

UNIVERSITY OF LJUBLJANA
SCHOOL OF ECONOMICS AND BUSINESS

MASTER'S THESIS

**AN ANALYSIS OF SOFT SKILLS REQUIRED IN DIFFERENT
PHASES OF GLOBAL PROJECT MANAGEMENT**

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LIST OF ABBREVIATIONS

sl. – Slovene

EA – (sl. Arhitekt podjetja); Enterprise Architect

IT – (sl. Informacijska tehnologija); Information Technology

PMBOK – (sl. Znanje o vodenju projektov); Project Management Body of Knowledge

INTRODUCTION

Most companies nowadays are facing the trend of digital transformation, which is impacting their business and changing the way they operate (Pace, 2019). Innovations are often closely related to information technology. Still, despite the rapid plunge into the unknown, it is not technology that poses the biggest challenge to companies in the process of digital transformation, but something quite the opposite and far more familiar – people (Pace, 2019). In the era of digital transformation, the overall success of companies is determined by the success of individual projects (Dinsmore, 1998). According to Cooke-Davies (2002), people are a key element influencing the success of a project; therefore, they must be managed appropriately (Anantatmula, 2010). As a result, the role of project managers is to manage the project team and are personally responsible for the success of the project (Project Management Institute, 2021b), which is becoming increasingly important.

Project managers perform a variety of functions, such as facilitating the work of the project team to achieve the outcomes and managing the processes to deliver the intended results on time and within budget (Project Management Institute, 2021b). However, the Chaos report 2015 reveals that only 9% of all projects were successful, meaning they were on time, on budget, and with the required features and functionalities (The Standish Group, 2015). According to the Project Management Institute study (2021a), for a successful project - it is essential for a project manager to possess certain skills.

Although hard skills, which are technical in nature, are critical to the skill set of a project manager, soft skills complement the success of the project and are of equal importance. Furthermore, the study conducted also revealed that possessing hard skills alone is no longer sufficient in today's increasingly competitive job market; therefore, project managers must retain both hard and soft skills (Project Management Institute, 2021a).

Soft skills are quite critical for global projects due to the additional challenges global projects may face compared to locally executed projects (Lilliesköld, Eriksson & Jonsson, 2002). Furthermore, they are almost a necessity for multinational companies due to their global operations (Bhullar, 2018). The number of global projects is continuously increasing, and the question arises - what soft skills do project managers need to have to deliver such projects successfully?

In this master's thesis, I would like to examine which soft skills project managers are applying to lead global projects in order to execute global projects successfully. Since projects are usually divided into phases, I will analyse which soft skills a project manager needs in different phases of a project to successfully complete each phase (i.e., to successfully overcome all the challenges of each phase).

The purpose of this research is to enhance the understanding of the importance of soft skills in the different phases of project management in a global environment. Defined soft skills,

along with recommendations, will enable project managers to improve the success of their global projects, which will also increase the overall success of the companies.

The main objective of this research is to review the literature on global projects and the soft skills required to manage these projects and additionally examine empirically which soft skills are required at each phase of a global project to ensure its success. Based on the research, I will create a list of soft skills required in each phase, along with recommendations for managing global project teams.

In my master's thesis, I address the following research questions:

RQ 1: What are the critical factors for successfully executing a global project?

RQ 2: What are the main challenges for the project manager during the execution of a global project?

RQ 3: What are the key hard skills required by a project manager in different phases of global project management?

RQ 4: What are the key soft skills required by a project manager in different phases of global project management?

The thesis is composed of a theoretical and empirical part. In the theoretical component, I used the general research method of the cognitive process and the descriptive method to describe, define and explain concepts in the field the global project management. Furthermore, I also presented the soft and hard skills required in global project management. During the preparation of the theoretical part, I have placed great emphasis on the study of foreign literature in all fields of global project management, in particular, researchers that have studied soft skills in global project management.

