Baseline (IPMA ICB4)
91 PRINCE2

1.13 Technical proficiency in relevant tools and systems

The technical proficiency of the essential systems and software ensures seamless project management, data processing and presentation, communication and personnel management.

92 Thinking Portfolio
93 Satanen intranet
94 Reporting systems
95 Microsoft Office tools (Word, Excel, PowerPoint, Outlook, Onedrive, Teams)
96 Human resources management systems
97 IMS document management system

2. Leadership and interpersonal competences

This competence area focuses on leadership and com-munication skills, and the ability to inspire, guide, and collaborate with individuals and teams to achieve pro-ject goals effectively. It encompasses the skills neces-sary to motivate, influence, and manage people in a way that drives project success. It includes building and maintaining relationships, facilitating, decision-making, conflict resolution, and crisis management.

2.1 Management skills

The competence unit of management skills covers the skills and characteristics related to long-term planning and decision-making. The project manager must be able to manage and direct the project comprehensively, manage operations and changes in a project, and deal with resistance to change. Decision-making and delegation skills are essential, as they enable efficient use of resources and smooth project progress.

1 Management skills
2 Operational management
3 Change management and change resistance management
4 Decision-making and delegation skills

2.1 Leadership skills

The competence unit of leadership skills focuses on leading and managing a project team and human resource managerial skills. A project manager must be able to lead a team, manage human resource management and resolve conflicts.

5 Personnel management, supervisory skills, and administrative expertise
6 Management and governance of capabilities and competence
7 Mentoring and coaching leadership
8 Conflict resolution skills and crisis management
9 Cultural competence and diversity sensitivity
10 Negotiation and influencing skills
11 Personnel management, supervisory skills, and administrative expertise

2.3 Interaction and communication skills

The competence unit of interaction and communication skills are central to the work of a project manager. Good communication and presentation skills help in clear and effective communication.

12 Reporting and information skills
13 Communication and presentation skills
14 Facilitation skills
15 Networking, collaboration, stakeholder engagement, and relationship management

3. Strategic and business management

This competence area focuses on the ability to understand the business environment, make decisions that contribute to organizational value, and manage projects in a way that supports business success. It involves bridging the gap between the technical aspects of project execution and the larger strategic goals of the organization. It ensures that projects are not only com-pleted on time and within scope but also deliver measurable business value aligning with the strategy.

3.1 Strategic project management competences

The competence unit of strategic competences focuses on the larger strategic alignment of the project and impact enterprise architecture.

1 Strategic alignment of the project and adaptation to strategic changes
2 Project impact on enterprise architecture

3.2 Business skills

The competence unit of business competence covers the project manager's ability to understand the realities and goals of the business. This includes identifying financial and business benefits, maximizing value creation, and gaining an in-depth understanding of the company's performance indicators (KPIs).

3 Project’s impact on business and impact management
4 Value creation and benefit management
5 Knowledge and understanding of key business performance indicators (KPIs)
6 Understanding cost-benefit analysis
7 Understanding synergies and benefits across units and industries

3.3 Financial expertise

The competence unit of finance expertise focuses on the financial aspects of project management. This includes the knowledge of financial instruments, and special expertise in the documentation and reporting of grants and funding.

8 Financial competence and knowledge of financial instruments
9 Knowledge of the special characteristics of financing and grants (documentation, reporting, administration)

4. Personal skills and characteristics

This competence area focuses on the intrinsic qualities, behaviours, and personal attributes. It encompasses self-awareness, adaptability, and the ability to positively influence team dynamics through personal strengths. It highlights the importance of integrity, confidence, and a proactive mindset in achieving project success. These are individuals' internal attributes and characteristics.

4.1 Leadership attributes

The competence unit of leadership attributes refers to the per-sonal qualities and abilities that make a person a good leader. A project manager must be reliable, responsible and able to make difficult decisions. They are able to inspire and motivate the team and show commitment to the project.

1 Know how to lead myself
2 Show commitment to the project and self-confidence
3 Know how to inspire and motivate, and I get others to give their best
4 Objective and diplomatic
5 Able yo make difficult decisions
6 Can give constructive feedback and receive it
7 Reliable and responsible

4.2 Analytical and critical skills

The competence unit of analytical and critical skills encompasses the ability to analyse information, think critically and solve problems. The project manager must be accurate, systematic and realistic, and be able to acquire and create new information.

8 Realistic and capable of critical thinking
9 Analytical, precise and systematic
10 Capable of holistic and conceptual thinking
11 Problem-solving skills
12 Able to acquire information and create new information from the information collected

4.3 Creativity and innovation

The competence unit of creativity and innovation includes skills related to open-mindedness, innovativeness and creativity. The project manager must be able to change and develop and focus on results and solutions.

13 Innovative and creative
14 Open-minded
15 Capable of change and development

4.4 Social skills

The competence unit of social skills encompasses skills related to interacting with others. A project manager must be able to work in a team, and identify and regulate emotions. Empathy and di-plomacy are also important.

