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Developing and Standardising Project Management Practices

A Case Study in an Electrification Solutions SME Context

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ABSTRACT:

This thesis explores how project management practices can be standardised in a medium-sized Finnish company operating in the electrification solutions sector. The company is experiencing rapid growth and a corresponding increase in the number of project managers, which has led to a widening range of practices and inconsistencies in internal processes and client-facing outputs. The aim of this research is to evaluate current project management practices, identify project managers' key responsibilities that influence project success, and propose development areas and internal guidelines to support more consistent project delivery across departments.

A qualitative case study methodology was employed. The primary data source consisted of twelve semi-structured interviews: ten with project managers and two with department stakeholders. The interviews were supported by document analysis and internal observations. The data were analysed using content analysis to identify recurring patterns, challenges, and opportunities for improvement in the company's project management approach.

The findings indicate that although project managers across departments follow a broadly similar project logic, their execution practices vary. These differences were especially prominent in project life cycle understanding, documentation management, role clarity, and knowledge sharing. Based on these findings and supported by literature, six development areas were identified for standardisation: establishing a common project life cycle, creating documentation templates and structures, defining project manager roles, formalising lessons learned, strengthening the PMO, and using a phased and lightweight standardisation strategy. In addition, a project management handbook was developed during the research as a practical tool to consolidate and communicate standardised practices.

The results are highly relevant for the case company and provide actionable recommendations that can support its growth, knowledge retention, and operational consistency. Although the findings can only be partially generalised due to the single-company scope, they offer valuable insights for other small and medium-sized (SME) enterprises facing similar challenges. Further research could investigate the long-term effects of standardisation initiatives and explore the development of project management methodologies and maturity models tailored to the SME context.

KEYWORDS: Project Management, Standardisation, Success, Documentation, Knowledge Transfer, Role and Tasks

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TIIVISTELMÄ:
Pro gradu -tutkielma tarkastelee, kuinka projektinhallinnan käytäntöjä voidaan yhdenmukaistaa suomalaisessa keskisuuressa yrityksessä, joka toimii sähköistysratkaisujen toimittajana. Yritys kasvaa nopeasti, mikä on lisännyt projektipäälliköiden määrää ja johtanut vaihteleviin toimintatapoihin sekä epäjohdonmukaisuuksiin sisäisissä prosesseissa ja asiakasviestinnässä. Tutkimuksen tavoitteena on arvioida nykyisiä projektinhallinnan käytäntöjä, tunnistaa projektien onnistumiseen vaikuttavat projektipäällikön keskeiset vastuut sekä esittää kehittämiskohteita ja sisäisiä ohjeistuksia, jotka tukevat johdonmukaisempaa projektien läpivientiä eri osastojen välillä.

Tutkimus toteutettiin kvalitatiivisena tapaustutkimuksena. Ensisijainen aineisto koostui kahdestatoista puolistrukturoidusta haastattelusta, joista kymmenen tehtiin projektipäälliköiden ja kaksi osastojen sidosryhmien kanssa. Haastatteluita täydennettiin dokumenttianalyysillä ja sisäisillä havainnoilla. Aineisto analysoitiin sisällönanalyysin avulla, jotta voitiin tunnistaa toistuvia ilmiöitä, haasteita ja kehitysmahdollisuuksia yrityksen projektinhallinnan lähestymistavassa.

Tulokset osoittavat, että vaikka projektipäälliköillä on samankaltainen käsitys projektityön rakenteesta, käytännön toteutustavat vaihtelevat osastojen välillä. Erot korostuivat erityisesti projektin elinkaaren hahmottamisessa, dokumentaation hallinnassa, roolien selkeydessä sekä tiedon jakamisessa. Tulosten ja kirjallisuuden pohjalta tunnistettiin kuusi keskeistä kehityskohdetta, joiden yhdenmukaistaminen toisi merkittävää hyötyä: yhteisen projektin elinkaarimallin luominen, dokumentointirakenteiden ja -pohjien kehittäminen, projektipäällikön roolin määrittely, osaamisen siirron formalisointi, PMO:n roolin vahvistaminen sekä vaiheittainen ja kevyt standardointistrategia. Lisäksi tutkimuksen aikana laadittiin projektinhallinnan käsikirja, joka kokoaa nämä suositukset yhteen ja toimii käytännön työkaluna projektipäälliköille.

Tutkimuksen tulokset ovat merkityksellisiä yritykselle ja tarjoavat konkreettisia kehitystoimia, jotka tukevat sen kasvua, tiedonhallintaa ja yhtenäisyyttä. Vaikka tuloksia ei voida yleistää laajasti yksittäistapaustutkimuksen vuoksi, ne tarjoavat arvokkaita näkökulmia myös muille vastaavassa tilanteessa oleville pk-yrityksille. Tuleaisuudessa olisi hyödyllistä tutkia standardointitoimenpiteiden pitkäaikaisvaikutuksia sekä selvittää, kuinka pk-yritykset voivat kehittää projektinhallintametodologiaansa ja arvioida projektinhallinnan kypsyystasoaan.

AVAINSANAT: Projektinhallinta, standardisointi, menestys, dokumentointi, osaamisen siirto, rooli ja vastuut

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Abbreviations

APM	Association for Project Management
BPM	Business Process Management
BPS	Business Process Standardisation
CPM	Critical Path Method
DMS	Documentation Management System
EDMS	Electronic Document Management System
EU	European Union
GDP	Gross Domestic Product
HSE	Health, Safety & Environment
HSEQ	Health, Safety, Environment & Quality
IEA	International Energy Agency
PBO	Project-based Organisation
PERT	Program Evaluation and Review Technique
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
PMO	Project Management Office
SME	Small and Medium-sized Enterprise
SOP	Standard Operating Procedures
WBS	Work Breakdown Structures

1 Introduction

Project management has been identified as a crucial part of organisations as the adoption increases the project success rates (Kerzner et al., 2022). Project management has undergone significant evolution over the past decades, transforming from a niche discipline to a core organisational competency (Kerzner, 2018). Over the last 50 years, project management has transitioned from a specialised skillset held by a select few to a widely integrated function across organisations. Formal training in project management principles has become standard at various organisational levels, reflecting its critical role in enhancing efficiency, productivity, and overall success.

This evolution coincided with significant market changes and intensified competition forced organisations to prioritise customer satisfaction, operational efficiency, and rapid product and service delivery (Kerzner, 2018; Williams et al., 2015). According to Kerzner, companies increasingly view project management as a strategic tool to navigate these challenges. This shift reflected a broader transformation in organisational attitudes, recognising project management as essential for achieving competitive advantage in dynamic markets.

In the European Union, around 99% of companies are categorised as small and medium-sized enterprises (SMEs) (European Commission, 2023). Additionally, SMEs contribute 60% to GDP (Turner et al., 2012). This paper is using European definition of SMEs which is used in many papers such as Floyd & McManus (2005) and Turner et al. European Commission (2003) writes that all companies employing up to 250 people and having less than €50 million annual turnover or annual balance sheet not exceeding €43 million are defined as SMEs. Further, European Commission defines medium-sized enterprise as an organisation that has between 50-250 employees and annual turnover between €10-50 million. The percentage of SMEs is high, and EU has seen SMEs to have a crucial role in the economy and thus, created different kind of regulation for SMEs. Turner et al. also write that projects have remarkable contribution to the turnover of an SME.

As stated earlier, the significance of project management is clear. However, Turner et al. (2009) conclude in their research that SMEs are generally less likely to implement formal project management practices compared to larger companies. The similar kinds of results have been reported by Antony et al. (2008) and Garg et al. (2010), who state that SMEs often lack awareness of formal project management practices and tend not to use formalised processes to the same extent as larger organisations, primarily due to limited resources and insufficient familiarity with such methodologies. Concentrating on medium-sized organisations, Turner et al. (2012) write that medium-sized and large organisations require more structured project management methods to effectively coordinate the efforts of specialised teams. However, medium-sized companies tend to adopt simpler project management practices compared to their larger counterparts.

Electrification is trending and gaining momentum, and it is shaping multiple sectors (International Energy Agency, 2023). International Energy Agency (IEA) defines electrification as the transition from fossil fuel-based technologies to electrically powered alternatives. These solutions improve energy efficiency and progressively reduce emissions as electricity production becomes cleaner. IEA emphasises that electrification strategy is important to reach the net zero emissions goals. IEA highlights that electrification is tightly related to renewable energy, grid capacity, electric vehicles, industrial sector as well as buildings.

This study is conducted as a case study with a medium-sized Finnish company in an electrification context. The case company provides electrical engineering and electrification solutions. The company has ambitious growth targets nationally and internationally for electrical installations, electrification solutions turnkey projects as well as for their own products. The company is focused on providing high quality to its customers and therefore the quality of project management plays an important role. However, they are facing challenges in the project management practices due to growing number of project managers and, hence, the growing number of ways of working. This

includes how the internal processes are carried out as well as the difference in the consistency of the deliverables visible to the client.

There is an identified need for more consistent project management practices in the case company. The case company has brought up the topic of project management standardisation and is evaluating how they could improve the consistency in projects from planning to closing especially focusing on the client visible documentation. Additionally, due to the ambition to grow rapidly, the documented processes are required in order to onboard new project managers as well as improve the knowledge transfer in the company.

Academic research has conducted studies about project management for decades. Existing research has been conducted about the importance of project management in companies, the profitability of project management practices as well as standardisation of project management and the knowledge management in projects. However, there is few research of project management standardisation in the area of electrification especially in SMEs with clear growth targets. There is a clear research gap in the existing literature that this paper aims to address through this case study.

This paper conducts a case study regarding project management development in a company which operates in the electrification solutions area in Finland and in Nordics. The research question is: How can the case company's project management practices be standardised across different units to enhance consistency and efficiency? The objectives of the study are to:

- Identify the key tasks and responsibilities of project managers that influence project success.
- Evaluate the current project management processes and highlight areas for standardisation.
- Develop project management guideline for project managers for internal use.

This paper is organised into five sections in total. This first chapter serves as an introductory chapter explaining the background of the study, the study method and it presents the research question and objectives. The second chapter provides literature review of the existing literature in the research area around the research topic, thus, providing theoretical foundations for the case study. The third chapter provides the methodology of the study that explains how this study is carried out. The fourth chapter presents the results of the conducted case company study. Finally, the last chapter presents the conclusion and discussion of the paper providing some insights of the applicability of the results as well as suggestions for future research.

2 Literature Review

This chapter outlines the theoretical framework applied in this paper. The section aims to introduce and explore research-related material to clarify the key concepts regarding project management and standardisation. It provides a thorough literature foundation on the topic, drawing on peer-reviewed sources, including traditional and foundational studies and books as well as more recent books and publications retrieved from various databases such as ScienceDirect, SCOPUS, Academic Search Elite and IEEE.

In the beginning of the chapter, the concept of project, project management is defined as well as the definitions of consistency, efficiency and effectiveness are clarified. The chapter follows a presentation of the concept of Business Process Management. Literature review continues presenting well-known standards, frameworks and methodologies of project management. The chapter concentrates additionally on the role of project manager in project management as project manager acts as the leader of the project and is an essential part of the project delivery. Thus, knowledge transfer and the role of Project Management Office (PMO) is included in this chapter as well. Lastly, areas such as project success and documentation management are covered. While presenting the general concepts regarding project management the chapter also considers the SME context. This is necessary as the size of a company and the industry where it operates may impact the applicability of the general principles as for instance the internal resources and the operating environment might be different.

2.1 Project Management

Project management has undergone significant changes over time (Kerzner, 2018). While often perceived as a relatively modern practice, the origins of project management trace back to the early 20th century (Cabeças & Marques da Silva, 2020). According to Cabeças and Marques da Silva, in 1911, Frederick Taylor introduced Principles of Scientific Management, pioneering structured approaches to labour and productivity. Around the same time, Henry Gantt, developed bar charts as project management tools, now widely

known as Gantt Charts. Cabeças and Marques da Silva write that Gantt's contributions, including the integration of milestones, task durations, and estimates, laid the groundwork for modern planning techniques. Despite enhancements such as dependency definitions, the fundamental structure of Gantt Charts has remained largely unchanged for over a century.

The growth of project management field was kept slow for long time due to the rejection of the new management techniques (Kerzner, 2018). The Third Industrial Revolution marked a pivotal era in the development of project management, driven by advancements in digital technology, information systems, and media (Cabeças & Marques da Silva, 2020). During this period, project management matured into a formalised discipline with the introduction of methodologies such as the Program Evaluation and Review Technique (PERT) and the Critical Path Method (CPM), collectively known as PERT/CPM. These innovations equipped organisations with systematic tools to plan, monitor, and control complex projects, providing the foundation for contemporary practices.

The definitions for project and project management are crucial to clarify because people might have different perspectives as Kerzner (2013) highlights. This paper is relying on widely acknowledged and approved publications from legitimate organisations for definitions in project management as well as other frameworks for project management. This includes for instance organisations such as Project management Institute (PMI), and thus, the paper references the institute often throughout the literature review.

PMI (2021) defines project as "A temporary endeavour undertaken to create a unique product, service, or result. The temporary nature of projects indicates a beginning and an end to the project work or a phase of the project work. Projects can stand alone or be part of a program or portfolio." (p. 4) For project management there are multiple definitions of which Project Management Institute's definition can be seen one of the most popular as also Kerzner (2013) is using the definition in his book *Project*

Management: A Systems Approach to Planning, Scheduling, and Controlling. PMI (2021) defines project management as “The application of knowledge, skills, tools, and techniques to project activities to meet project requirements. Project management refers to guiding the project work to deliver the intended outcomes. Project teams can achieve the outcomes using a broad range of approaches (e.g., predictive, hybrid, and adaptive).” (p. 4)

Project can be different in size and complexity, but there is a generic project mapping of project life cycle (PMI, 2017). PMI defines project life cycle as the series of all the phases that a project goes through from start to finish. The generic structure includes four phases which are project start, organise and prepare, carrying out the work and lastly ending the project. However, the life cycle of a project may vary depending on the type of project (PMI, 2021).