The empirical part of the thesis is based on primary and secondary data. Secondary data used for the research was internally available data in the company. Primary data was collected through semi-structured interviews in a manufacturing company. Specifically, I conducted research in an international manufacturing company that uses the Seven Phases Approach for managing global projects. The approach consists of seven development phases and is used to implement any global solution in the company.

The approach is well-defined in technical and organizational terms meaning; the project manager knows what requires to be done in each phase (from a technical perspective) and what steps and tasks need to be done in each phase (from an operational perspective). However, the approach used in the company is not well defined from a people management perspective, which can be critical to the success of the project, according to the Project Management Institute (2021a). The empirical component starts with a general description of the company and continues with a description of the methodology, interview protocol,

sample characteristics and data analysis process. Lastly, the summary of results based on findings from internally available secondary and collected primary data.

In the last part of the thesis, empirical results are interpreted and compared to the theoretical findings. The discussion continues with the identification of the limitations of the master thesis itself. Finally, using the literature reviewed and the results of the empirical part of the thesis, the thesis concludes with suggestions and recommendations for the selected company to improve the management of global projects.

1 GLOBAL PROJECT AND GLOBAL PROJECT MANAGEMENT

This section of the thesis begins with a definition of global projects and project managers. It continues with the description of advantages and disadvantages of global projects. Next, the complexities, challenges and project success are described concluding with the description of global project management framework and project life cycle.

1.1 Definition of global projects and project manager

According to Project Management Institute (2021b) project is defined as “a temporary endeavour undertaken to create a unique product, service, or result” (p. 31). Kušar, Rihar, Kisiček, and Starbek (2004) provide another definition, stating that a project is a special process that includes a number of logically interconnected tasks that must be completed to achieve the project objectives.

“The temporary nature of projects indicates a beginning and an end to the project work or phase of the project work” “(Project Management Institute, 2021b, p. 31). Yet, the duration of the project can vary greatly, with a shorter project possibly lasting a few weeks to a longer project lasting many years (Project Management Institute, 2000).

Besides duration, Binder (2016) states that we can differentiate among different types of projects based on the number of organizations, locations and team members involved. Author differentiates among the following types of projects:

- Traditional Projects usually refer to a project where a large majority of the team members are working for the same organization and in a single location.
- Distributed projects involve team members working in many locations and can also be called “International Projects” when including professionals located across country borders.
- Virtual Projects are composed of team members dispersed geographically and working in different organizations.

The current global economy requires companies to have cross-cultural global projects, and therefore, global projects have emerged as the preferred structure for multinational companies and organizations (Neeley, 2015). As the importance of global projects nowadays is increasing, this master thesis addresses global projects.

A global project can be defined as a combination of virtual and international projects since they include team members from diverse organizations working in various countries across the globe, usually meeting virtually (Binder, 2009). In contrast, Anantatmula and Thomas (2008) defined a global project as a transactional project, temporary endeavour with project team made up of individuals of different countries, working in diverse cultures, business units, and functions, while possessing specialized knowledge for solving a common strategic task.

A project team that is working on a global project is typically classified as a global team and has three characteristics: (1) no shared past or future; (2) cultural diversity and geographic dispersion; and (3) electronic communication (Jarvenpaa & Leidner, 1999).

For this research, a global project is defined as temporary endeavour with cross-functional project team who works interdependently in different countries and cultures and possessing specialized knowledge for solving a common strategic task (Anantatmula & Thomas, 2008; Gronwald, 2017; Project Management Institute, 2021).

In this context person responsible for leading the project is referred to as the project manager (Gronwald, 2017). According to Project Management Institute (2021), project management is defined 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.” (p. 31).

The project manager, according to the literature review, is responsible for meeting project objectives and requirements, for schedules budgets, assessing alternatives, assessing risks and deciding how to accept, avoid, remove, or mitigate them, and leading the initiative to successful completion (Baca, 2007; DiVincenzo, 2006; Dunn, 2001; Zielinski, 2005).