16 Able to work both alone and, in a team, and I get along with people
17 Good listening skills
18 Aware of one's own emotions, know how to regulate them, recognize the emotions of others, ethical and empathetic

4.5 Organizing and productivity skills

The competence unit of organizing and productivity skills includes skills related to efficiency and productivity. A project manager must be able to organize, manage several things at a time, and have good written and IT skills.

19 Organizing
20 Able to manage several things at a time
21 Efficient and productive
22 Good literary skills
23 Result- and solution-oriented
24 Good IT skills

4.6 Flexibility and tolerance to pressure

The competence unit of flexibility and resistance to pressure encompasses the ability to adapt to changing situations and withstand pressure. A project manager must be flexible, optimistic and enthusiastic, and tolerate stress well.

25 Flexible and adaptable
26 Optimistic and enthusiastic
27 Tolerance to pressure and stress

5. Industry-specific competences

This competence area refers to the specialized knowledge, skills, and expertise required to effectively manage projects within a particular industry. This area recognizes that each industry has unique standards, regulations, and stakeholders. It encompasses the abil-ity to apply industry-relevant expertise, comply with sector-specific regulations, and understand the external environment in which projects operate.

5.1 Legislation and regulation

The competence unit of legislation and regulation focuses on the project manager's ability to understand and manage the legal and regulatory requirements related to the industry. This unit of com-petence is particularly important in ensuring that the project op-erates in accordance with the law and complies with all relevant regulations and standards.

1 Knowledge of industry-specific laws, regulations, acts, practices, standards, and guidelines
2 Knowledge and familiarity with the statutory duties of service providers
3 Knowledge of the steering and managing authorities and their impact on the project

5.2 Service systems

The competence unit of service systems focuses on the project manager's ability to understand and navigate the structures and operating principles of the social welfare, healthcare and rescue service systems.

4 Knowledge of the social and health care service system
5 Knowledge of the rescue service system
6 Knowledge of the field of corporate and administrative services

5.3 External operating environment

The competence unit of external operating environment competence unit focuses on the project manager's ability to understand and navigate the external operating context of the project.

7 Understanding of the external operating environment and the development of the industry
8 Knowledge of the national situation
9 Knowledge of different cross-sectoral interfaces and cooperation
10 Knowledge of sectoral cooperation networks and events

5.4 Substance and technology expertise

The competence unit of substance and technology expertise fo-cuses on the project manager's technical and industry-specific capabilities, which are central to the implementation of the pro-ject. The project manager has an in-depth understanding of the project's implementation area, its terminology, and the technolo-gies and information systems in use.

11 Substantive expertise in the field where the project is carried out
12 Knowledge of industry-specific information systems and software
13 Knowledge of industry and sector-specific terminology

6. Organizational familiarity

This competence area involves understanding the or-ganizational structure, culture, and processes. It em-phasizes the ability to navigate organizational complexi-ties, foster collaboration, comply organizational policies, and ensure seamless integration of projects into the overall internal environment.

6.1 Structures and management systems

The competence unit of structures and management systems focuses on the project manager's ability to understand and utilize the organization's structures, management systems, and archi-tectures in project implementation.

1 Knowledge of the organisational structure, administrative structure and cost centre structure
2 Knowledge of the management system and decision-making processes
3 Knowledge of the service package
4 Knowledge of enterprise and service architecture

6.2 Strategy and organizational culture

The competence unit of strategy and organizational culture fo-cuses on the project manager's ability to understand the organization's strategic goals, values, objectives and culture.

5 Knowledge of strategy, values and goals
6 Knowledge of organizational culture
7 Knowledge of the project portfolio and ongoing projects

6.3 Processes and procedures

This competence unit of processes and procedures focuses on the project manager's ability to manage and understand the organization's resources, processes, and support functions. A pro-ject manager is able to optimize available resources and process-es to achieve project efficiency and goals.

8 Knowledge of support functions and in-house companies
9 Knowledge of organizational resources and resource allocation opportunities
10 Knowledge of organizational processes, policies, and guidelines
11 Knowledge of the organisation's competence and competence development opportunities
12 Knowledge of internal networks and communication channels

Appendix 7. Final project manager competence self-assessment tool

Wellbeing Services County of Satakunta Version 1.0, EN, 28.4.2025

Competence Self-Assessment Tool for Porject Managers

Project management competence is divided into six competence areas:

- Technical project management competence
- Leadership and interpersonal competences
- Strategic and business management competences
- Personal skills and characteristics
- Industry-specific competences
- Organizational familiarity

Each competence area is divided into competence units (32) and further into competence elements (173),which will be assessed.
The assessment uses a scale of 0 to 5, described in the table below.
You can find the scale and interpretations to be used before each section of the self-assessment form.
The scale is applied taking into account the special characteristics of the competence area to be assessed.
You can see the results summary and your own skills map on the "Results" tab.
The result summary is given at the competence unit level and the competency map at the competence area level.
You can find the self-assessment form on the next "Self-assessment form" tab.