In electrification solutions area the projects are often including both design and build integrating engineering, procurement and construction (EPC). These types of projects are often single delivery projects that PMI (2021) defines as projects that provide the final output upon project completion. Besides the delivery cadence which PMI defines as the frequency and timing of project deliverables, also development approaches impact on the project life cycle and phases. Development approach is the method and set of principles used to create and evolve the result throughout the project life cycle (PMI, 2021). An approach provides a high-level structure outlining how a project is designed and governed, encompassing guiding principles, perspectives and characteristics (Gemino et al., 2021; Špundak, 2014).

There are three common approaches that PMI (2021) presents and they are predictive, adaptive and a mix of the two which is called hybrid. Predictive approach is also called as traditional approach or waterfall, and it is suitable when project requirements can be clearly defined at the start. PMI writes that it is particularly useful for projects involving high investment and risk, requiring structured reviews and change control. This method

enables early uncertainty reduction by conducting extensive upfront planning. While proof-of-concept developments may be used to explore options, most project work follows the initial plan. Often, previous project templates guide execution, ensuring consistency.

PMI (2021) notes that predictive approach is common in construction related projects. Thus, this approach can be seen commonly used in EPC projects. The project life cycle usually has a structure that each phase ends before the next phase begins and every phase concentrates on specific type of work. In the end of each phase, a phase gate review is organised where phase exit criteria will be reviewed to continue to the next phase. PMI explains that there might be situations in a project when for instance scope changes or there is a change in requirements. This can lead to the repetition of phases. The Figure 1 presents an example of a predictive or waterfall project life cycle.

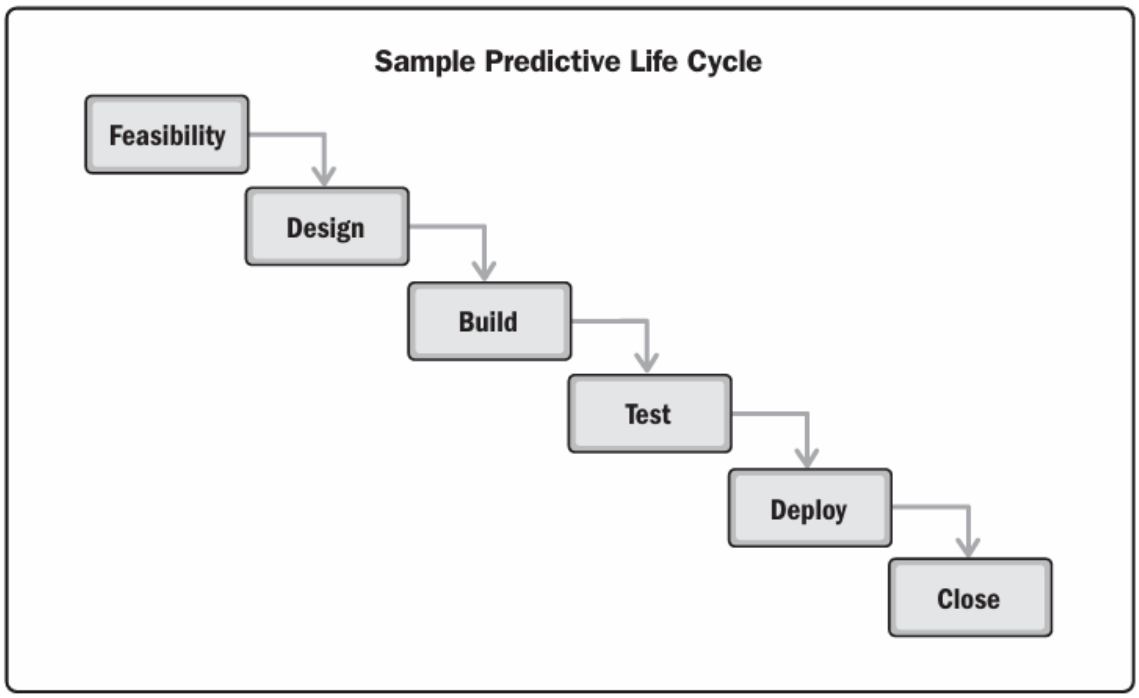

Figure 1. Project life cycle with predictive approach (Project Management Institute, 2021, p. 43).

The adaptive approach can be also sometimes called as agile approach. Adaptive approach in project management is suitable for situations with high uncertainty and evolving requirements (PMI, 2021). Project begins with a clear vision, but initial requirements are continuously refined based on stakeholder feedback, environmental changes, or unforeseen events. Using iterative and incremental methods, adaptive approaches allow frequent reassessments, often with short cycles where progress is demonstrated at the end of each iteration. Agile and adaptive approaches emphasise flexibility, collaboration, and responsiveness to change.

Effectiveness and Consistency

In the literature about project management standardisation or process standardisation terms project efficiency, effectiveness, and consistency are frequently used. Standardisation and the terms clearly have a connection. Thus, it is worth explaining what these definitions mean in this paper. This section explains the definitions of the terms used in the academic research.

The term efficiency is defined as a quality dimension where the deliverable generates the maximum output with the minimal input and effort (PMI, 2021). The term efficiency in projects refers to project management success and it is measured at project completion. Measurement is associated with the triple constraints and whether the project is delivered to time, cost, and quality (Atkinson, 1999; Rode et al., 2024; Serrador & Pinto, 2015; Serrador & Turner, 2015).

Effectiveness is well defined by Rode et al. (2024) in their paper. They define effectiveness as project success in the way of doing the correct thing and it relates to the output, outcome and value of the project in short, medium and long term. Atkinson (1999) has similar view in his paper about success in project management.

Standardisation and consistency are closely interrelated concepts and are frequently applied in conjunction with one another. For example, Kerzner (2013) mentions project

management methodologies to provide some degree of consistency and standardisation. Milosevic and Patanakul (2005) write that standardisation is degree of uniformity or consistency. Consistency is uniformity of a process meaning that there is only little variation in the process when it is performed repeatedly (Gosling et al., 2015; Wolf & Specker, 2024). Wolf and Specker (2024) defines project consistency in alignment with the previously mentioned and explains that consistency is “maintaining uniformity in processes, procedures, and information across the project's lifespan.” (p. 36) They continue that a lack of consistency may result in discrepancies and errors, which could ultimately derail the process or project.

2.2 Business Process Management Implementation and Standardisation

The operations of a company consist of multiple interconnected business processes. Jeston (2018) defines a process simply as "the way things get done around here." (p. 5) Weske (2024) writes more abstract definition of process which is defined as a collection of activities. Weske continues to define that a business process is a coordinated set of activities within an organisational and technical environment that work together to achieve a business goal.

Goel et al. (2023) write that even though there is a lot of research about Business Process Management (BPM) there are still not a consensus of the definition of BPM. However, Weske (2024) write that BPM encompasses the concepts, methods, and techniques used to design, administer, configure, execute, and analyse business processes. BPM relies on the explicit representation of processes, defining their activities and execution constraints. Once established, these processes can be systematically analysed, improved, and automated to enhance efficiency. Lee and Dale (1998) go through multiple definitions of BPM and their definition align with the view of Weske by stating simply and concisely that BPM is structured, analytical, cross-functional, and a continuous improvement of processes.

BPM implementation is about identifying the key processes in a company, documenting them, measuring the effectiveness of the processes and improving them continuously (Lee & Dale, 1998). Lee and Dale explains that the implementation of an effective BPM is built on several key principles. Pervasiveness ensures that BPM principles are understood and applied across the organisation. Every process should have a clearly defined owner, responsible for monitoring performance and driving continuous improvement. Comprehensive documentation of processes is essential, with end-to-end process models linking customers to operations while defining documentation standards, control measures, and management guidelines.

BPM follows a cyclical approach consisting of six interconnected phases as seen in Figure 2. It begins with process identification, where key processes are selected and structured within an overall process architecture. In the process discovery phase, the current state of these processes is mapped into as-is models. These are then evaluated during process analysis, where inefficiencies and performance issues are identified. Next, process redesign proposes improvements to address the identified weaknesses, resulting in a to-be model. The process implementation phase translates these improvements into practical actions and system changes. Finally, process monitoring ensures performance is tracked, enabling continuous refinement and initiating new improvement cycles as needed.

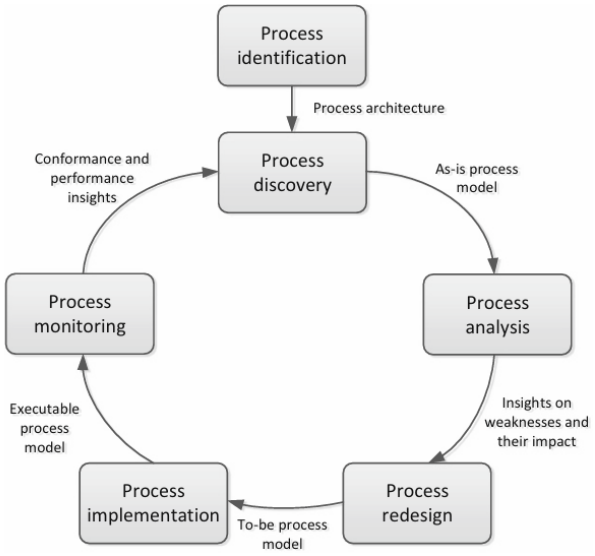

Figure 2. BPM life cycle (Dumas et al., 2018, p. 23).

Lee and Dale (1998) and Dumas et al. (2018) write that measurement plays a crucial role, with key processes evaluated based on cost, quality, and time, incorporating in-process and result-based metrics to enhance efficiency and reduce variability. The regular inspections enable process owners to identify performance gaps, minimise inconsistencies, and implement necessary improvements. According to Lee and Dale (1998), it is far too often that the measurement is the most emphasised. Here the application fails because the company goes straight into measuring while there is no understanding of BPM and there is no full documentation of the processes that should be followed. Pervasiveness and documentation must be in place first before going into measurement. Lee and Dale add that quite normally there is an understanding that the documentation has to be in place, but it is experienced that there is not enough time to produce the documentation in order to simplify the processes.

BPM emphasises documented procedures, consistency and repeatability of processes ensuring that tasks are performed in a structured and uniform manner. Schäfermeyer et al. (2010) define business process standardisation (BPS) as the unification of processes and their underlying actions within a company to enhance communication, streamline information handover across process boundaries, improve collaboration, and establish

comparative measures for performance evaluation. Schäfermeyer et al. and Bitkowska (2020) further highlight that integrating and standardising processes reduces costs, improves efficiency, flexibility, competitiveness and simplifies decision-making. Successfully implemented standard processes lead to higher performance and quality (Bitkowska, 2020; Iden et al., 2025; Schäfermeyer et al., 2010).

Not all business processes benefit equally from standardisation. Business processes can be categorised into three types, standard, routine, and nonroutine processes, of which each requiring a different management approach (Schäfermeyer et al., 2010). Standard processes follow predefined steps with fixed inputs and outputs, ensuring efficiency and repeatability. They are highly structured, repetitive and can be optimised through standard operating procedures (SOPs). Schäfermeyer et al. continue that routine processes allow for some variation, requiring workers to interpret inputs and choose from a set of predefined actions. While structured, they demand flexibility to adapt to different scenarios. Nonroutine processes, on the other hand, involve uncertainty in inputs and outputs, relying on expert decision-making and experience rather than standard procedures (Schäfermeyer et al., 2012). Instead, Schäfermeyer et al. (2012) write that these processes can be supported through guidelines, best practices, and adaptable workflows rather than strict rules. As business process complexity increases, standardisation becomes more difficult and costly (Schäfermeyer et al., 2012). When dealing with nonroutine processes, organisations should implement decision-making frameworks instead of strict rules to guide employees in handling unique situations. Knowledge-sharing mechanisms should also be encouraged, enabling experts to develop best practices and refine complex workflows over time (Schäfermeyer et al., 2010).

BPM has experienced changes in recent years as digitalisation has been integrated into businesses (Iden et al., 2025). Iden et al. summarise the definition of digitalisation as a discipline that is based on modern digital technology and the aim is to innovate new digital solutions which serve the evolving needs of organisations. Digitalisation and BPM are two separate concepts, but Iden et al. conclude in their research that they are

interdependent and benefit from each other's areas of expertise. Iden et al. write that digitalisation influences BPM practices. A lot of processes have already transformed from paper-based process to a digital by the help of information systems (Goel et al., 2023; Iden et al., 2025). According to them, digitalisation involves automation, improvements and business process renewal enhancing process efficiency. Similar views have Broccardo et al. (2024) who mention that digitalisation boosts business processes leading ultimately to automation. Digitalisation impacts also documentation which is a crucial part of BPM (Djedović et al., 2016). Consequently, according to them, organisations have increasingly adopted Electronic Document Management Systems (EDMS) to enhance document security and control, ensure higher backup reliability, reduce costs related to document management and archiving, improve version control, and facilitate better knowledge management and searchability. EDMS will be covered more in detail in the chapter 2.6.

In addition to digitalisation, another emerged technology that has impacted BPM is cloud computing which has come with the Industry 4.0 (Xu et al., 2018). Cloud computing is a technology that provides high performance with low cost. Xu et al. writes that with cloud computing a lot of data can be uploaded and stored in a cloud computing servers which enables amongst others easier collaboration and sharing of information. Cloud computing is service-oriented, and it’s been leveraged in multiple service models such as Software as a Service (SaaS) (Xu et al., 2018; Zhang et al., 2020). SaaS can for example be a cloud-based document management system which is bought service from a vendor. Usually, these services are priced by pay-as-you-go structure and thus scalable (Zhang et al., 2020). It means for instance that a small company can buy this SaaS solution and as the company is growing, they pay more according to the volume of resources consumed. Thus, there is no big up-front IT costs compared to on-premises software purchase.