Zielinski (2005, p. 18) highlighted that “project managers are held accountable for project results, but often have little power over personnel or resource matters - and they must find a way to get things done”. According to Gillard (2005), further complication of the project manager’s role stems from the fact that he/she is functioning in a multi-dimensional environment:

- The first dimension is the project office and the project team. They are at the centre of daily operations.
- The second dimension is the intra-organizational dimension, which includes the parent organisation, user community, and contractor (s).

- The third component is the inter-organizational environment, which refers to external organisations that have a stake in or authority over the project office.

For this research, global project management refers to guiding the project with a cross-functional project team who works interdependently in different countries and cultures with a shared purpose to deliver the intended outcomes (Gronwald, 2017; Project Management Institute, 2021).

Therefore, the global project manager performs a variety of functions, such as facilitating global project teamwork to achieve the outcomes and managing the processes to deliver intended outcomes within the required time and budget (Project Management Institute, 2021). In this context, the global project manager is the person managing the global project team that is responsible for achieving the project requirements (Project Management Institute, 2021).

1.2 Advantages and disadvantages of global projects

Existing research suggests that global projects have a variety of advantages and disadvantages. Companies can benefit from having global teams in numerous ways, like; access to skilled, cheaper labour regardless of location (Binder, 2016; Neeley, 2015). This allows companies to attract the best workforce regardless of their location and build a global project team (Anantatmula & Thomas, 2008; Bhullar, 2018). Simultaneously by being global, companies have access to a larger pool of job candidates allowing it easier to find candidates with the required knowledge and skills (Binder, 2016).

Since global teams combine the greatest global functional expertise with in-depth local knowledge of the most potential markets, an increased number of companies rely on a geographically distributed workforce to survive nowadays in the global market (Neeley, 2015). Binder (2016) states that companies with global teams can ensure a better customer experience and a more accurate picture of international customers' needs due to customer proximity and a better understanding of the customer.

In addition, having global teams enables companies to have global workdays (24 hours instead of 8 hours), which results in increased flexibility and productivity (Binder, 2016). Global teams can also improve the innovation rate (by reducing group thinking) since global projects allow companies to unite highly specialized experts in the same project (Anantatmula & Thomas, 2008; Bhullar, 2018; Binder, 2016). When discussing the advantages of global projects, we must not ignore the reduced space requirements (smaller offices because of less workforce at the same location), travel times and expenses (Cleland & Lewis, 2016).

Binder (2016) and Neeley (2015) highlighted that companies take advantage of global diversity by bringing together individuals from various cultures with a range of professional

backgrounds and viewpoints on organizational and strategic issues. Furthermore, they stated that this enables international corporations to compete in the current economic environment by ensuring better customer proximity and higher productivity of global teams. However, there is also a cost for companies to overcome the “cultural diversity, large distances between global team members and the inconvenience of working across time zones” as teams and their project managers need to adapt to cultural differences among team members, to adapt the organizational structure to virtual teams and adapt working hours to different time zones (Binder, 2016; Cleland & Lewis, 2016).

The fact that team members are scattered across the world can be a disadvantage as, according to Bhullar (2018) and Binder (2016), team members come from different cultural backgrounds, which makes it difficult to establish a team identity amongst team members. As Neeley (2015) stated, when team members come from diverse countries and backgrounds, communication can rapidly deteriorate, misunderstanding can ensue, and cooperation can degenerate into distrust. Creating successful work groups might be difficult even when everyone is local and sharing the same office space. However, when team members come from different countries and functional backgrounds, it might be even more challenging (Neeley, 2015). Despite all efforts to link people remotely, it can be challenging to establish the same level of collaboration and social connection that is achievable when working face-to-face (Project Management Institute, 2021b).

When deciding to deploy a global team for critical projects, organizations can evaluate the value of the main positive and negative aspects of having a global project (Binder, 2016). Watson, Kumar and Michaelsen (1993) found that more culturally diverse teams tended to outperform more culturally homogeneous teams; the authors inferred this to be a result of culturally diverse team members becoming more homogeneous over time.

In general, companies should evaluate the higher level of innovation and the cost savings offered by having human resources distributed around the globe against the challenges created by communication across borders before deciding to conduct global projects (Cleland & Lewis, 2016).