Rating system

Level		Knowledge	Application	Experience	Skills / Describe me
0	**Unaware**	Has no awareness of the knowledge needed for the competence.	No awareness and no application required at this level.	Has no experience in the competence.	None
1	**Aware**	Has basic awareness of the knowledge needed for the competence.	As only awareness is required at this level, no application is expected.	As only awareness is required at this level, no practical experience is expected.	Very little
2	**Developing**	Has a working knowledge of, and can describe, the competence.	Applies the competence under supervision, primarily in non complex situations.	Just a little practical experience of application. Strongly relied on the guidance of a more experienced person.	Some
3	**Proficient**	Has a comprehensive knowledge of the competence in situations of limited complexity.	Applies the competence independently, primarily in situations of limited complexity.	Moderate experience to apply independently in practice.	Moderately
4	**Advanced**	Has a detailed knowledge of the competence in complex situations and can critically evaluate and adapt as required.	Applies the competence independently, primarily in complex situations. Supervises others applying the competence.	Extensive experience in application in complex situations.	Much
5	**Expert**	Has an in-depth knowledge of the competence in complex situations. Can critically evaluate, adapt or develop new theories and/ or methods if required and educate others.	Applies the competence independently, primarily in complex situations. Recognised as an expert by other senior professionals, who is called on by others for advice on the competence.	Very much experience in application in multidisciplinary and highly complex contexts. Specializes in the subject.	Very much

GO TO THE "SELF-ASSESSMENT FORM" TAB TO FILL OUT THE FORM

To consider when using the self-assessment tool and interpreting the results

The project manager's competence assessment tool is intended for assessing one's own competence, to support competence development or when recruiting a project manager for a project manager's position. The results of the self-assessment tool are indicative and cannot be used as the only indicator for assessing competence. Competence must also be demonstrated or verified. The results of the self-assessment tool can be validated by asking a colleague or supervisor to fill in a form to assess your competence. In this way, the bias in assessment can be mitigated.

The self-assessment tool, including competence areas, competence elements, competence requirements and assessment scale, is based on various sources, including the SataPro model, four international project management standards and guides, a project management book, a master's thesis, interviews with project managers in the wellbeing services county of Satakunta, and a workshop at the PMO of the wellbeing services county of Satakunta. The project manager's competence model and competence assessment tool have been made as a master's thesis at Vaasa University of Applied Sciences for the wellbeing services county of Satakunta.

Author: Heikki Valli
2025

Part 1: Technical project management

The project management competence area is divided into 13 competence units, which are further divided into a total of 97 competence elements. Assess your own project management skills by assessing your knowledge, application skills and experience of the competence elements presented on the form. The assessment of project management competence begins at a general level with the competence to manage the project as a whole, after which you will assess your knowledge and skills related to project management at a more detailed level.
For each competence elements, choose the level that best describes your competence on a scale of 0 to 5.
The evaluation scale and descriptions are described below. You can find more detailed descriptions of the rating scale on the Home tab.
Put an x (a small x) at the most appropriate level.

Scale	0	1	2	3	4	5
Description	**Unaware**	**Aware**	**Developing**	**Proficient**	**Advanced**	**Expert**
Knowledge	No awareness	Basic awareness	Practical knowledge	Comprehensive knowledge	Detailed knowledge	Expert level knowledge
Application	N/A	No application is expected.	Simple and supervised application	Independent application in moderate complexity	Application in complex situations	Expert level application
Experience	N/A	No experience	Some experience	Moderately experience	Experienced	Very experienced

1. Project entity management

		Scaling	0	1	2	3	4	5	Selection
1	SataPro model								No selection
2	Knowledge of the phases of the project life cycle (initiation, planning, execution, control, monitoring, closing, interruption)								No selection
3	Project description content knowledge and literacy								No selection
4	Creating Project Management Plan								No selection
5	Understanding and Selecting Project Management Approaches and Methods								No selection
6	Project Organization (structure, roles, responsibilities, practices, supervision, decision-making, reporting)								No selection
7	Directing and Managing Project Execution and Work								No selection
8	Closing Project Phase and Transitioning to New Project Phase								No selection
9	Monitoring and Evaluating Project Progress and Reporting Project Status								No selection
10	Identifying and Managing Project Changes and Issues								No selection
11	Closing Project and Preparing Final Report								No selection
12	Collecting Project Lessons Learned and Stakeholder Feedback								No selection
								Average	#DIV/0!
								Interpretation:	#DIV/0!