BPS provides multiple benefits. It reduces costs by minimising inefficiencies, decreasing errors, and lowering operational expenses (Dumas et al., 2018; Schäfermeyer et al., 2010). A unified approach improves collaboration by ensuring seamless coordination

across departments and locations (Goel et al., 2023). Additionally, standardisation enhances transparency and control, aiding compliance and risk management efforts (Schäfermeyer et al., 2012). Lastly, Schäfermeyer et al. (2010) add that standardised processes support scalability and agility, making it easier for organisations to grow and adapt to market changes. Overall, by appropriately categorising processes and selectively applying standardisation, organisations can balance efficiency with adaptability, optimising their operations without compromising flexibility where it is most needed.

2.3 The Role of a Project Manager

Project manager is a person assigned to lead the project team to achieve project objectives (PMI, 2017). The role in projects is critical and project managers and their competences are seen to play a key role in project success (Chipulu et al., 2013; Kerzner, 2013; Montequin et al., 2015; Müller & Turner, 2007; PMI, 2017). In this section, the literature review concentrates on the role and responsibilities of the project manager in projects as well as the key competencies and skills of a successful project manager recognised by research.

The project manager plays a central role in leading project teams to achieve project objectives, ensuring alignment with organisational goals, and managing various aspects of project execution (Kerzner, 2013; PMI, 2017). The role extends beyond task management, encompassing leadership, coordination, and strategic integration across multiple functions. Kerzner and PMI write that project managers serve as the driving force behind project execution, ensuring that resources, objectives, and timelines are aligned to deliver expected outcomes. They write that project managers take ownership of the entire project life cycle, from planning and execution to monitoring and closing, ensuring that all necessary adjustments are made to meet stakeholder expectations. They state that planning is the most important responsibility of a project manager.

A key aspect of the project manager's role is acting as a link and serving as a communication hub between various stakeholders, including functional teams, senior management, and external parties ensuring that information flows efficiently between internal and external stakeholders (Kerzner, 2013; Williams et al., 2015). For instance, Williams et al. (2015) emphasise that during the project, the project manager must ensure that project schedules are created reliably, and these schedules has to be communicated to the customer regularly and systematically, following the established policies and processes. According to Kerzner, this role requires the ability to balance organisational priorities with project requirements while maintaining flexibility to adapt to changes. He continues writing that while project managers are not necessarily subject matter experts in every field of the project, they must possess a strong understanding of project management principles in order to coordinate effectively across disciplines. Project managers develop structured communication plans, engage in both formal and informal discussions, and use various communication techniques to maintain alignment among stakeholders (PMI, 2017).

One of the primary responsibilities of a project manager is balancing project constraints such as scope, schedule, cost, quality, risk, and resources (PMI, 2017). This involves developing detailed plans, managing execution, and making necessary adjustments to keep the project on track. Kerzner (2013) writes that in the planning of a project, a project manager has to define goals and objectives, major milestones, requirements, ground rules and assumptions, time, cost, and performance constraints, procedures, administrative policy and reporting requirements. Given the complexity of projects, project managers must also act as problem-solvers, evaluating risks and implementing mitigation strategies when challenges arise (Kerzner, 2013). By aligning project management efforts with strategic objectives, project managers contribute to overall business efficiency and project success. Thus, project manager's responsibility is to see the higher-level impact of the projects that they lead instead of dealing with projects as an individual and separate endeavour. PMI writes that a project manager is considered successful when the project's objectives are achieved. PMI (2017) write that tailoring is

important especially in the beginning of a project as not all of the tools and techniques used in the company's project management might fit to every project. Thus, success also requires tailoring which means adapting the project approach, life cycle, and management processes to align with project requirements (PMI, 2017). PMI presents a few considerations for tailoring that a project manager should have.

First, determining an appropriate project life cycle is essential. What phases should the project include to ensure a logical progression from initiation to completion? Similarly, selecting the right development life cycle and approach is crucial for delivering the desired product, service, or result. Should the project follow a predictive or adaptive approach? The choice of management approaches must align with the organisational culture and the project's complexity, ensuring efficiency and effectiveness. Additionally, knowledge management plays a vital role in fostering collaboration. What methods will be used to capture, share, and apply knowledge throughout the project? Managing change is another critical aspect. Considerations include how will changes be assessed, approved, and implemented to maintain project alignment? Governance structures, such as control boards and committees, must also be established to oversee decision-making and reporting requirements. Throughout the project, capturing lessons learned is important. What information should be recorded, and how will it be documented to benefit future projects? Finally, defining how and when benefits will be reported whether at the end of the project or incrementally after each phase or iteration, is essential for assessing overall success and value delivery.

The project manager is the central figure in integration management (PMI, 2017). The key role includes developing the project charter and management plan, directing and managing project work, handling project knowledge, monitoring and controlling progress, performing integrated change control, and closing the project or its phases. Given the interconnectivity of project elements, integration management is iterative, requiring continuous alignment of project objectives, deliverables, and stakeholder expectations.

In SMEs there are less specialist project managers. According to Turner et al. (2010) small and micro companies tend to have technicians as project managers which means that they might be fulfilling several roles in project teams. They highlight however that in medium-sized companies more specialist project managers are hired as company grows there are more distinct roles. This is when more coordination is required in medium-sized companies which also means more formal role of project manager and project management.

In addition to managing day-to-day project activities, project managers contribute to the continuous improvement of project management within their organisations. They facilitate knowledge transfer for instance in a way of lessons learned, promote best practices, and support professional development initiatives to enhance the organisation's overall project management capabilities (PMI, 2017). PMI highlights that staying updated on industry trends and evolving methodologies is essential for maintaining effective project execution in a rapidly changing business environment.

Skills and Competencies

The success of a project manager is closely linked to their competence in managing projects effectively (Müller & Turner, 2007). While their role and responsibility involve overseeing project execution, their ability to lead, communicate, and solve problems is equally crucial. Müller and Turner emphasise the leadership style including emotional intelligence, focus on management and intellect. The required competencies include leadership, relationship management, and adaptability. According to PMI (2017), essential interpersonal skills for project managers include leadership, communication, negotiation, conflict management, and decision-making. These skills enable them to coordinate diverse teams, engage stakeholders, and maintain alignment with project objectives. Additionally, Kerzner (2013) highlights the importance of strategic thinking, problem-solving, and resource allocation in managing complex projects.

To fulfil this role successfully, project managers need a combination of knowledge, skills, abilities, and attributes (PMI, 2017). PMI writes that project managers must understand project management methodologies, the business environment, technical aspects, and other relevant information necessary for effective project execution. Additionally, PMI notes that they require strong leadership skills to guide the project team, coordinate activities, engage stakeholders, solve problems, and make informed decisions. Managing project scope, schedules, budgets, resources, risks, and documentation, such as plans, presentations, and reports, is also essential. Beyond technical and managerial competencies, personal attributes such as adaptability, ethics, a positive attitude, and strong leadership play a crucial role in ensuring project success.

Modern project management increasingly emphasises relationship management. Meng and Boyd (2017) note that strong internal and external collaboration significantly contributes to project success. Similarly, Edum-Fotwe and McCaffer (2000) stress the need for project managers to complement technical expertise with communication and stakeholder engagement. Chipulu et al. (2013) identify six key competency areas based on industry job advertisements that are leadership, teamwork, problem-solving, risk management, project methodology experience, and managerial skills. Their research suggests that employers often prioritise general management and interpersonal skills over technical expertise. The research in this area seems to be consistent as also PMI (2017) notes that research highlights that highly effective project managers distinguish themselves through superior communication and relationship management skills, which significantly impact project success. Altogether, strong leadership, communication, relationship management and adaptability are essential for navigating project complexities and ensuring successful outcomes.

2.4 Standardisation in Project Management

This section covers standardisation in project management and clarifies the different terms used in the literature regarding approaches, methodologies and frameworks. The section covers most popular project management standards which highlight the

significance of standardisation in enhancing consistency, efficiency, and quality. Additionally, the chapter concentrates on into the Project Management Office (PMO) and its role in standardisation. Lastly the topic about the need of standardisation in the context of SMEs is discussed.

Research about project management standardisation has been done for years. In 2001 Milosevic et al. wrote that standardising project management practices is beneficial, though it does not guarantee an immediate boost in project effectiveness. Their research findings indicate that organisations with more standardised procedures display higher levels of project success. For optimal results, it is essential to customise standardisation to fit an organisation's unique characteristics and culture. Overall, project management is an interesting field of study as there is no one specific and unified theory (Garel, 2013). Garel cites Engwall (1998) in his paper and write that the basis of theory includes an “articulated collection of best practices” (Garel, 2013, p. 663). Garel writes that the Cold War progressively led to the standardised project management methods due to the increased requirements for projects. According to him project management methodologies, which include methods and tools for project management, started to develop.

In standardised project management, it is common to discuss best practices, though Kerzner (2018) suggests using the term proven practice as a more precise descriptor. However, in this paper, the term best practice is used. The purpose of a best practice is to promote project management excellence throughout the company (Kerzner, 2018). A best practice emerges from the recognition that a particular technique, process, or method consistently delivers superior outcomes with fewer complications. Once proven effective across multiple projects and organisations, best practices are integrated into standard processes, ensuring a repeatable, efficient, and effective way of managing tasks. Over time, these practices become embedded in the organisation’s operations, forming the foundation of a structured and standardised approach to project management.

Companies aim to adopt best practices to standardise their processes, which helps improve efficiency, effectiveness, and consistency (Kerzner, 2018). Overall, standardisation is identifying and implementing the best practices throughout the project management practices of an organisation. Kerzner (2013) adds that the companies which have achieved project management excellence have successfully carried out the implementation and execution of project management standards. However, companies do not usually tend to standardise project management to its full extend. According to Milosevic & Patanakul (2005) it is more common that the project management standardisation is done to a certain point to maintain a certain level of flexibility in project management.

Regarding standardisation in project management, there are multiple definitions in use in literature. This occurs due to the continuous evolution of project management practices and terminology, as the field itself undergoes constant development (PMI, 2021). One can encounter definitions such as project management approach, standard, methodology and framework. In this paper, the term project management approach follows the definition by PMI (2021) presented in the Chapter 2.1.

Below this level, standards and frameworks provide structured guidance for project management. PMI (2017) defines a standard as “a document established by an authority, custom, or general consent as a model or example” (p. 2). Examples of such authoritative standards include The Standard for Project Management Project Management Institute (2021) and the ISO 21502 standard. The APM Body of Knowledge is a framework, as described by the Association for Project Management (2019). Similarly, PMI intends for the Project Management Body of Knowledge (PMBOK) Guide to serve as a foundation for organisations to develop their own methodologies, policies, procedures, rules, tools, techniques, and life cycle phases. While the PMBOK Guide aligns with PMI standards, it is not a methodology but rather a framework, like the APM Body of Knowledge. These kinds of definitions of frameworks are supported by Kerzner (2013).

Within these approaches and frameworks, methodologies offer a more prescriptive and detailed framework for project execution. A methodology, as defined by the PMI (2017) is “a system of practices, techniques, procedures, and rules used by those that work in a discipline.” (p. 28) Methodologies such as PRINCE2, Scrum, Kanban, and Rational Unified Process (RUP) provide structured, operational guidance to project managers.

At a more granular level, Gemino et al. (2021) write that practices refer to specific techniques or procedures used to manage particular aspects of a methodology. Practices can be applied independently or combined across different methodologies and approaches. They write that examples include daily stand-up meetings for team communication, Kanban boards for workflow visualisation, work breakdown structures (WBS) for scope definition, and risk registers for risk management. This paper adopts these above-mentioned distinctions to clarify the scope of project management concepts and to avoid the common interchangeability of terms in practitioner literature, where according to Gemino et al. “methodology” is often used broadly to refer to both approaches and practices.

Standardisation Methodologies

Nowadays, various organisations, such as associations and institutes, have developed and maintain standards, guidelines, and methodologies to assist with project management (Takagi & Varajão, 2022). According to Takagi and Varajão, organisations implement their project management methodologies with the goal of improving the project success rates. There are several existing standards and methodologies for project management. Takagi and Varajão state that many of the standards are comparable but the concepts might be explained differently. Generally, each takes its own approach to defining and organising concepts and best practices. However, it is possible to standardise project management by following these standards.

The standard for project management outlines fundamental principles that guide the behaviours and actions of project professionals and stakeholders involved in projects

(PMI, 2021). According to PMI, it establishes a foundation for understanding project management and its role in achieving desired outcomes, irrespective of industry, location, project size, or delivery approach, such as predictive, hybrid, or adaptive approaches. Additionally, it provides insights into the system in which projects operate, encompassing governance, functional roles, the project environment, and the relationship between project and product management. PMI states that reflecting the evolving nature of the profession, the standard emphasises delivering value alongside outputs and deliverables which means aligning project objectives with the organisation's broader system for value creation.

As presented in Chapter 2.1. project management methodologies are commonly divided into two primary approaches: the traditional project management approach and the agile approach (Ciric Lalic et al., 2022; Gemino et al., 2021). The third is hybrid approach which is the combination of traditional and agile. Gemino et al. write that the traditional approach is characterised by a linear, structured process that emphasises detailed upfront planning, predictability, and optimisation of time, cost, and scope. It follows a sequential workflow, ensuring that each phase is completed before proceeding to the next, making it well-suited for projects with clearly defined requirements and minimal uncertainty. The traditional project management approach encompasses various established methodologies such as Waterfall, Critical Path Method (CPM), Critical Chain Project Management (CCPM), and PRINCE2 (Garel, 2013; Hall, 2012; Lieberum et al., 2022; Nyman & Öörni, 2023; Serrador & Pinto, 2015; Wells, 2012).