1.3 Complexity and challenges of global projects

As Lilliesköld, Eriksson and Jonsson (2002) stated, global projects are facing a lot of additional challenges in comparison to locally executed projects. Companies can use the following dimensions to evaluate the level of complexity of the global project (Binder, 2009):

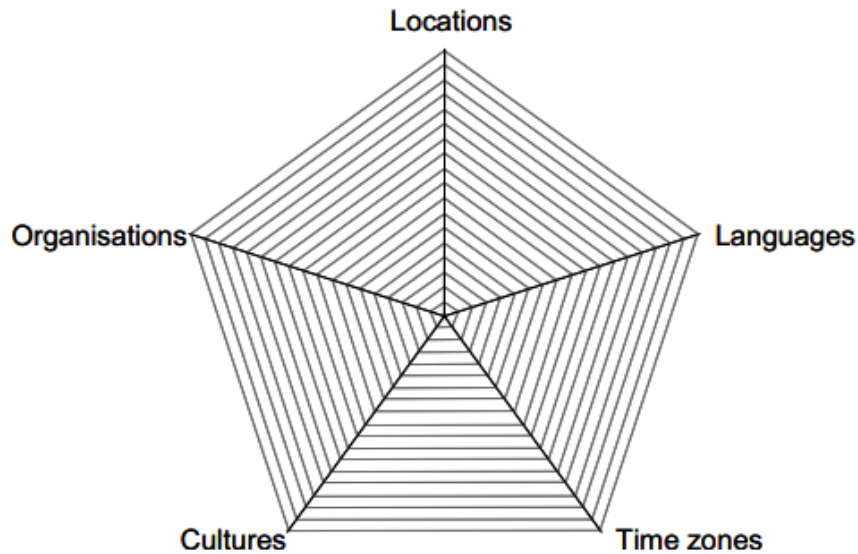
- Number of Distant Locations – In global projects, the team members are located at least in two different countries. When the distance among the team members is such that travel is required for physical contact, the use of phone and video conferencing becomes

essential, requiring the application of communication strategies to ensure a high level of effectiveness.

- Number of Different Organizations – Global projects can require the cooperation of team members that can work for multiple departments or companies. Therefore, project managers must adapt their people and leadership skills to multiple policies, procedures, and organizational cultures.
- Country Cultures – Beyond organizational culture differences in global projects, project managers are facing the customs and traditions of various nations and regions - bringing more diversity to the work environment, reducing group thinking and improving collective creativity. Motivation is improved as many people prefer to work in cross-cultural environments due to the rich information exchange. Nevertheless, this diversity can sometimes be the source of conflicts and misunderstandings, allowing project managers to apply some basic rules and practices to take advantage of cross-cultural communication.
- Different Languages – In global projects team members usually establish a common language for the exchange of information, although the way people communicate is highly dependent on their own native language. For example, if the common language is English, the effectiveness of communication by most non-English speakers will be limited by their knowledge of English expressions, vocabulary and often by their ability to make analogies and tell stories etc. On the other hand, native English speakers would need to limit their vocabulary to clear sentences and essential words, and carefully confirm the understanding of their ideas by foreign colleagues. Project managers need to avoid misunderstandings and obtain a high commitment level from all stakeholders, independently of their native language.
- Time Zones – In global projects there are project teams with members in completely different time zones, making it difficult (or impossible) to organize meetings in common office hours.

The above dimensions are illustrated in Figure 1, which shows a radial diagram with the centre representing the lower levels of complexity: single department, location/time zone, language, and cultures. The higher values show the higher complexity of cross-border projects, where team members from different cultures, languages and organizations are working in different countries around the globe - the global projects (Binder, 2009).

Figure 1: Dimensions of global projects



Source: Binder (2009).