2. Project scope, objective, and benefit management

		Scaling	0	1	2	3	4	5	Selection
13	Collecting, documenting, and prioritizing stakeholder elements and acceptance criteria								No selection
14	Structuring and setting project scope								No selection
15	Defining project deliverables, goals, and objectives								No selection
16	Identifying dependencies between desired benefits, deliverables, outcomes, and other projects								No selection
17	Defining project work packages (Work Breakdown Structure) and structuring phases								No selection
18	Monitoring and managing scope (Scope creep) and implementing changes								No selection
19	Ensuring the project delivers value and aligns with strategic objectives								No selection
20	Validating project deliverables and outcomes								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

3. Project budget and cost management	Scaling	0	1	2	3	4	5	Selection
21	Estimation of project costs							No selection
22	Setting the project budget							No selection
23	Planning for project cost management							No selection
24	Knowledge of cost centers and invoicing							No selection
25	Monitoring, managing, forecasting, and reporting project costs							No selection
26	Earned Value Method							No selection
27	Managing changes to the project budget							No selection
							Average:	#DIV/0!
							Interpretation:	#DIV/0!

4. Project schedule management	Scaling	0	1	2	3	4	5	Selection
28	Preparing a schedule management plan							No selection
29	Identifying tasks required for project execution							No selection
30	Estimating workload and task duration							No selection
31	Sequencing tasks, defining dependencies, and creating a schedule							No selection
32	Gantt chart							No selection
33	Critical Path Method (CPM)							No selection
34	Program Evaluation and Review Technique (PERT)							No selection
35	Rolling Wave Principle							No selection
36	Milestones and gates							No selection
37	Activity network							No selection
38	Buffer determination							No selection
39	Monitoring, controlling, forecasting, and reporting the project schedule							No selection
40	Managing schedule changes							No selection
							Average:	#DIV/0!
							Interpretation:	#DIV/0!

5. Project resource management	Scaling	0	1	2	3	4	5	Selection
41	Identifying resource needs (people, facilities, equipment, tools, materials, software)							No selection
42	Developing a resource management plan							No selection
43	Acquiring and allocating resources							No selection
44	Resource levelling							No selection
45	Monitoring and reporting resource usage							No selection
46	Managing resource conflicts							No selection
							Average:	#DIV/0!
							Interpretation:	#DIV/0!

6. Project quality management	Scaling	0	1	2	3	4	5	Selection
47	Identifying project quality elements and defining quality indicators							No selection
48	Developing a quality management plan							No selection
49	Monitoring and evaluating project performance and result quality							No selection
50	Managing quality deviations (corrective and preventive actions)							No selection
							Average:	#DIV/0!
							Interpretation:	#DIV/0!

7. Project risk management		Scaling	0	1	2	3	4	5	Selection
51	Identifying sources of risk								No selection
52	Identifying and assessing risks and opportunities								No selection
53	Evaluating and analyzing risks and opportunities								No selection
54	Selection and implementation of risk management measures								No selection
55	Monitoring and reporting risks								No selection
56	Identifying sources of risk								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

8. Project stakeholder and communication management		Scaling	0	1	2	3	4	5	Selection
57	Identifying internal and external stakeholders and their communication needs								No selection
58	Classifying stakeholders based on interests and influence								No selection
59	Defining information flows and communication channels								No selection
60	Preparing a communication plan and stakeholder engagement strategy								No selection
61	Managing stakeholder expectations and engagement, ensuring smooth communication								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

9. Project information and document management		Scaling	0	1	2	3	4	5	Selection
62	Planning and communicating policies and responsibilities for managing information and documents within a project								No selection
63	Defining the information to be managed and reported								No selection
64	Producing project-related information and documentation, such as plans, reports, and presentations								No selection
65	Storing, tracking, and sharing project information for project management, implementation, and decision-making								No selection
66	Handling and archiving project documentation for externally funded projects								No selection
67	Managing documents and information in accordance with regulations, guidelines, and information security practices								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

10. Project procurement, contract and supplier management		Scaling	0	1	2	3	4	5	Selection
68	Identifying procurement needs								No selection
69	Preparing a procurement plan								No selection
70	Ensuring compliance with procurement laws, regulations, and internal procedures								No selection
71	Preparing and conducting procurement and tendering processes								No selection
72	Evaluating and selecting suppliers								No selection
73	Negotiating and concluding contracts								No selection
74	Implementing and monitoring procurements								No selection
75	Managing and monitoring contracts and supplier relationships								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

11. Project management methodologies		Scaling	0	1	2	3	4	5	Selection
76	Predictive (Waterfall)								No selection
77	Iterative								No selection
78	Incremental								No selection
79	Adaptive								No selection
80	Agile project management								No selection
81	Scrum								No selection
82	Kanban								No selection
83	Scrumban								No selection
84	SAFe								No selection
85	Hybrid project management								No selection
86	PRINCE2								No selection
87	Lean project management								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

12. Project management standards and guides		Scaling	0	1	2	3	4	5	Selection
88	Project Management Body of Knowledge (PMBOK)								No selection
89	SFS-ISO 21502:2021 Project, program, and portfolio management. Guidance on project management								No selection
90	IPMA Individual Competence Baseline (IPMA ICB4)								No selection
91	PRINCE2								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

13. Technical proficiency in relevant tools and systems		Scaling	0	1	2	3	4	5	Selection
92	Thinking Portfolio								No selection
93	Satanen intranet								No selection
94	Reporting systems								No selection
95	Microsoft Office tools (Word, Excel, PowerPoint, Outlook, Onedrive, Teams)								No selection
96	Human resources management systems								No selection
97	IMS document management system								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

Result	**Part 1: Technical project management**
Average:	#DIV/0!
Interpretation:	#DIV/0!