In contrast, the agile approach is iterative and adaptive, allowing for flexibility in response to changing project requirements (Gemino et al., 2021; Zasa et al., 2020). Rather than adhering to a rigid plan, agile projects progress through short, incremental cycles, enabling continuous feedback and refinement. Agile methodologies prioritise collaboration, stakeholder involvement, and the rapid delivery of functional components, making them particularly effective in dynamic environments where project goals may evolve over time (Zasa et al., 2020). Agile development has emerged more recently, with

the PMI (2021) incorporating agile methodologies for the first time in the sixth edition of the PMBOK Guide in 2017. Agile approach encompasses various methodologies, including Scrum, Kanban, Extreme Programming (XP), and Dynamic Systems Development Method (DSDM), which emphasise adaptability, iterative progress, and stakeholder collaboration (Gemino et al., 2021; Serrador & Pinto, 2015).

Papadakis and Tsironis (2020) write that their systematic literature review presented that the utilisation and acceptance of agile project management methods were mainly seen in the context of software development. Amongst others, Gemino et al. (2021) and Zasa et al. (2020) highlight that the agile approach originated in the software industry, which remains the primary sector for its implementation. According to Papadakis & Tsironis, agile utilisation was seen in other contexts as well, but the adoption of the methodology was not significant at all as software context was the dominant. Gemino et al. and Zasa et al. state that, while the traditional approach emphasises efficiency and control, the agile approach enhances responsiveness and innovation. Consequently, many organisations adopt a hybrid approach, integrating elements of both methodologies to achieve optimal project outcomes.

Project Management Office

It is increasingly common for the organisational structure to incorporate a Project Management Office (PMO) (PMI, 2017). PMO serves as a centralised function within an organisation that aims to standardise project management processes, ensuring consistency and efficiency in processes, methodologies, tools, and governance structures (PMI, 2021). PMO's primary role is to focus on the project management information from projects across the company. The information includes best practices, usefulness and benefits of project management methodology and how the profitability of the company is improved by project management (Kerzner, 2013).

Kerzner (2013) lists the activities that PMO is responsible for. He writes that PMO typically assumes a broad range of responsibilities, including standardisation in

estimating, planning, scheduling, control, and reporting. Furthermore, it plays a critical role in defining project management roles and responsibilities, preparing job descriptions, and maintaining archival data on lessons learned. The PMO is also responsible for continuous benchmarking, developing templates, and creating or refining the project management methodology. This includes recommending improvements, identifying standards and best practices, and supporting strategic planning initiatives. Beyond process optimisation, the PMO facilitates operational readiness by coordinating training programmes, coaching, mentoring, and establishing a problem-solving hotline. It also contributes to resource planning, risk assessment, and disaster recovery preparedness. These functions position the PMO as a comprehensive mechanism for promoting standardisation, enhancing efficiency, and supporting organisational development.

The role of PMO varies from offering project support to directly managing projects. PMI (2017) classifies PMO into three types based on their level of control: Supportive PMOs, which provide templates and best practices with minimal control; Controlling PMOs, which enforce compliance with project management standards; and Directive PMOs, which take full control by directly managing projects. In some cases, a PMO has organisation-wide responsibility, ensuring strategic alignment and integrating project data to support higher-level organisational objectives. PMO must also adapt to changing project environments as Unger et al. (2012) highlight when writing about the four-year average life expectancy. Wells (2012) noted that project management methodologies must be flexible and adaptable rather than overly prescriptive. The research found that rigid adherence to structured methodologies often leads to inefficiencies, particularly in dynamic environments where project requirements evolve rapidly. The study suggests that organisations benefit most when they strike a balance between structured methodologies and adaptable approaches that accommodate unique project needs.

Turner et al. (2010) write that project management is used increasingly as the company size grows. According to them, in companies employing more than 50 people a formal

project management has to be implemented. The need for PMO may arise when an organisation requires a structured approach to establish, implement, and further develop its project management practices. Effectiveness of project management methodologies in practice has been examined in multiple studies, highlighting both their benefits and limitations, but less research has been made in SME context and especially medium-sized companies. Wells (2012) explored the impact of project management methodologies on project success, finding that while structured methodologies improve standardisation, governance, and efficiency, they often fail to deliver their intended benefits at the project level.

In medium-sized companies, project management should not be conducted solely by following popular frameworks or methodologies. According to Turner et al. (2010), SMEs experience them to be too bureaucratic and complex for them to use and thus, they should have a lighter and simpler versions of project management methodologies. Turner et al. (2012) write that only some parts of project management methodologies are implemented in SMEs and the results show that medium-sized companies find a few practices essential in their project management. These are requirements definition, milestones, work or milestone schedule. In addition, responsibility assignment matrix which shows tasks assigned to specific specialists, status reports for risk and issue management, cost, time and resource usage as well as work breakdown structure.

As PMO is the structure establishing and standardising project management processes and procedures, a crucial part is tailoring the project management methodology to fit for the company (Turner et al., 2010). Turner et al. write that research has determined that SMEs should adopt a structured approach when selecting project management practices. According to them, this involves first identifying their strategic objectives, followed by defining suitable success criteria and key performance indicators (KPIs) for their projects. From this foundation, SMEs can establish relevant success factors and choose appropriate project management tools and techniques that align with these defined criteria. The criticality of the standards developed by PMO is fostering teamwork

as the standards create a common language (Kerzner, 2013). The tailoring is needed in creating policies, procedures, templates, forms and checklists. The templates are good replacement for formalised standards as they act more as guides. Kerzner writes that templates are customised for the company and should not tell the project manager what to do but giving an idea what needs to be done and how to do it.

Knowledge management (KM) is another key function of PMOs, particularly in project-based organisations where tacit knowledge is often lost when projects conclude (Pemsel & Wiewiora, 2013). According to Arbabi et al. (2020), tacit knowledge is something that is learned exclusively by experience and communication. To develop and continuously improve project management in a company, it is crucial to know how the tacit knowledge is converted into explicit knowledge which is contained in manuals and procedures. In SMEs, where project teams frequently work in parallel but might lack structured mechanisms for exchanging insights, a PMO can ensure that valuable lessons learned from past projects are systematically captured, documented and shared (Arbabi et al., 2020). The integration of lessons learned from past projects is seen playing a key role in refining methodologies, which in turn enhances future project execution (PMI, 2021). PMI writes that a strong PMO is able to transfer and share valuable knowledge and lessons learned. Through knowledge management, for instance best practices can be identified and subsequently implemented more broadly.

Schindler and Eppler (2003) emphasise lessons learned as one of the most important practice in projects. In the research, they find a clear gap in collecting the learnings from each project. Mostly the problems with gathering the lessons learned are ensuring a proper documentation. They write that the lessons learned is a crucial moment and is important to document. Many companies include in their project management manuals a requirement that lessons learned are to be carried out and documented upon project completion, typically as part of the final project report. The report should include recommendations for improvements that can be done in future projects. Schindler & Eppler highlight the need for continuous project learning rather than only capturing the

lessons learned at the end of the project. Consequently, improvements can be made during the project itself. Lessons learned sessions could be conducted at the end of each project phase, thereby ensuring that insights from each specific phase are captured throughout the project life cycle.

Schindler and Eppler (2003) present three different documentation methods for lessons learned: Micro Article, Learning Histories, RECALL. From those Micro Articles would suit best for medium-sized companies because method does not require a special software or additional resources. Micro Article's scope is between half and one page, and it is designed to capture and share project experiences in an informal way. It includes a topic, a brief introduction, and keywords for indexing. While it can reference other micro-articles, its value depends on conveying the relevant learning context. The article is then stored in databases or intranets. According to Schindler and Eppler, Micro Articles provide an accessible and engaging format for documenting and sharing knowledge. Pemsel and Wiewiora (2013) present that it is important to have one standard structure for lessons learned so that the information is easier to find afterwards. They add that the standardisation of the lessons learned form would be expected to be done by PMO, but the project managers are seen to be responsible of documenting and storing the lessons learned for the future.

Standardisation in project management refers to the structured adoption and implementation of best practices, methodologies, frameworks, and processes that promote consistency, efficiency, and quality across project activities. Standardisation involves not only aligning practices with recognised standards and frameworks but also tailoring these approaches to the unique context of the organisation. It encompasses both strategic and operational elements, from defining roles and responsibilities to developing templates, capturing lessons learned, and supporting knowledge transfer. PMO plays a central role in this process by institutionalising practices, facilitating learning, and ensuring coherence across projects. While standardisation aims to provide a repeatable and effective way of managing projects, the literature recognises the need

for flexibility. Flexibility is required especially in SMEs where the adaptation of lightweight and context-specific practices is often more beneficial than rigid methodological compliance. Thus, standardisation in project management is not a one-size-fits-all solution, but rather a dynamic process of integrating proven practices in a way that aligns with organisational needs and capabilities.

When examining the interview results through the lens of existing literature on SMEs, it becomes evident that the case company's current stage of standardisation reflects many of the typical characteristics and challenges described in prior research. As Turner et al. (2009) and Antony et al. (2008) have noted, SMEs often adopt less formalised project management practices compared to larger organisations, primarily due to limited resources and a lack of internal expertise in structured methodologies. The case company fits this pattern: while some standard tools and templates exist, their use is neither enforced nor monitored systematically. Moreover, project managers frequently work independently, relying on personal experience rather than organisational norms. This autonomy has fostered a diverse range of practices, which aligns with Garg et al. (2010), who observe that in SMEs, project delivery often depends more on individual competence than institutionalised systems. However, the interviews also indicated a strong willingness among project managers to move toward more unified practices, particularly if these are introduced in a practical and supportive manner. Literature such as that by Milosevic and Patanakul (2005) and Jeston (2018) suggests that successful standardisation in SMEs should begin with clearly defined and commonly accepted processes, supported by adequate training and ownership. For the case company, this could mean prioritising standardisation in areas with high visibility and repeatability such as project start-up meetings, documentation structure, and reporting while preserving flexibility in how teams manage more project-specific tasks. By doing so, the company can progress toward greater consistency without losing the agility that is often a key strength of SMEs.

2.5 Determinants for Project Success

Project success definition is not simple as projects can have multiple stakeholders and each of them can have a different meaning for success (Takagi & Varajão, 2022). There are differences between project types and industries (Müller & Turner, 2007). For instance, Pollack et al. (2018) and Takagi and Varajão note that in the construction industry, project success extends beyond time, cost, and quality, and suggest criteria to include safety, resource efficiency, risk management, stakeholder satisfaction, and conflict management. Even though the definition of project success can vary still the success of an organisation depends on the level of success in their projects (Fabbro & Tonchia, 2021). Thus, the project success is a crucial factor in a company's success and according to Takagi and Varajão the aim is to create value to the business. Takagi and Varajão write that project success includes success factors and success criteria.

PMI (2017) explains that project success is measured based on the project objectives and success criteria. PMI writes that the success criteria and the project objectives are determined before initiating a project. Usually, the success criteria include financial and qualitative criteria. Müller and Turner (2007) and Westerveld (2003) define success criteria as result areas and explain that the areas have the measures by which the successful outcome of a project is judged. The measures are dependent variables based on which the project success is measured. The identified criteria are documented, and success is measured both throughout the project and at its conclusion by comparing the project outcomes with the established criteria.

The triangle of time, cost and quality has been cited to be the key success criteria of projects (Bjelica et al., 2023). It’s called triple constraint and is also referred to as the Iron Triangle (Pollack et al., 2018). Pollack et al. write that the concept is serving as a primary framework for measuring project success by illustrating the interdependence of time, cost, and quality. Any adjustment to one factor inevitably affects the others, making it a crucial tool for project managers in balancing competing demands and ensuring project viability. This success criteria have developed and Müller and Turner has suggested seven

criteria which are: budget, schedule, quality standards, specification, appreciation by users, appreciation by stakeholders and appreciation by project personnel.

Success factors are defined after success criteria has been determined (Müller & Turner, 2007; Takagi & Varajão, 2022). Müller and Turner defines success factors as “elements of a project that can be influenced to increase the likelihood of success; these are independent variables that make success more likely.” (p. 299) Westerveld (2003) writes that in this excellence model the success factors are leadership and team, policy and strategy, stakeholder management, resources, contracting, project management which includes scheduling, budget, organisation, quality, information, and risks.

There is some research about project success in SMEs in different sectors. Takagi and Varajão (2022) found in their SME-focused research that the success criteria of high importance in SMEs are usually consisting of appreciation by users, meeting specification and required quality standards. A little bit lower importance has completed within budget and schedule and the lowest importance has appreciation by project personnel. Turner et al. (2009) write in the paper that client consultation; planning, monitoring and control; and resource allocation are the factors impacting most to the project success in SMEs. However, they state that the differences between the company sizes are not significant but what is more prominent is the differences between the industries. They write that high technology companies do not specify the importance of the success factors suggested: clear goals and objectives, senior management support, planning, monitoring and control, resource allocation, risk management and client consultation. This can be due to the complexity of engineering projects. However, in the service industry SMEs the important factors are clear goals and objectives, senior management support and risk management.

Success factors have clear connection with standardised project management. Milosevic and Patanakul (2005) identify seven factors that may have an impact in standardised project management. They suggest that these seven factors include standardised project

management tools, leadership, and process; and standardised project management organisation, information management system, metrics and culture on the organisational project management level. They note that out of these seven factors especially the first three are of higher interest in project success.

2.6 Documentation Management

Documents are defined to be information carriers that are used for communication (Fernando et al., 2019). While the agile approach emphasises delivering a functional end result over producing extensive project documentation, many organisations adopt a hybrid approach due to documentation requirements arising from governance and compliance, safety regulations, or contractual obligations (Gemino et al., 2021; Serrador & Pinto, 2015). Rakos et al. (2004) write that documentation lead the project, structure and standardise it, and facilitate communication both among stakeholders and within the project team. Many projects face problems regarding documentation management. Wolf and Specker (2024) found that frequent problems include especially lack of documentation which causes lack of consistency and traceability. They suggest that the solutions for these problems in document management to improve consistency and traceability are standardisation of project folder structure, and documentation procedure with templates, and ensuring continuous documentation throughout the project.