The complex nature of global projects due to the above-described dimensions causes evident challenges such as communication, cultural differences, difficulties gathering requirements and defining project scope, and time zone differences (Cleland & Lewis, 2016; Niazi et al., 2016). The most common project management challenge is the “lack of cultural understanding in teams” since the team members are spread across the globe and may belong to different cultures (Niazi et al., 2016).

The second most frequently mentioned challenge is ‘lack of communication’ since a global project is a complex process where several geographically distributed teams need to communicate frequently with the intent to deliver the desired output (Niazi et al., 2016). It is obvious that cultural and time zones and language differences are barriers to effective communication (Anantatmula & Thomas, 2008; Cleland & Lewis, 2016).

As highlighted by López, Nicolas & Toval (2009), gathering project requirements and scoping the project might also be an additional challenge as stakeholders are located in more than one location. Additionally, Niazi et al. (2016) claim that the absence of face-to-face meetings may lead to other project management problems, such as a lack of team knowledge, a misunderstanding of requirements, and a loss of trust. Therefore, to facilitate collaboration, a global project manager uses technology and various communication channels, including e-mail, voice mail, instant messaging, teleconferencing, and web conferencing (Cleland & Lewis, 2016).

The third most significant challenge, according to Niazi et al. (2016), is a lack of coordination because team members are separated by time zones and, thus by geographic

and sociocultural distance. Begel and Nagappan (2008) also found that employees involved in global projects feel that time zone differences delay response times and negatively influence the global project processes. This challenge becomes even more evident if the size of the project is large because it is difficult for the project manager to coordinate with every team member (Niazi et al., 2016). In addition, a lack of coordination can cause many other project management challenges, such as difficult change management activities, a lack of trust and conflict management among all stakeholders since expectation management becomes difficult when managing larger projects (Cleland & Lewis, 2016; Niazi et al., 2016). Lastly, project managers face challenges such as adapting organisational structure and culture to virtual teams, handling divergent cultural values and difficulties when managing conflicts over distance (Cleland & Lewis, 2016).

1.4 Project success

According to Gronwald (2017), a project is successful if its technical requirements are met, its goals are accomplished, its stakeholders are satisfied, and it is completed on schedule and within its permitted budget plan. Baker, Murphy and Fisher (1988) came to similar conclusions, stating that project success is a matter of perception and that a project will be most likely perceived as successful if the project meets the technical performance specifications and if there is a high level of satisfaction regarding the project outcome among key members of the project team, as well as key stakeholders.

In the context of project success, it is important to distinguish between success criteria; the measures by which the success or failure of a project will be judged and success factors; those inputs to the management system that leads directly or indirectly to the success of the project (Prabhakar, 2008). The success factors answer the question: What factors lead to a successful project? (Prabhakar, 2008).

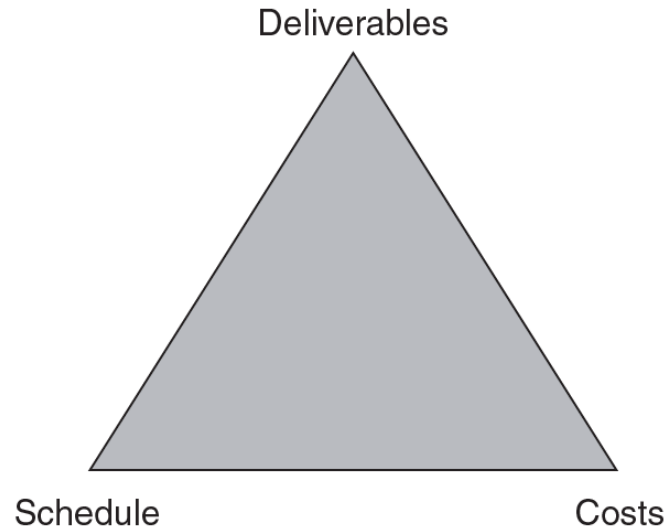
On the other side, according to De Wit (1988), project success is measured by criteria for success which tends to be restricted by three dimensions, i.e., time, budget and quality (Globerson & Zwikael 2002, p. 58; Redmill, 1997, p. 30; Thomsett, 2002). Any traditional project management aims to finish the project in the planned time, within planned cost and quality targets achieved (Špundak, 2014). Furthermore, the degree to which these three objectives have been met determines the success or failure of a project (De Wit, 1988).