Part 2: Leadership and interpersonal competences

The competence area of Leadership and interpersonal competences is divided into three competence units and further into 15 competence elements. Assess your own leadership and interaction skills by assessing the suitability of the competence elements presented on the form.
For each competence requirement, choose the level that best describes your competence on a scale of 0 to 5.
Below is a description of the rating system and descriptions.
You can find more detailed descriptions of the rating scale on the "Starting page" tab.
Put an x (a small x) at the most appropriate level.

Scale	0	1	2	3	4	5
Description	**Unaware**	**Aware**	**Developing**	**Proficient**	**Advanced**	**Expert**
Skills	None	Very little	Some	Moderately	Much	Very much
Experience	N/A	No experience	Some experience	Moderately experienced	Experienced	Very experienced

1. Management skills

		Scaling	0	1	2	3	4	5	Selection
1	Management skills								No selection
2	Operational management								No selection
3	Change management and change resistance management								No selection
4	Decision-making and delegation skills								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

2. Leadership skills

		Scaling	0	1	2	3	4	5	Selection
5	Personnel management, supervisory skills, and administrative expertise								No selection
6	Management and governance of capabilities and competence								No selection
7	Mentoring and coaching leadership								No selection
8	Conflict resolution skills and crisis management								No selection
9	Cultural competence and diversity sensitivity								No selection
10	Negotiation and influencing skills								No selection
11	Personnel management, supervisory skills, and administrative expertise								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

3. Interaction and communication skills

		Scaling	0	1	2	3	4	5	Selection
12	Reporting and information skills								No selection
13	Communication and presentation skills								No selection
14	Facilitation skills								No selection
15	Networking, collaboration, stakeholder engagement, and relationship management								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

Result	**Part 2: Leadership and interpersonal competences**
Average:	#DIV/0!
Interpretation:	#DIV/0! leadership and interpersonal competences

Part 3: Strategic and business management

The competence area of Strategic and business management competences is divided into 3 competence units and further into 9 competence elements. Assess your own strategic and business skills by assessing the suitability of the competence elements presented on the form.
For each competence elements, choose the level that best describes your competence on a scale of 0 to 5.
Below is a description of the rating system and descriptions.
You can find more detailed descriptions of the rating scale on the "Starting page" tab.
Put an x (a small x) at the most appropriate level.

Scale	0	1	2	3	4	5
Description	**Unaware**	**Aware**	**Developing**	**Proficient**	**Advanced**	**Expert**
Skills	None	Very little	Some	Moderately	Much	Very much
Experience	N/A	No experience	Some experience	Moderately experienced	Experienced	Very experienced

1. Strategic project management competences

		Scaling	0	1	2	3	4	5	Tulos
1	Strategic alignment of the project and adaptation to strategic changes								No selection
2	Project impact on enterprise architecture								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

2. Business skills

		Scaling	0	1	2	3	4	5	Selection
3	Project's impact on business and impact management								No selection
4	Value creation and benefit management								No selection
5	Knowledge and understanding of key business performance indicators (KPIs)								No selection
6	Understanding cost-benefit analysis								No selection
7	Understanding synergies and benefits across units and industries								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

3. Financial expertise

		Scaling	0	1	2	3	4	5	Selection
8	Financial competence and knowledge of financial instruments								No selection
9	Knowledge of the special characteristics of financing and grants (documentation, reporting, administration)								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

Result **Part 3: Strategic and business management**

Average: #DIV/0!
Interpretation: #DIV/0! strategic and business skills.

Part 4: Personal skills and characteristics

The competence area of personal skills and characteristics is divided into 6 competence units and further into 27 skills and characteristics.
Assess your own personality by assessing the suitability of the skills and characteristics presented on the form.
For each skill and attribute, choose the level that best describes you on a scale of 0-5.
The rating system and descriptions are described below.
You can find more detailed descriptions of the rating scale on the "Starting page" tab.
Put an x (a small x) at the most appropriate level.