A significant amount of documentation is produced during the project. Rakos et al. (2004) write that in construction project there are different documents created in different phases of the project. In initiation phase, often the project concept, business case and project charter will be created. Here also proposal is sent, and contract is signed. In the planning phase, plans for project, communications, risk management, quality management, procurement and acceptance test are produced to ensure effective project execution. Execution phase starts project progress meetings which according to Rakos et al. will require project status reports, risk control, quality assurance and control reports, problem reports and possibly change requests and in the end acceptance report

which will confirm that the client has taken the responsibility of the project delivery. Lastly, in project closing phase project final report is important to reflect the project success against the initial objectives. In addition, the contractual closing will be done in this phase to make sure that all the project financials and conflicts are resolved.

Country and industry context has an impact on documentation as well. Based on those, there might be different and specific requirements for the level of documentation. In Finland, all the companies working in construction and electrical industry must follow national regulations which assign documentation requirements for legal matters. These industry specific regulations are amongst others Occupational Safety and Health Act (2002/738), Government Decree on the Safety of Construction Work (205/2009) and Electrical Safety Act (1135/2016). Despite the legal requirements as noted earlier, projects produce a big amount of other project documentation during its life cycle and that has to be managed.

Document Management Systems

Today documents are produced electronically and document management systems (DMSs) which are computer systems and software are used to manage, store, share and track documents (Fernando et al., 2019). Electronic document management systems (EDMSs) are widely used nowadays because of the accessibility of stakeholders to the centralised server. In industries where there is a lot of documentation, DMS is useful as it supports the coordination and control of different activities. According to Fernando et al. these features are storage, retrieval, processing, printing, and distribution of documents in a secure and accessible way. According to Fernando et al. the person handling the documents should be assigned document controller. However, it is worth noticing that in smaller organisations it might be project manager who takes care of the documentation management.

As DMS is for managing, storing, sharing and tracking documents, the documentation has to be organised to be able to find the documents that are needed. Kähkönen and

Rannisto (2015) looked into EDMS usage in different construction projects. Their findings are in line with Fernando et al. (2019) and Wolf and Specker (2024) that the folder structure is fundamental for the organisation of documents. The folder structure should be fitting for the projects so that there are not constantly multiple empty folders. According to Kähkönen & Rannisto the structure should be clear and consider all the dimensions of the project to be able to provide a suitable folder for all the documents that the user has during the project. This avoids the creation of new folders which will create inconsistencies and might make it more difficult to find the specific documents later in time, for example if there are warranty issues during the warranty period. To achieve this, documentation from previous projects should be systematically analysed to identify recurring patterns, as demonstrated in the research conducted by Kähkönen and Rannisto.

Large companies have higher budgets for information technology and thus they can adopt latest technology available (Forcada et al., 2007). Smaller companies are demanded to fix immediate problems which is often done with isolated systems. According to Forcada et al. the best way is to implement the same enterprise-wide information technology as the larger companies but on a smaller scale. This is a scalable solution for possible company growth. However, SMEs are more concentrated on their day-to-day business and want to have simple mechanisms that can improve their business. Forcada et al. highlight that, in the context of SMEs, simplicity and functionality are especially critical considerations in the use of technology. As SMEs want scalable solutions, cloud-based DMS is responding to that need (Silva & Coutinho, 2024).

Digitalisation and Industry 4.0 have impacted on documentation management (Silva & Coutinho, 2024). Industry 4.0 reflects the trend of automation technologies, driven by enablers such as cyber-physical systems, the Internet of Things, and cloud computing. These new technologies provide the cloud-based DMS where the data is stored in servers such as data centres provided by the service vendor. Silva and Coutinho (2024) write that cloud computing has emerged as one of the most widely adopted technologies, owing

to its flexibility and the ease with which it can be integrated into key organisational functions and critical business areas. The EDMSs are now cloud-based applications, and they are accessible anytime and anywhere (Silva & Coutinho, 2024).

EDMS and cloud-based document management solutions are centralised database and offer a range of functionalities, including efficient storage management, streamlined document retrieval, and seamless information sharing (Alade, 2023; Djedović et al., 2016). They write that these systems also support document creation through integration with various applications, while enabling document viewing, editing, access control, and version management. Additionally, all three papers of Alade (2023), Djedović et al. (2016) and Silva and Coutinho (2024) highlight cost-efficiency as one of the benefits of EDMS. Besides cost-efficiency, EDMS seems to boost the overall efficiency of labour as the centralised software provides all the requirements for documentation management in one software. EDMS offers also possibilities for automating procedures which can make workflows simpler, quicker and eliminate errors.

Cloud-based solution implementations include challenges. Silva and Coutinho (2024) write that there are multiple challenges spanning technological, organisational, regulatory domains that especially SMEs should consider when implementing a cloud-based solution. Silva and Coutinho write that technological and operational limitations include inadequate IT infrastructure, which is common in smaller projects, and compatibility issues when integrating cloud systems with existing technologies. These often lead to additional costs and implementation delays. Risk and privacy concerns also play a significant role, with data security being a major priority due to the sensitive nature of business information. Ensuring compliance with region-specific data protection regulations further complicates adoption. Moreover, cultural and behavioural factors such as resistance to change and a lack of internal expertise in cloud technologies necessitate considerable investment in employee training and change management. Resource-related uncertainties, including limited financial capacity and fluctuating demand, pose barriers to cost-effective adoption and scalability of cloud services. Finally,

privacy and legal considerations such as intellectual property protection and ambiguities regarding liability in the event of data breaches or service disruptions create additional apprehension for SMEs considering cloud-based implementations.

3 Methodology

This chapter presents the research methodology applied in this paper, focusing on qualitative research techniques suitable for investigating project management standardisation and the role of project manager. The chapter elaborates on the research approach, data collection methods, and analytical techniques applied to address the research question: *How can the project management practices of the case company be standardised across different units to enhance consistency and efficiency?* The study employs semi-structured interviews as the primary data collection method, supported by observations and internal document analysis. The choice of these methods is justified by their ability to capture the complexities of project management practices.

3.1 Research Approach

The empirical study employs a qualitative case study approach, as the focus is on understanding the specific context of the case company. This approach is suited to exploring practices, identifying challenges, and proposing solutions tailored to the company's operational environment (Hirsjärvi & Hurme, 2022). By leveraging qualitative methods, the study aims to gather in-depth insights into project management practices.

3.2 Data Collection

To ensure a comprehensive understanding of current practices and challenges, three qualitative data collection methods were utilised. The primary data collection method consists of semi-structured theme interviews with 10 project managers at the case company. In addition, two stakeholder interviews were conducted to gather information from another point of view. One of the interviews was held with the head of production and the other one with the head of design. The stakeholder interviews were mainly carried out for the handbook development purposes. However, the data were also utilised in the results of this paper.

Semi-structured interviews are a widely used method to collect data, allowing for systematic yet flexible data collection (Hirsjärvi & Hurme, 2022). According to Hirsjärvi and Hurme, semi-structured interviews not only capture the perspectives of the interviewees but also amplify their voices, allowing for a more nuanced understanding of their experiences. This approach further enables the researcher to pose additional questions, facilitating deeper insights and a more comprehensive exploration of the subject matter and more in-depth data.

The interviews were conducted in Finnish ensuring that participants can express their views naturally and comprehensively. This approach minimises language barriers and ensures that responses accurately reflect the participants' experiences (Hirsjärvi & Hurme, 2022). The interview guide (Appendix 1) has been developed based on themes derived from existing literature on project management standardisation, onboarding, and documentation practices. The aim of the interviews was to be able to identify the areas where the improvements are needed the most and which are the themes that the internal project management guide should cover. The number of questions presented in Appendix 1 is relatively high for a semi-structured interview format. However, several questions allow for simple yes-or-no responses, accompanied by follow-up questions to encourage deeper insights. In addition, the purpose was to collect ideas and the knowledge level of the project managers. That extra information could be then analysed, gaps identified and used in the PMO organisation and in the development of an internal project manager handbook.

The interview sample was 12 people, 10 project managers from all the departments, and one representative from both design and production departments. It is worth noting that the sample of project managers is broad as all of the project managers were included in the sample. All the project managers have different backgrounds and different experience levels in project management. Thus, all of them were interviewed to gain diverse insights from junior, mid-level and more senior project managers. Project managers had questions regarding their position, challenges, and improvement areas.

The questions included in the Appendix 1 present the interview questions for project managers. The interviews with project managers lasted approximately 45–70 minutes. The duration depended on the background and experience level of the project manager in question. The questions for design and production representatives focused on the collaboration with project managers and are presented in the Appendix 2. The duration of the interviews was 20-30 minutes. Each interview was recorded for the possibility of transcription and further analysis.

To supplement the interviews, internal documentation was collected from the case company to be able to review the current documentation practices and process documentation. Document analysis provides triangulation by comparing actual documentation practices with interview insights, providing comprehensive understanding and helping to identify discrepancies or areas for standardisation. Overall, the purpose is to provide a comparative analysis between existing processes and frameworks and methodologies which could provide insights of the areas that should be improved in the case company. The reviewed documents consisted of the organisational chart, existing process flow charts, document templates, and, from previous projects, specifically the project plans.

3.3 Data Analysis

The collected data were analysed using qualitative content analysis, following the principles outlined by Hirsjärvi and Hurme (2022). This approach enabled the systematic identification, categorisation, and interpretation of recurring themes within the interview data. All interviews were transcribed and summarised to ensure accuracy and to facilitate a structured analysis process. Key themes emerging from the data, particularly those related to project management challenges, documentation practices, and successful approaches, were identified and grouped according to their similarities. This thematic clustering allowed for the identification of patterns and supported the recognition of areas within project management where standardisation would be most applicable and beneficial.

In addition, a comparative analysis of internal documentation was conducted to evaluate the alignment between current practices and established project management frameworks. The purpose of this analysis was to identify inconsistencies, gaps, or development opportunities in existing documentation procedures. By comparing internal documents with recognised standards and methodologies, the study was able to provide insights into areas requiring improvement and contribute to the development of more consistent practices.

4 Results

This section presents the findings of the interviews conducted with project managers in the case company. The interviews covered wide-ranging topics of which the main objective was to understand the past and current practices of the project managers. Additionally, existing documentation, observations during the informal interaction with the company and other internal company information was used to support the data from the interviews. The other internal information includes process flow charts and other quality system documents, documentation from previous projects as well as more general documents such as organisation chart. The purpose was to gain insight into current project management practices, identify challenges, and collect suggestions for developing and standardising project management across the organisation. The results have been categorised into key themes that emerged consistently throughout the interviews.

The case company is a Finnish medium-sized company currently employing around 100 people. The company operates mainly in Finland, but also in the Nordics, and they provide electrical engineering and electrification services. The company offers a wide range of products and services for renewable energy and industrial electrification, as well as the entire production chain from planning to implementation of a system. The case company is looking for growth and they see that especially renewable energy projects are seen to have one of the biggest growth opportunities.

The case company has traditionally worked as a subcontractor but is all the time carrying out more customised turnkey projects. The company is clearly project-based organisation (PBO). According to Lindkvist (2004), PBO is one in which most activities are carried out through projects. Consequently, operations are centred around projects, as the company delivers products or services to its customers. Through the growth and turnkey projects, the case company requires amongst others documented processes to maintain the control and quality. There is a relatively new structure in the case company as the PMO organisation is established recently. The PMO organisation is the lead for the

project managers which are placed in three different departments. Each department represents a different business area.

4.1 Current Practices

The overall view of the project managers' conception of the definition of a project and project management is very closely linked to the ones described by PMI (2021) and discussed in the Chapter 2.1. In the interviews there were no specific question about the definition of project and project management as it would not bring any additional value for the interview data. However, interpreting and concluding the answers to all of the interview questions the understanding follows the common definitions.

The interview data revealed that, the project managers from the separate departments running different kinds of projects described the project types very orderly regarding the delivery cadence. The main type of project is a single delivery project which provides the final deliverable upon the completion of a project. In addition, some maintenance projects were mentioned. However, maintenance projects are not included in the analysis of the interviews and the results of the case section as the focus is in the main business area of the case company. Thus, the descriptions of the delivery cadence were uniform.

The life cycle presented in the Table 1 is formulated based on the answers of the project managers to the Question 3 "Could you describe the typical phases of a project from start to finish?" in the Appendix 1. Although the overall structure of project execution is relatively well understood and consistently followed across the company, individual project managers differ in how they approach and implement the process. Typically, a project progresses through several phases: request for quotation, offer, contract signing, handover from sales to project organisation, kick-off meetings, scheduling, procurement, execution, commissioning, and final handover to the client. However, the depth of planning, documentation, and coordination at each stage depends on the project manager’s personal style and the type of project.

Table 1. Project life cycle in the case company.

Project life cycle	
Project start	Tendering
	Contract signing
	Project Kick-off
Planning & Design	Scheduling
	Resourcing
	Procurement
	Production
	Design
Execution	Installation
	Testing & Commissioning
Project end	Handover to the client
	Project closure

The project life cycle is very linear. Time after time, project managers described the steps overall in the same order. Even though some of the activities are happening in parallel, still the activities were placed in the same main phase of a project in the conversation about the project phases. Very small number of project managers would mention the main phases such as project start, project planning and design, execution, and project end. The project managers would start directly explaining the different areas or activities that happen in a specific main phase of a project. The interpretation is that the project managers are generally not categorising the project into a few main phases. This was also noted by an interviewee as the project manager would say that "I am not used to dividing the project to any phases". Thus, the concept of having clear project phases is not widely acknowledged in the company.