Scale	0	1	2	3	4	5
Description	Unaware	Aware	Developing	Proficient	Advanced	Expert
Describe me	Not at all	Very little	Some	Moderately	Much	Very much

1. Leadership attributes

		Scaling	0	1	2	3	4	5	Tulos
1	I know how to lead myself								No selection
2	I show commitment to the project and self-confidence								No selection
3	I know how to inspire and motivate, and I get others to give their best								No selection
4	I am objective and diplomatic								No selection
5	I can make difficult decisions								No selection
6	I can give constructive feedback and receive it								No selection
7	I am reliable and responsible								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

2. Analytical and critical skills

		Scaling	0	1	2	3	4	5	Tulos
8	I am realistic and capable of critical thinking								No selection
9	I am analytical, precise and systematic								No selection
10	I am capable of holistic and conceptual thinking								No selection
11	I have good problem-solving skills								No selection
12	I am able to acquire information and create new information from the information I have collected								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

3. Creativity and innovation

		Scaling	0	1	2	3	4	5	Tulos
13	I'm innovative and creative								No selection
14	I'm open-minded								No selection
15	I am capable of change and development								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

4. Social skills

		Scaling	0	1	2	3	4	5	Tulos
16	I am able to work both alone and, in a team, and I get along with people								No selection
17	I have good listening skills								No selection
18	I'm aware of my own emotions and know how to regulate them, I also recognize the emotions of others, I am ethical and empathetic								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

5. Organizing and productivity skills		Scaling	0	1	2	3	4	5	Tulos
19	I'm organizing								No selection
20	I'm able to manage several things at a time								No selection
21	I'm efficient and productive								No selection
22	I have good literary skills								No selection
23	I am result- and solution-oriented								No selection
24	I have good IT skills								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

6. Flexibility and tolerance to pressure		Scaling	0	1	2	3	4	5	Tulos
25	I am flexible and adaptable								No selection
26	I'm optimistic and enthusiastic								No selection
27	I tolerate pressure and stress well								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

Result **Part 4: Personal skills and characteristics**

Average: #DIV/0!

Interpretation: Describes me #DIV/0! .

Part 5: Industry-specific competences

The competence area of field-specific competence is divided into 4 competence units and further into 13 competence elements.
Assess your field-specific skills and knowledge in the industry in which the project is carried out.
For each competence elements, choose the level that best describes you on a scale of 0 to 5.
Below is a description of the rating system and descriptions.
You can find more detailed descriptions of the rating scale on the "Starting page" tab.
Put an x (a small x) at the most appropriate level.

Scale	0	1	2	3	4	5
Description	**Unaware**	**Aware**	**Developing**	**Proficient**	**Advanced**	**Expert**
Knowledge	No awareness	Basic awareness	Practical knowledge	Comprehensive knowledge	Detailed knowledge	Expert level knowledge
Application	N/A	No application is expected.	Simple and supervised application	Independent application in moderate complexity	Application in complex situations	Expert level application
Experience	N/A	No experience	Some experience	Moderately experience	Experienced	Very experienced

1. Legislation and regulation

		Scaling	0	1	2	3	4	5	Tulos
1	Knowledge of industry-specific laws, regulations, acts, practices, standards, and guidelines								No selection
2	Knowledge and familiarity with the statutory duties of service providers								No selection
3	Knowledge of the steering and managing authorities and their impact on the project								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

2. Service systems

		Scaling	0	1	2	3	4	5	Tulos
4	Knowledge of the social and health care service system								No selection
5	Knowledge of the rescue service system								No selection
6	Knowledge of the field of corporate and administrative services								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

3. External operating environment		Scaling	0	1	2	3	4	5	Tulos
7	Understanding of the external operating environment and the development of the industry								No selection
8	Knowledge of the national situation								No selection
9	Knowledge of different cross-sectoral interfaces and cooperation								No selection
10	Knowledge of sectoral cooperation networks and events								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

4. Substance and technology expertise		Scaling	0	1	2	3	4	5	Tulos
11	Substantive expertise in the field where the project is carried out								No selection
12	Knowledge of industry-specific information systems and software								No selection
13	Knowledge of industry and sector-specific terminology								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

Result	**Part 5: Industry-specific competences**	
Average:	#DIV/0!	
Interpretation:	#DIV/0!	knowledge of industry and field I am working in.

Part 6: Organizational familiarity

The competence area of knowledge of the organization is divided into 3 competence units and further into 12 competence elements.
Assess your knowledge of the organization using the competence elements.
For each competence elements, choose the level that best describes you on a scale of 0 to 5.
Below is a description of the rating system and descriptions.
You can find more detailed descriptions of the rating scale on the "Starting page" tab.
Put an x (a small x) at the most appropriate level.

Scale	0	1	2	3	4	5
Description	Unaware	Aware	Developing	Proficient	Advanced	Expert
Knowledge	None	Very little	Some	Moderately	Much	Very much

1. Structures and management systems

		Scaling	0	1	2	3	4	5	Tulos
1	Knowledge of the organisational structure, administrative structure and cost centre structure								No selection
2	Knowledge of the management system and decision-making processes								No selection
3	Knowledge of the service package								No selection
4	Knowledge of enterprise and service architecture								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

2. Strategy and organizational culture

		Scaling	0	1	2	3	4	5	Tulos
5	Knowledge of strategy, values and goals								No selection
6	Knowledge of organizational culture								No selection
7	Knowledge of the project portfolio and ongoing projects								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

3. Processes and procedures

		Scaling	0	1	2	3	4	5	Tulos
8	Knowledge of support functions and in-house companies								No selection
9	Knowledge of organizational resources and resource allocation opportunities								No selection
10	Knowledge of organizational processes, policies, and guidelines								No selection
11	Knowledge of the organisation's competence and competence development opportunities								No selection
12	Knowledge of internal networks and communication channels								No selection
								Average:	#DIV/0!
								Interpretation:	#DIV/0!

Result **Part 6: Organizational familiarity**

Average: #DIV/0!
Interpretation: #DIV/0! knowledge of the organization.

GO TO THE "RESULTS" TAB TO VIEW THE RESULTS

Results

On this page, you can find the results by competence area with the level of competence elements. At the end of the page, you will find a summary and your skills map.

Part 1: Technical project management	Result	
	Selection	Expertise
Project entity management	#DIV/0!	#DIV/0!
Project scope, benefit and objective management	#DIV/0!	#DIV/0!
Project budget and cost management	#DIV/0!	#DIV/0!
Project schedule management	#DIV/0!	#DIV/0!
Project resource management	#DIV/0!	#DIV/0!
Project quality management	#DIV/0!	#DIV/0!
Project risk management	#DIV/0!	#DIV/0!
Project stakeholder and communication management	#DIV/0!	#DIV/0!
Project information and document management	#DIV/0!	#DIV/0!
Project procurement, contract and supplier management	#DIV/0!	#DIV/0!
Project management methodologies	#DIV/0!	#DIV/0!
Project management standards and guides	#DIV/0!	#DIV/0!
Technical proficiency in relevant tools and systems	#DIV/0!	#DIV/0!
Average	#DIV/0!	
Interpretation:	#DIV/0!	

Part 2: Leadership and interpersonal competences	Result	
	Selection	Knowledge
Management skills	#DIV/0!	#DIV/0!
Leadership skills	#DIV/0!	#DIV/0!
Interaction and communication skills	#DIV/0!	#DIV/0!
Average	#DIV/0!	
Interpretation:	#DIV/0!	leaderships and management skills.

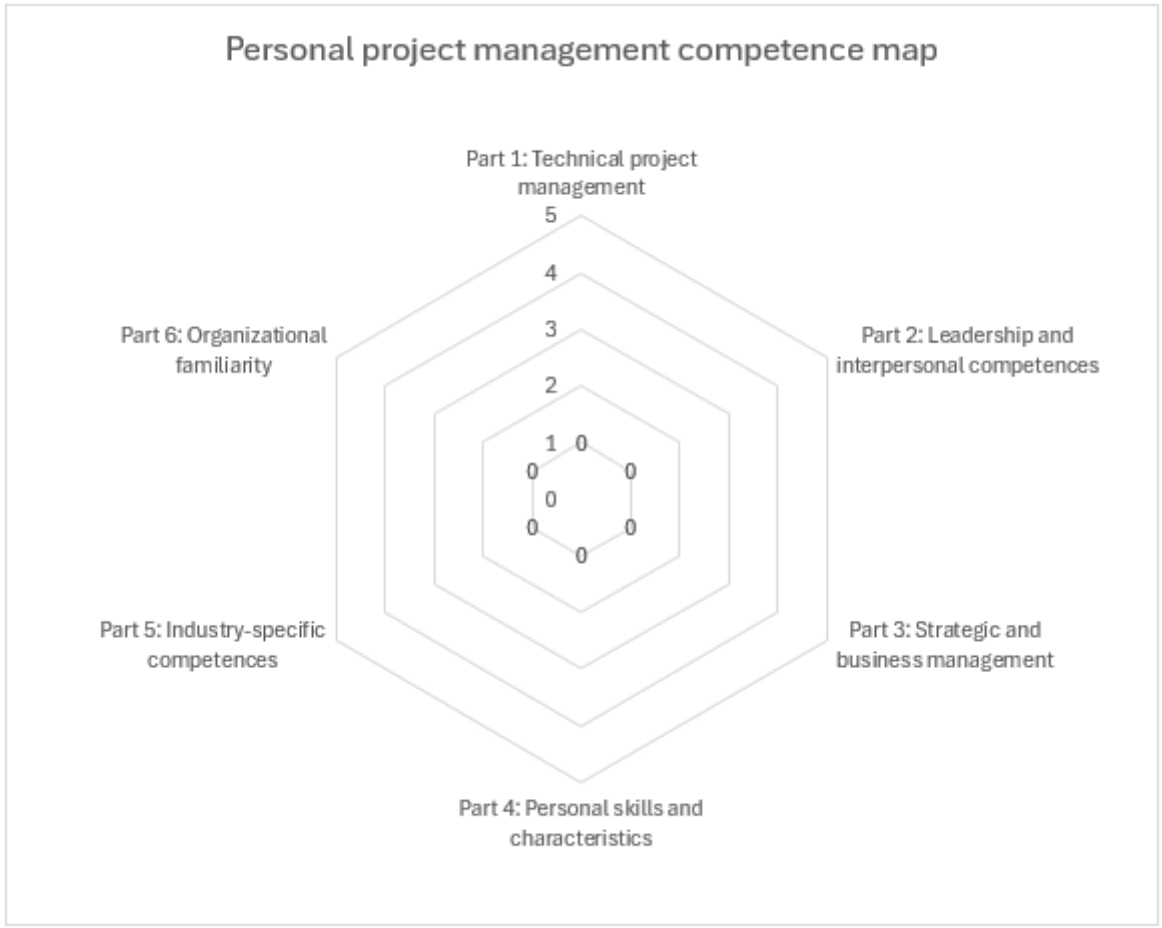
Part 3: Strategic and business management	Result	
	Selection	Knowledge
Strategic project management competences	#DIV/0!	#DIV/0!
Business skills	#DIV/0!	#DIV/0!
Financial expertise	#DIV/0!	#DIV/0!
Average	#DIV/0!	
Interpretation:	#DIV/0!	strategic and business skills.