The projects adhere to a high-level sequence comprising initiation, planning, execution, and closure, suggesting that thorough planning takes place prior to execution. As the

projects include construction works and significant equipment investments these kinds of capital expenditure (CapEx) projects are risky and thus require structural review and change control. This structural approach leads to careful upfront planning as discussed in the Chapter 2.1 and it reduces the uncertainty in a project as the most project work follows the initial plan. Many project managers, especially junior level individuals, also mentioned the usage of the material from previous projects that they use as templates in their projects. However, this kind of way of working was also mentioned by more experienced project managers. They would mainly use their previous projects as an example rather than anyone else's projects. Despite none of the project managers mentioned any approaches, interview findings indicate that the case company's projects predominantly adhere to a predictive project management approach. This conclusion is corroborated by the analysis of project life cycle documentation, particularly the project plans from previously executed projects. The interview data did not indicate that adaptive approach is used. These findings are identical with the statement of PMI (2021) discussed in the Chapter 2.1 that construction related projects commonly apply predictive approach.

Project managers emphasised the importance of scheduling early in the project life cycle. Many cited challenges related to maintaining up-to-date schedules, particularly when external factors such as delayed deliveries or resource constraints impact the timeline. The handover process from sales to project management was mentioned as a critical step, but some noted that it lacks standardisation. The lack of standardisation occasionally leads to uncertainty and confusion about scope and responsibilities. The need for clear role definitions and task allocation at the beginning of each project was also a recurring theme in ensuring smooth execution. In addition, kick-off and close-out meetings were identified as valuable tools for aligning expectations and capturing lessons learned, though their use is not yet consistent across all projects. Project close-out meetings are conducted with the client, but internal close-out meeting with the project team is not in use. Currently, kick-off meeting can be seen a general way of working as almost all the project managers mentioned it in the interviews.

Training and Onboarding

The interviews revealed a clear need for more structured onboarding and continuous training for project managers. Many participants described their own onboarding experience as informal and largely based on learning by doing. While support from colleagues was appreciated, the lack of a formal introduction to tools, responsibilities, and procedures was seen as a barrier to effective performance, particularly during the first months in the role.

Several interviewees consistently suggested the development of a structured onboarding programme outlining key tasks, contact persons, and project management practices specific to the company. A dedicated project management handbook, including practical guidance and step-by-step instructions, was viewed as a practical and effective solution. Although the handbook cannot serve as an exhaustive guide covering every detail from project initiation to closure, it can provide direction on core areas and activities that must be carried out in every project. Additionally, many interviewees emphasised the need to clarify role definitions to support newcomers in understanding their responsibilities from the beginning. It was proposed that this information be incorporated into the handbook.

4.2 The Role and Responsibilities of the Project Manager

Interview data is following closely academic research findings regarding project manager's role and responsibilities. Overall, project manager is seen playing a crucial role in the projects of the case company. There are multiple reasons why, however, one of the main reasons are that the project teams are small and thus, project managers alone carry a lot of responsibilities leading to a significant role. The interviews with project managers included questions about the project manager's position. When asked about the project manager's role, the interviewees initially provided broad responses. They began their answers with statements such as, "The project manager is responsible for the entire project," "The project manager must ensure that the project is successfully

delivered," and "The project manager's role is to be the person who knows everything about the project." These responses suggest that the project manager's role is perceived as highly significant and closely linked to the success of the project.

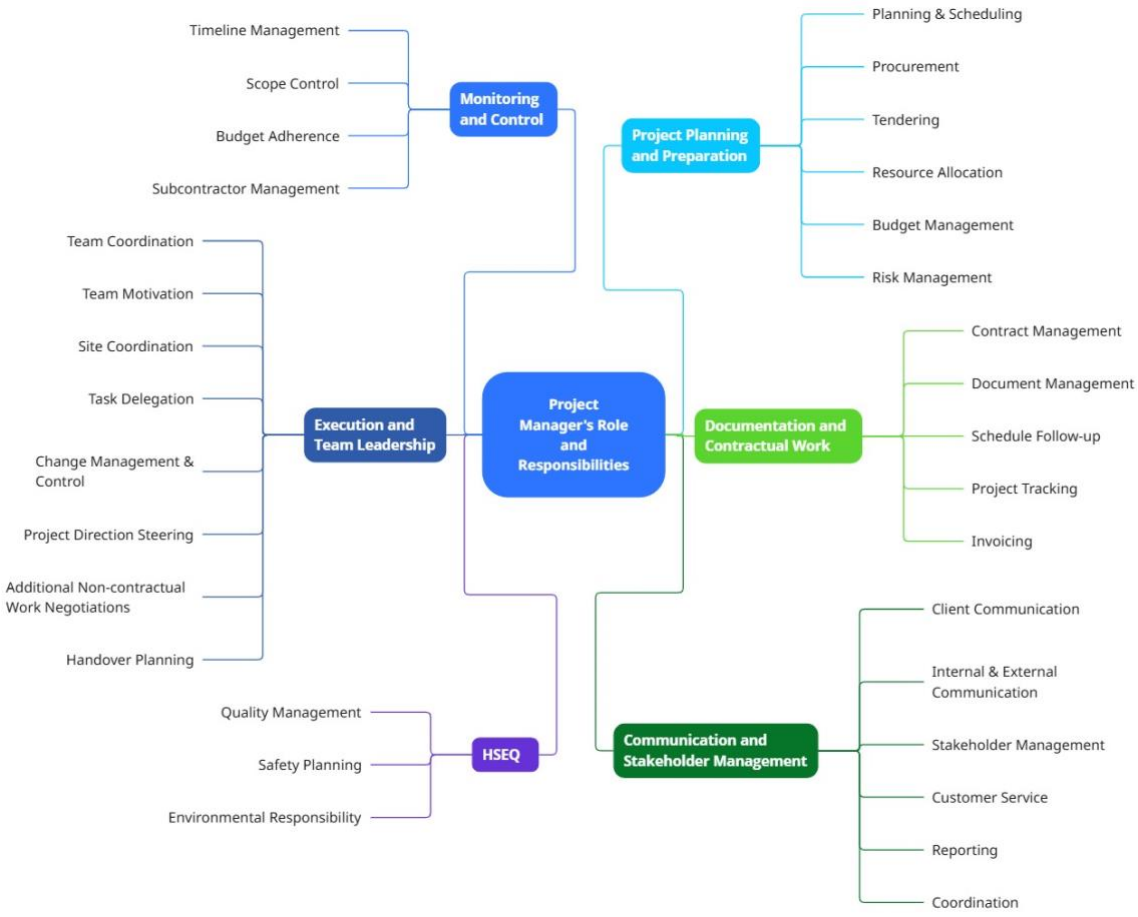

Figure 3. Project Manager's Role and Responsibilities.

The responsibility of the project manager is high, and the task variety is broad. Most of the time interviewees described the position having lots of responsibilities but little rights. On top of their minds, they would mention mostly responsibilities. For example, an interviewee mention in the answer for Question 5 of the Appendix 1 that "There are lots of responsibilities, but I am not sure if I have a lot of authority." However, after a moment of thinking and reflection, interviewees would mention the authority that they have. It was often described as "I have the authority to do decisions in the projects I manage." A conclusion is that the project managers have very wide role, responsibility,

and authority in the case company. Figure 3 presents the project manager's role and responsibilities, and it is divided into six different main categories. This division was done to make the figure clearer. The content in the figure is built based solely on the interviews with the project managers. The content reflects not only the answers provided to Question 5, but also the responsibilities referenced throughout the discussions of the remaining interview questions.

The interview data revealed one responsibility area that every project manager identified as among the most important: scheduling. Scheduling was emphasised even in the interviews with the stakeholders as the most important responsibility of a project manager. It was specifically regarded as the most critical responsibility of a project manager. Project scheduling was considered a central task, with most interviewees emphasising the importance of creating and maintaining a realistic schedule. Several managers mentioned that delays in procurement or resource availability often disrupt the schedule, forcing them to make frequent adjustments. Other key responsibilities that were frequently mentioned included budgeting, resourcing, and procurement. This is following closely the PMI (2017) definition of project manager's primary responsibilities that they state to be balancing the project constraints that are scope, schedule, cost, quality, risk, and resources. All of the constraints constitute Figure 3.

According to the interview data, the role of the project manager in the case company aligns with the findings of Turner et al. (2010). As discussed in Chapter 2.3, it is less common for SMEs to employ specialist project managers. However, in the case company, a distinct project manager role does exist, although it involves a broader scope of responsibilities compared to larger organisations. This was noted by interviewees who had previously worked in large companies. They emphasised that the broad nature of the role provides flexibility, as there are fewer people upon whom the project depends. At the same time, it places greater demands on project managers in terms of knowledge and skills, as they must cover a wide range of areas. This typical characteristic of SMEs is illustrated in Figure 3, where the project manager's role encompasses tasks such as

procurement and contract management, which are often handled by dedicated specialists in larger organisations. Additionally, the majority of project managers indicated that they were responsible for multiple projects simultaneously, which leads to high levels of stress and increased potential for oversight. Some project managers also handle tasks outside their core responsibilities, due to unclear division of labour or lack of delegation and this tendency to rely on individual initiative rather than structured delegation was viewed as unsustainable, especially as project complexity increases.

Project managers strongly associated project success with the role of the project manager. Overall, they did not report having specific KPIs for the projects they manage. The measured factors were primarily financial. However, although the interviewees stated that, to their knowledge, no additional metrics are currently used to evaluate project success at the end of a project, they still assessed project performance independently, considering other factors as well. These factors were occupational safety, customer satisfaction and project delivery in time. As a matter of fact, every project manager mentioned occupational safety as a one measure they think is crucial when evaluating the project success. Reflecting on the research and PMI (2017), the case company does not define success criteria as outlined by PMI, Müller and Turner (2007), and Westerveld (2003). At the start of a project, criteria should be identified and documented to enable effective success measurement. Several project managers recognised the need for improvement in this area. The success requirements are all included in the Figure 3 about project manager's role and responsibilities. All of the factors project managers identified effecting the project success are responsibilities of a project manager. Thus, they saw project managers role as significant to success. Overall, the findings are somewhat following the results of Takagi and Varajão (2022) and Turner et al. (2009) regarding SME success criteria discussed in the Chapter 2.5.

Communication and Coordination

Effective communication and coordination were widely recognised as essential components of successful project delivery. Interviewees described a variety of

communication practices, ranging from weekly team meetings to ad hoc discussions with stakeholders. Regular meetings were considered helpful for keeping everyone aligned and addressing emerging issues, although not all teams followed a consistent meeting schedule. Hence, project manager's role is not only about managing things but also requires leadership and strong communication skills. The interviewees saw project manager as the principal character coordinating everything in the project.

Client communication was identified as a critical responsibility for project managers. Keeping the client informed about progress, delays, or changes was considered important for maintaining trust and avoiding misunderstandings. However, the expectations regarding the frequency and format of client communication were often vague or left to the individual manager's discretion. Informing was identified as crucial also due to the contractual liabilities. Internally, project managers emphasised the importance of transparency, particularly when dealing with problems on site. Open communication within the team was seen as beneficial for both project outcomes and overall work atmosphere.

Contractual Knowledge and Risk Management

Contractual knowledge was highlighted by every interviewee as an important skill of a project manager. Most interviewees acknowledged that understanding contractual terms is essential for managing projects effectively. Nevertheless, many admitted to having limited knowledge of the most common contract conditions that are commonly applied in the construction and equipment delivery industries. Several participants indicated that they had received little to no training on contract-related issues and had learned mainly through experience or when problems arose during project execution.

The confidence regarding contractual matters was generally rather low. Some project managers reported that misunderstandings around contract clauses, such as penalties for delays, had caused complications. To mitigate such risks, participants recommended the provision of targeted training on contractual topics, ideally with practical examples

relevant to the company's operations. An interviewee explained in an interview that "There are so many contract types and terms and conditions for different situations in use, and it feels like contractual matters are just a chaos. I personally have gotten no guidance and if there was a contract training, I would definitely participate in it." Generally, the access to legal or procurement support during the contract negotiation phase was seen as one possible way to improve confidence and reduce uncertainty.

Confidence over contractual matters was especially highlighted by the project managers who have been engaging in EPC projects. The experience is that the contractual liabilities, obligations, and risk increase in EPC projects compared to subcontracting projects, thus, increasing the requirements for contract knowledge. Additionally, contractual requirements have increased as the case company has increasingly collaborated with larger organisations that possess more advanced contract management resources and impose more complex contractual obligations. This development has created additional challenges for project managers in the case company, particularly in managing contracts effectively.

Safety and Environment

Workplace safety was described as a high priority, and most interviewees recognised improvements in this area. The introduction of QR code systems for reporting near misses and incidents was viewed positively, as it simplifies the process and encourages more frequent reporting. These measures were seen as contributing to a stronger safety culture, though several participants mentioned that project manager's responsibilities related to safety were not always clearly defined. Overall, every project manager was aware of their liability of the HSE matters in the projects they lead. However, it was experienced that the actions that a project manager must take in a case of HSE incidents was not consistently clear. Some project managers expressed uncertainty about what steps to take when an incident occurs, and who is responsible for follow-up actions. There was also concern that some safety documents are too detailed or technical to be

useful in practice when training the site team. Suggestions included simplifying safety instructions and improving accessibility through summaries.

Compared to safety, environmental practices appeared less developed. Several participants stated that they were not fully aware of how to report environmental incidents or handle specific cases. The lack of clear guidance on environmental responsibilities was identified as a gap in current practices, indicating a need for improvement.

4.3 Standardisation and Documentation

Standardisation and documentation emerged as interconnected focal areas during the interviews with project managers. As Kerzner (2013) and Milosevic and Patanakul (2005) suggest, standardisation is fundamentally about achieving uniformity in project execution, and consistent documentation practices are a critical part of this effort. Within the case company, the need for standardised ways of working has become increasingly evident due to the company's rapid growth resulting diversity in project management approaches.

The need for improved standardisation and documentation practices was one of the most mentioned issues. While some templates, folder structures, and documentation procedures exist within the company, their use is inconsistent and the information about them has not reached everyone. Many project managers indicated that each person tends to work in their own way, which might in some cases complicate collaboration and reduce efficiency, especially when multiple stakeholders are involved. This was also brought up in the interviews with design and production. They mentioned that the project managers have different ways of working and might communicate through different channels. There is also considerable variation in project follow-up practices, and roles and responsibilities related to tasks were perceived as inadequately defined.

Interviewees consistently highlighted the challenge of inconsistency in project practices across teams and individuals. While some project managers utilised available templates and followed documented procedures, others adopted personalised methods, particularly when preparing client-facing materials. This inconsistency aligns with Gosling et al. (2015), who note that when processes vary significantly, it undermines the perceived professionalism and efficiency of the organisation. This discrepancy is particularly problematic in the projects of the case company, where customers often require detailed and technically accurate documentation throughout the project lifecycle. This is clearly experienced by the project managers as all the interviewees emphasised the importance of a clear and high-quality documentation in order to achieve customer satisfaction which is the ultimate goal of the company.

The interview data also indicated that although the company has introduced folder structures and certain template documents, these are not always used systematically. Additionally, interviewees experienced insufficient templates and gave examples of templates that are missing but would be useful. One of the examples was progress reporting. The report is client-facing document and the value of consistent, clear and uniformed project reporting for the client is emphasised. This observation reflects Lee and Dale's (1998) notion that documentation must be pervasive, comprehensively adopted, and regularly updated to support a functioning BPM approach. One project manager noted that "each project manager has their own way of writing reports," indicating a lack of enforced or commonly accepted documentation standards. This variation not only complicates internal knowledge transfer but also exposes the company to risk when transitioning responsibilities between project phases or personnel.

Interview data indicates the willingness to have more templates for use. Interviewees added that the templates should be also stored in a place where they can be also found. There was a strong consensus that a unified folder structure and central repository for templates would enhance clarity and save time. Interviewees described how the current fragmentation of documentation across different platforms creates unnecessary

confusion. Templates are stored in a shared drive where there is no specific and clearly defined repository for them. Suggestions of cloud-based DMS was given in the interviews as it would be more modern and would make the templates more accessible. Several project managers referred to existing good practices in certain departments, such as standardised site folders and safety documentation, and recommended adopting similar models more broadly. Many also proposed the development of a comprehensive project management guide that would include instructions, templates, and clearly described procedures for different project phases.

The level of project management standardisation in the case company is currently low. No best practices have been formally identified or implemented, and as a result, project management excellence is not actively promoted. Interview data revealed that there is no established process, technique, or method in use that consistently delivers superior project outcomes. This conclusion is further supported by the internal documentation review, which did not find evidence of documented best practices. Project management standardisation is closely linked to BPM, as both aim to improve and formalise organisational processes. Standardisation efforts in the company would benefit from aligning with the BPM life cycle model described by Dumas et al. (2018). In this context, BPM can be viewed as a prerequisite for developing project management standardisation. Based on the analysis, the case company would likely benefit from first implementing BPM principles, which could then serve as a foundation for developing, improving, and standardising project management practices. For instance, in the current state, the process discovery and analysis phases are partially addressed through internal discussions and informal evaluations. However, the implementation and monitoring of redesigned processes are lacking, as there is no formalised feedback mechanism or quality control related to documentation usage. To reach the 'to-be' state envisioned in process redesign, clearer ownership of documentation responsibilities and regular training would be essential.

Client-specific documentation requirements were also identified as a challenge for achieving standardisation. Project managers explained that some clients require comprehensive documentation, such as detailed safety plans or installation protocols, while others accept a more minimalistic approach. This variation has contributed to reluctance in enforcing strictly uniform templates across all projects. Nevertheless, the interviewees shared the view that standard templates could still be valuable if designed with a consistent core structure while allowing sections to be adapted according to client-specific needs. This approach aligns with the concept of balancing the benefits of uniformity with the flexibility required in diverse project environments.

During discussions about standardisation, a frequent remark from project managers was that “the projects are so different that there cannot be a standard for projects.” This perception reflects the highly customised nature of the case company’s operations, where each project may differ in scope, technical requirements, client expectations, and site conditions. As such, the idea of a single, exhaustive project management handbook was seen as unrealistic. However, despite these differences, interviewees were able to identify recurring elements and shared practices that could be standardised without compromising the flexibility needed in execution. These include the structure of documentation folders and the use of certain reporting templates. This finding supports the view presented in the literature that standardisation does not necessitate complete uniformity but rather focuses on harmonising key processes to reduce variation where feasible (Schäfermeyer et al., 2010). Establishing common practices in these areas can provide a more coherent framework for managing variability, enhancing both internal efficiency and external clarity.

While the case company does have a PMO function, its current structure, consisting of a single PMO manager and project managers who primarily focus on running their own projects, limits its capacity to lead systematic standardisation efforts. According to Kerzner (2013), a key responsibility of a PMO is to coordinate project practices, manage documentation standards, and support knowledge sharing across projects. In the case

company, however, the PMO manager's role is largely reactive, offering support or substituting for project managers when needed, rather than proactively overseeing process development or steering the development of project management processes and tools. This setup is typical of SMEs, where PMOs often operate with minimal resources and are closely tied to operational execution, as highlighted by Hobbs and Aubry (2008). Nonetheless, the interview feedback indicated a demand for more coordinated tools, clearer documentation practices, and onboarding support. These functions would naturally fall within the scope of a more strategically positioned PMO. Enhancing the PMO's role incrementally could provide a central structure for driving standardisation and process improvement, while also relieving individual project managers from responsibilities that require organisational oversight.

In conclusion, the current state of standardisation and documentation within the case company reflects an early phase of structured development. Although tools and templates exist, their application is inconsistent. Interview data highlights a shared recognition of the need for clearer guidance and enforcement of documentation practices, particularly in the planning and reporting areas. Integrating lessons from BPM and project management literature could help the company move toward a more coherent and standardised project delivery model. Developing a documentation manual, including templates with usage instructions and client-specific adaptation guidelines, could significantly enhance consistency and efficiency, ultimately supporting both internal collaboration and external credibility.

4.4 Key Development Areas and Recommendations

This section presents a structured overview of the key areas where the case company should focus its development efforts to enhance consistency and efficiency in project management. The results of the semi-structured interviews, document analysis, and observations highlight specific areas where inconsistencies currently hinder project efficiency and internal alignment. These suggestions are examined through the lens of

the results and analysis as well as the existing literature on project management standardisation, project roles, documentation, and knowledge transfer.

The recommendations are designed to support the company in achieving greater consistency, efficiency, and knowledge retention while maintaining a level of flexibility suited to the SME context. Importantly, all recommendations are tailored to support the research objective of evaluating current processes and highlighting areas for standardisation, while directly contributing to answering the research question: How can the case company's project management practices be standardised across different units to enhance consistency and efficiency? The suggestions are presented in Table 2 below. The left column presents the action that helps the case company to move towards project management standardisation from its current state. The column on the right presents a concise summary or explanation of what each proposed standardisation action involves. The actions are further elaborated upon in the following parts of this section.

Table 2. The practical steps towards standardised project management practices.

How to standardise PM practices?	**Description of the action**
Establishing a Common Project Life Cycle Framework	Develop and implement a standard project life cycle model with defined phases (e.g. initiation, planning, execution, closing) and key activities within each phase. This framework should be documented in internal materials and used to align processes, clarify responsibilities, and support consistency across departments.
Creating Documentation Structures and Templates	Clarify and guide the use of the standard folder structure by providing instructions and embedding core document templates into project directories. Develop a centralised, user-informed template library for key project documents, and consider adopting a scalable cloud-based EDMS to improve access control, document versioning, and collaboration.

Defining the Role and Responsibilities of Project Managers	Create a formalised RACI matrix that outlines the responsibilities of project managers across all project phases. This will clarify expectations for key tasks such as documentation, communication, and coordination, reduce role ambiguity, and support onboarding, accountability, and performance evaluation.
Introducing a Common Approach to Lessons Learned	Implement a lightweight, standardised format (e.g. Micro Article) for documenting lessons learned at key project phases. Store these centrally in the EDMS, with the PMO responsible for oversight and analysis. This will help retain organisational knowledge, avoid repeated mistakes, and support continuous learning across projects.
Strengthening the Role of the PMO as a Centralised Standardisation Function	Expand the PMO's role to oversee the enforcement of standardised practices, including templates, documentation quality, onboarding, and lessons learned. As the organisation matures, the PMO should lead methodology development, process improvement, training, and strategic alignment across all projects.
Adopting a Phased and Lightweight Approach to Standardisation	Begin by identifying and mapping current project-related processes across departments to spot inefficiencies and overlaps. Focus on standardising high-impact, routine areas first using lightweight tools like templates and checklists. Use pilot projects to test new practices and gather feedback. Refine and scale gradually, ensuring flexibility where needed and involving project managers in tool development to ensure adoption and practicality.

Establishing a Common Project Life Cycle Framework

The interview findings revealed that project managers across departments follow similar sequences in project execution, often describing a linear process from offer preparation to final handover. However, there is a notable absence of a formally defined project life cycle model with clearly articulated phases. Only a few project managers referenced project stages using formal terminology such as "planning" or "execution", and many noted that they do not consciously divide their projects into structured phases. This lack

of a common language leads to inconsistencies in execution, planning depth, and documentation practices.

Standardisation of the project life cycle is a foundational element in aligning project practices across departments (PMI, 2021; Milosevic & Patanakul, 2005). A shared project life cycle structure, comprising phases such as initiation, planning, execution, and closing, not only supports consistent execution but also creates a foundation for developing related templates, checklists, and performance evaluations. As discussed by Kerzner (2013), a consistent project life cycle is a key element of project management maturity and allows for greater clarity in stakeholder communication. A formal life cycle framework should include the main phases but also the different main activities in each phase and the descriptions of the procedures. Thus, currently lacking practices could be implemented company wide. The practices added in the project management should be for instance internal project closure meeting including lessons learned. In addition, the project handover from sales to the project team procedure could be enhanced by creating a guideline for the process and what is the purpose of the process and what is the content covered during the process.

Recommendation is that the case company should define a standard project life cycle model and integrate this structure into project management documentation, such as project manager's handbook, onboarding materials, and internal communication. While maintaining flexibility for project-specific variations, the framework should include phase-specific goals, deliverables, and review mechanisms. These phases should align with the predictive model frequently used in the case company's projects.

Creating Documentation Structures and Templates

Across all interviews, the lack of uniform documentation structures emerged as a significant barrier to consistency and efficiency. Project managers frequently use past projects as informal templates, often relying on their own previous work rather than shared organisational resources. The absence of a clear folder structure or standardised

templates results in variable quality, client-facing inconsistencies, and reduced traceability. In addition, in the current DMS, the access control is limiting the usage of the project specific documentation by some internal stakeholders which sometimes leads to the usage of outdated documents. The literature strongly supports the role of standardised documentation in improving consistency, traceability, and overall project. Furthermore, as projects grow in complexity and involve multiple stakeholders, the ability to locate and retrieve documentation quickly becomes critical. The well-structured digital folders aligned with project phases enhance document usability and mitigate risks related to lost or misfiled documents.

Recommendation is that since the case company has a standardised folder structure, but there is lack of knowledge where specific documentation should be placed, instructions for the default folder structure should be created. In addition, the PMO should develop a template library for core project documents, including project plans, meeting minutes, monthly reports, and final reports. These templates should be developed with user feedback and tailored to fit the needs of different departments, ensuring they are lightweight but effective. Templates that are used in every project could be embedded in the main project folder structure. These types of templates could be for instance for project handover, contractual notification, lessons learned and client feedback and closure meeting. Adopting a cloud-based EDMS would further enhance access control, versioning, and knowledge sharing. Cloud-based EDMSs offer scalability suitable for SMEs, allowing gradual adoption without major upfront investments.

Defining the Role and Responsibilities of Project Managers

The analysis indicates that project managers in the case company operate with a high degree of autonomy, resulting in diverse interpretations of their role and associated tasks. This is particularly evident in activities such as lessons learned documentation and sharing, stakeholder communication, and document control, which are inconsistently managed depending on the individual project manager. In addition, project managers might perform tasks which should not be carried out by them but rather delegated to

another person in the project team. Thus, the importance of clearly defined roles and responsibilities in project management has been extensively emphasised and also documented in the literature (Kerzner, 2013; PMI, 2017). As the number of project managers grows, particularly in medium-sized companies, the need for a more formalised project manager role becomes critical to ensure alignment and avoid duplication or neglect of key tasks. A formal role description also supports onboarding, knowledge transfer, and performance evaluation.

Recommendation is to implement a responsibility assignment matrix. This kind of role-specific RACI (Responsible, Accountable, Consulted, Informed) matrix should be developed by PMO to outline the responsibilities of project managers across each phase of the project life cycle. This should include both client-facing and internal tasks, with clear expectations for documentation, communication, and coordination. This matrix should be integrated into the internal project management guide and reinforced through onboarding and training sessions.

Introducing a Common Approach to Lessons Learned

Although many project managers mentioned informal reflections or internal reviews post-project, there is currently no standard practice for capturing or disseminating lessons learned. As a result, valuable experiential knowledge is frequently lost and not translated into organisational improvements. The result might be repeating the mistakes in other projects run by other project managers. Thus, reflecting on completed projects was identified as another area for development. Knowledge management is a central function of effective project management, particularly in project-based organisations where teams are often reconfigured across projects. The literature consistently highlights that documenting lessons learned is critical for avoiding repeated mistakes, improving future projects, and institutionalising best practices (PMI, 2021). In addition, the interviewees suggested that more structured evaluations could help identify recurring problems and promote continuous learning across the organisation.

Recommendation for the case company is that the PMO should implement a lightweight, but standardised lessons learned format. The Micro Article format presented by Schindler and Eppler (2003) is particularly well suited for SMEs, requiring minimal time while capturing key insights. Lessons learned should be documented at key phase gates, not just at project completion, and stored in a searchable format within the EDMS. The PMO should take ownership of collecting and organising these insights, while project managers should be responsible for their creation. As the owner of the lessons learned repository, the PMO could analyse insights gathered from all projects and departments, and, when necessary, organise training for project managers on topics where recurring challenges are identified.