Part 4: Personal skills and characteristics	Result	
	Selection	Describes me
Leadership attributes	#DIV/0!	#DIV/0!
Analytical and critical skills	#DIV/0!	#DIV/0!
Creativity and innovation	#DIV/0!	#DIV/0!
Social skills	#DIV/0!	#DIV/0!
Organizing and productivity skills	#DIV/0!	#DIV/0!
Flexibility and tolerance to pressure	#DIV/0!	#DIV/0!
Average	#DIV/0!	
Interpretation:	Describes me #DIV/0!	

Part 5: Industry-specific competences	Result	
	Selection	Knowledge
Legislation and regulation	#DIV/0!	#DIV/0!
Service systems	#DIV/0!	#DIV/0!
External operating environment	#DIV/0!	#DIV/0!
Substance and technology expertise	#DIV/0!	#DIV/0!
Average	#DIV/0!	
Interpretation:	#DIV/0!	knowledge of inrdustry or field.

Part 6: Organizational familiarity	Result	
	Selection	Knowledge
Structures and management systems	#DIV/0!	#DIV/0!
Strategy and organizational culture	#DIV/0!	#DIV/0!
Processes and procedures	#DIV/0!	#DIV/0!
Average	#DIV/0!	
Interpretation:	#DIV/0!	knowledge of the organization.

Results summary and your personal project management competence map	Average
Part 1: Technical project management	#DIV/0!
Part 2: Leadership and interpersonal competences	#DIV/0!
Part 3: Strategic and business management	#DIV/0!
Part 4: Personal skills and characteristics	#DIV/0!
Part 5: Industry-specific competences	#DIV/0!
Part 6: Organizational familiarity	#DIV/0!


Personal project management competence map
Part 1: Technical project management
5
4
3
2
1
0
0
0
0
0
0
0
Part 2: Leadership and interpersonal competences
Part 3: Strategic and business management
Part 4: Personal skills and characteristics
Part 5: Industry-specific competences
Part 6: Organizational familiarity

Interpretation of the results and the competence map

If you got a score of 0 in an area of expertise, you are not familiar with the topic, you have no knowledge of the topic, or the statement does not describe you at all.
If you got a score of 1 in a certain area of expertise, you know the topic, you know what is being talked about, but you have no experience of the topic, or the statement describes you only very little.
If you got a score of 2 in a competence area, you know the topic, you have experience in the subject, you can apply some knowledge, or the statement describes you to some extent.
If you got a score of 3 in a certain area of expertise, you have extensive knowledge and experience in the subject area, you know how to apply the knowledge, or the statement describes you moderately.
If you got a score of 4 in a certain area of expertise, you know the topic in detail, you have years of experience in the subject, or the statement describes you a lot.
If you got a score of 5 in a certain area of expertise, you are an expert with in-depth knowledge and mastery of the subject area, with several years of experience, or the statement describes you very much.

The competence map describes the Averages of the Results you have received in different competence areas, forming a competence profile or a competence balance graph.
The more in-depth the competence in different competence areas, the larger the area covered in the competence map, and vice versa if the knowledge is low.
The competence map also shows which area of competence is your strength and which is your weakness.
You can use the results of the self-assessment tool to plan your own competence development by selecting the competence elements or areas for which you received the least points as development targets.

You can find your selected Selections and detailed results on the "Self-assessment form" tab, where you can view your Knowledge at the competence requirement level.