Strengthening the Role of the PMO as a Centralised Standardisation Function

The PMO in the case company is a relatively new organisational structure. While its establishment is a critical step towards improved project governance, its current role and authority appear limited, and its activities are not yet fully institutionalised across departments. Research shows that PMOs play a pivotal role in standardising practices, developing templates, supporting training, and institutionalising knowledge management as discussed in the Chapter 2.4. The type and structure of the PMO should evolve based on the organisation's maturity and needs. For the case company, a move towards a more controlling PMO model could ensure more consistent compliance with standardised practices without compromising agility. However, the steps before that is to identify the needs of the company's project management practices and establish a common methodology for project management.

Recommendation is that the PMO should be empowered to enforce standardisation of templates, review documentation quality, facilitate project manager onboarding, and act as the custodian of lessons learned. In addition, as PMO acts central role in driving projects' success PMO could develop the broader project success measurement tools or KPIs. The PMO should also lead the development and periodic revision of the internal project management guide as well as all the processes related to project management.

As the organisation grows, the PMO's responsibilities should expand to include training, coaching, and supporting strategic alignment across projects.

Adopting a Phased and Lightweight Approach to Standardisation

The interview results highlighted that while project managers generally recognise the need for more structured practices, there is concern about introducing overly rigid or bureaucratic systems. This is particularly relevant in the context of a medium-sized company, where operational agility and pragmatic approaches are highly valued. Several project managers expressed that standardisation efforts should be simple to use and implemented gradually, rather than introduced as large-scale top-down changes. Flexibility should be retained in areas where project specificity is high, while standardisation should be prioritised in areas with high repeatability or visibility (Schäfermeyer et al., 2010, 2012). This insight aligns closely with BPM principles. BPM promotes a phased approach to improving operations, beginning with identifying, modelling, and documenting current processes (Dumas et al., 2018). For the case company, this means starting with a systematic mapping of project-related processes across departments, such as project start-up, internal handover, procurement, reporting, or project closure, and identifying overlaps, inefficiencies, or gaps. This exercise would not only clarify how things are currently done but also expose opportunities for standardisation and simplification. When processes are clearly defined, they provide a foundation for the company to ultimately develop its own customised project management methodology.

In particular, the company would benefit from conducting a more thorough comparison of practices between departments. Although all units share a similar high-level project structure, the execution of internal steps, communication patterns, and documentation usage vary. There are practices such as project progress tracking that is done differently between departments. By identifying the common elements and modelling the most efficient workflows, the PMO can begin to define standardised processes for areas where consistency adds the most value. Standardisation should therefore start with high-

impact, relatively routine areas, such as project life cycle phases, strengthening folder structures, or handover procedures. These can be supported by lightweight tools like templates, checklists, and visual workflows. Over time, once these foundations are in place and well adopted, more complex or department-specific practices can be addressed.

Recommendation is that the case company should begin standardisation efforts by focusing on clearly defined, high-impact elements such as the project life cycle model, documentation templates, and role responsibilities. These efforts should be introduced incrementally, using pilot projects to test and refine the approaches. Project managers should be actively involved in the development and review of these tools to ensure usability and foster buy-in. Furthermore, a feedback loop should be established to allow continuous improvement of templates and practices based on user experience. In parallel, the PMO should begin identifying and documenting key project-related processes across departments. This approach ensures that standardisation is both practical and scalable and lays the groundwork for future BPM development and more systematic process governance. A suggested BPM-based life cycle approach for process development and standardisation is presented in Table 3.

Table 3. BPM-based phased standardisation approach.

Step	**Description**
1. Process Identification	List all key project-related processes across departments.
2. Process Modelling	Map out current workflows and responsibilities for each identified process.
3. Process Comparison	Analyse similarities and differences between departments; identify inefficiencies and gaps.
4. Standardisation Design	Define best practices for repeatable processes and create lightweight tools like templates, checklists, and visual guides.

5. Pilot & Feedback	Test the new practices in selected projects and collect feedback from users.
6. Iteration & Rollout	Refine practices based on feedback and roll them out across departments incrementally.

Developing Project Management Handbook

The interviews generated a wide range of suggestions for improving project management within the company. The idea of creating a company-wide project management handbook was presented as part of the interview questions. All interviewees acknowledged its value and agreed that such a handbook would be a helpful tool to centralise instructions, templates, and tools in one place. It was viewed as a practical way to support consistency in daily project work, reduce mistakes caused by ambiguity, and save time through easy access to standardised materials. Several interviewees also noted that the handbook could be especially useful for onboarding new project managers and aligning practices across departments.

The development of the handbook began as part of this master's thesis project and is designed to directly address the identified gaps in consistency, documentation, and role clarity. The case company does not have a written document describing their project management practices. Thus, the handbook is developed and implemented for the first time. The first version of the handbook is mostly reflecting the current project management practices. The main aim is to document the contemporary practices to be able to recognise the areas for improvement. The first version is already bringing easy to adopt and impactful procedural changes that are evaluated to be relevant to implement. It brings together practices, templates, and tools that were created or refined based on the results of the interviews and analysis. While the handbook is currently in draft form and not published yet, it is intended to serve as a living internal document that evolves as the company's project management maturity grows.

The structure of the project manager's handbook is modular, allowing for expansion as new practices are developed and documented. The current framework includes the following key sections and contents presented in Table 4. Each section is designed to provide not only procedural instructions but also practical tools, such as checklists and document templates. These materials are intended to be lightweight and easily adaptable, following the phased and pragmatic approach to standardisation outlined earlier in this chapter.

Table 4. Project manager's handbook structure and content.

Handbook Section	**Content**
Introduction	Purpose of the handbook Organisation chart
Project Manager's Role	Role of a project manager Impact of ISO certificates in the project managers work Introduction of systems and tools used
Project Life Cycle	Project process flowchart Kick-off meeting Project start Planning Execution Project closure
Monitoring and Reporting	Monitoring and control tasks Project reporting internally and externally
Occupational Health and Safety	Ensuring occupational health and safety Occupational health and safety reporting and occupational accidents
Contract Management	YSE 1998 clarification of the principal clauses of the general terms and conditions used.
Risk Management	Overall risk exposure and HSE risks

Claims Management	Complaint handling Supplier claims Warranty claims
Project Checklists	Checklists for different project life cycle phases.

Recommendation for the implementation is that the handbook implementation should be done in phases to allow for feedback, adaptation, and internalisation. The plan is to publish the internal project manager's handbook in parallel with this thesis. Before publishing the handbook goes through a couple of feedback rounds with department leaders. That is the first step: internal piloting with a selected group. This helps validate the content, identify usability challenges, and build support from within the user base. Feedback from this phase is used to revise and finalise the initial version of the handbook.

Once validated, the handbook should be introduced company-wide through onboarding sessions, department briefings, and integration into existing processes. It should also be embedded into the training of new project managers, ensuring that the handbook becomes part of the learning journey from the beginning. To enhance usability, the handbook should be provided in a digital format with intuitive navigation, hyperlinks to relevant templates, and a version control system. Integration with the company's EDMS is recommended to ensure that the handbook and associated tools are accessible to all relevant employees regardless of department or project type.

Recommendation is that the PMO should take ownership of the handbook's maintenance and continuous improvement. The handbook should not be treated as a static document, but rather as a dynamic resource that evolves alongside changes in company practices, lessons learned from projects, and shifting business needs. A regular review cycle should be established, ideally on a biannual or annual basis, during which the content is systematically evaluated, updated, and communicated to users. Feedback mechanisms should also be in place to allow project managers to suggest changes or

report issues with existing guidance. These could be collected through short surveys, review workshops, or direct feedback during project debriefings.

The project management handbook presented in this part is a key enabler of standardisation within the case company. It documents the current practices and serves as a guideline that is concrete and provides usable tools that improve consistency, reduce onboarding time, and strengthen organisational learning. In addition, it defines the project manager's role and responsibilities in the case company. Furthermore, it clearly states the tasks of a project manager and provides checklists for the most important tasks in each phase of a project. When implemented effectively and supported with regular updates, the handbook can form the backbone of the company's internal project management framework, helping ensure that best practices are not only defined but embedded in daily operations by all the project practitioners.

As a conclusion, by addressing the seven areas covered in this Chapter 4.4 and presented in Table 2 the case company can establish a strong foundation in order to move towards a more unified and scalable project management model. This will enhance not only internal consistency and efficiency but also improve project quality and client satisfaction supporting the company's strategic ambitions for growth and operational excellence.

5 Conclusion and Discussion

The final chapter of this paper summarises the conclusions drawn from the research and reflects on its broader significance, limitations, and future research opportunities. The chapter begins by responding to the research question and objectives, followed by a discussion of the study's reliability, practical implications, and directions for further research.

5.1 Conclusion

This paper set out to explore the question of how the case company's project management practices can be standardised across different units to enhance consistency and efficiency. The research aimed to identify the key tasks and responsibilities of project managers that influence project success, to evaluate the company's current project management practices, and to highlight areas where standardisation would be beneficial. Based on these findings, the objective was also to develop internal project management guidelines that the company can use to support future operations.

The results show that while project managers across the case company follow a broadly similar logic in their project work, actual practices differ between departments. These differences were particularly evident in areas such as documentation, internal communication, role interpretation, and knowledge sharing. The study identified six key development areas where development towards standardisation could enhance project execution: establishing a common project life cycle, improving documentation structures and templates, clarifying the role of project managers, formalising lessons learned, strengthening the role of the PMO, and adopting a lightweight approach to implementation. In addition, a project management handbook was developed as a central tool for bringing these elements together. When implemented incrementally and supported with ongoing feedback, these improvements are expected to lead to more consistent, efficient, and scalable project management practices across the organisation.

5.2 Discussion

This study is focused on only one case company. This limits the extent to which the findings of the paper can be generalised. The results are specific to the company's organisational culture, size, and industry context. Therefore, the findings can be only partially generalised to other small or medium-sized enterprises, particularly those operating in different sectors. Nevertheless, many of the issues identified are common in growing project-based organisations, and the proposed actions are supported by the results and findings in existing literature.

The study offers clear and actionable insights for the case company. The recommendations, such as defining a shared project life cycle, developing templates and checklists, clarifying responsibilities, and enhancing the role of the PMO, provide concrete steps that the company can take to improve its internal consistency and project outcomes. These are not abstract suggestions but are based on the everyday needs and observations of the project managers themselves. The handbook developed as part of this research can act as a unifying tool that supports onboarding, knowledge retention, and cross-departmental alignment.

Further research could examine the long-term effects of the implemented improvements and evaluate how they influence project performance and organisational learning. As the PMO becomes more established, future studies could explore its evolving role in supporting standardisation and strategic alignment in SMEs. It would also be valuable to investigate how digital platforms, such as cloud-based document management systems, contribute to the successful adoption of standardised processes. Comparative studies across similar organisations in other sectors could provide additional insights into which standardisation practices are transferable and which are context-specific. Additionally, future research could focus more specifically on how SMEs can develop and adopt their own project management methodologies. This could involve exploring the balance between formal structure and flexibility, especially in

environments where agility and responsiveness are essential. A related area of research would be to investigate project management maturity in SMEs, particularly how it evolves as standardised practices, PMO functions, and digital tools are introduced. Applying or adapting existing project management maturity models to the SME context could offer valuable insights for companies navigating similar growth and development challenges.

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Appendices

Appendix 1. Interview: Project Managers

1. Background Information

1. What is your experience as a project manager?
2. How long have you worked at the case company, and what types of projects do you manage?

2. Project Management and the Role of a Project Manager

3. Could you describe the typical phases of a project from start to finish?
4. What are your most important tasks as a project manager?
5. What are the project manager's role, tasks, responsibilities, and authority? Are they clearly defined, and how could they be further clarified?
6. What are the biggest challenges in project management from a project manager's perspective?

3. Standardisation and Documentation

7. How would you describe the current level of project management standardisation in the company? Are there clear guidelines, or do everyone work in their own way?
8. Are there ready-made templates or guidelines for project documentation? Do you use them?
9. Is the project folder structure clear and well understood? Are there guidelines for its use?
10. What do you see as the biggest challenges in ensuring consistent documentation across different projects?
11. In your experience, how does the quality of documentation affect project outcomes and customer satisfaction?
12. How important is contractual knowledge in a project manager's role? Do you feel you have received sufficient guidance on it?
    a. What are the most important contract terms that project managers should understand?

13. Is communication regarding occupational safety clear? Who is responsible for it? How should a project manager act in case of a workplace accident or a near-miss situation?
14. How is waste management reporting handled? How should a project manager act in the event of an environmental incident?

4. Onboarding and Knowledge Transfer

15. How were you onboarded into the role of a project manager?
16. What kind of training or support did you receive when you started as a project manager? What would you have needed to integrate into the role more quickly?
17. Do you think a project management manual would be useful? What should it include?

5. Development and Best Practices

18. Which best practices or ways of working should, in your opinion, be standardised across all projects?
19. What tools or processes could improve and enhance project management?

6. Project Success and Handling Failures

20. How is project success evaluated? What are the most important factors influencing project success?
21. When a project faces challenges, failures or mistakes, how is the situation handled? How is it ensured that the same mistakes are not repeated in future projects?

Appendix 2. Interview: Stakeholders

1. Could you describe your role and key responsibilities?
2. How often and at what stages do you collaborate with project managers?
3. What is the role of project managers from your perspective?
4. Does collaboration with project managers run smoothly? What factors support good cooperation?
5. Do project managers have different ways of working? If so, how?
6. What are the biggest challenges in working with project managers?
7. How well do project managers communicate the necessary information to production/engineering?
8. Do you think project communication is clear and consistent? If not, what could be improved?
9. Are there clear processes or documentation models that support collaboration? Are they used consistently?
10. What aspects of project managers' work could be improved in your opinion?