The relationships among these three objects of consideration are usually presented in the “magic triangle” depicted in Figure 2, which takes into consideration the schedule and time of the project (schedule), work and requirements of the project (deliverables), and budget together with resources (costs) (Cleland & Lewis, 2016).

All three aspects are mutually dependent, which means that if we would like to focus more on one, the other two will be affected, and a trade-off should be made (Ebbesen & Hope, 2013). Realistically, the project's targets are frequently not completed on time (as intended)

since there is a trade-off between the three objectives (Van Wyngaard, Pretorius, & Pretorius, 2012).

Figure 2: Project management triangle

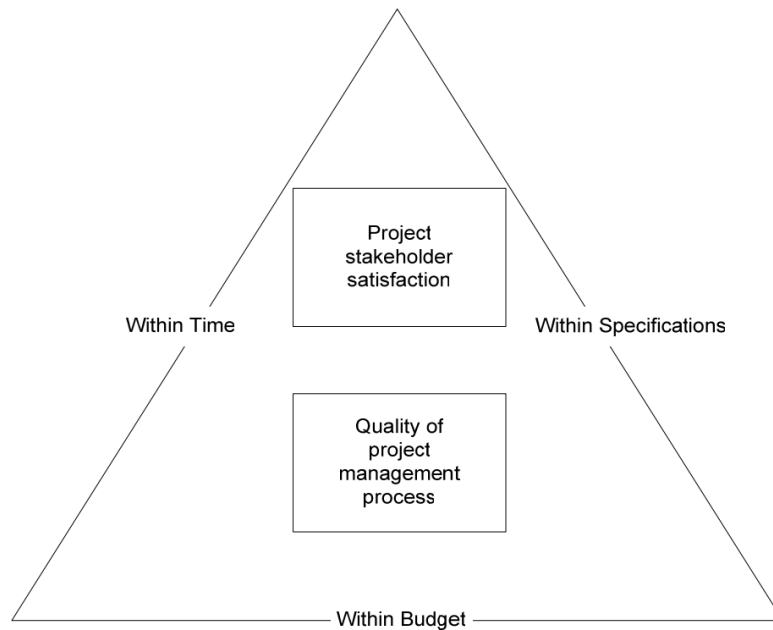


Source: Cleland & Lewis (2016).

Time, budget and deliverables are not sufficient to measure project management success; since dimensions such as the quality of the project management process and the satisfaction of the project stakeholder's expectations also need to be considered (Baccarini, 1999; Schwalbe, 2015). Therefore, according to Ahlan, Kartiwi and Sukmana (2015), extending the traditional project management triangle (Figure 2) to include the quality of the management process and stakeholders' satisfaction (Figure 3) provides a complete view of project management success.

Figure 3 below presents the extended magic project management triangle. The extended triangle includes the basic three dimensions of project management; time, budget and quality of the outcome and is extended further with two additional dimensions. The two dimensions deal with how well the projects are executed (quality of project management process) and how satisfied the stakeholders are (project stakeholders' satisfaction) (Ahlan, Kartiwi and Sukmana, 2015).

Figure 3: Extended project management triangle



Source: Ahlan, Kartiwi & Sukmana (2015).

According to the results from a study conducted in 2015 by The Standish Group, only 9% of all projects are successful, meaning they were delivered on time, on budget, and with the required features and functions. The study also reveals that 52% of projects were challenged - late, over budget, and/or with less than the required features and functions. The remaining 19% of projects failed - cancelled prior to completion or delivered and never used (The Standish Group, 2015). Since the studies by the Standish Group (2015) are done for the software development industry, it is important to note that results do not vary considerably with the type of project or industry sector. It is also of significance to note that the results do not appear to have changed significantly over the years despite a complete industry having emerged (Gronwald, 2017;).

1.5 Global project management framework

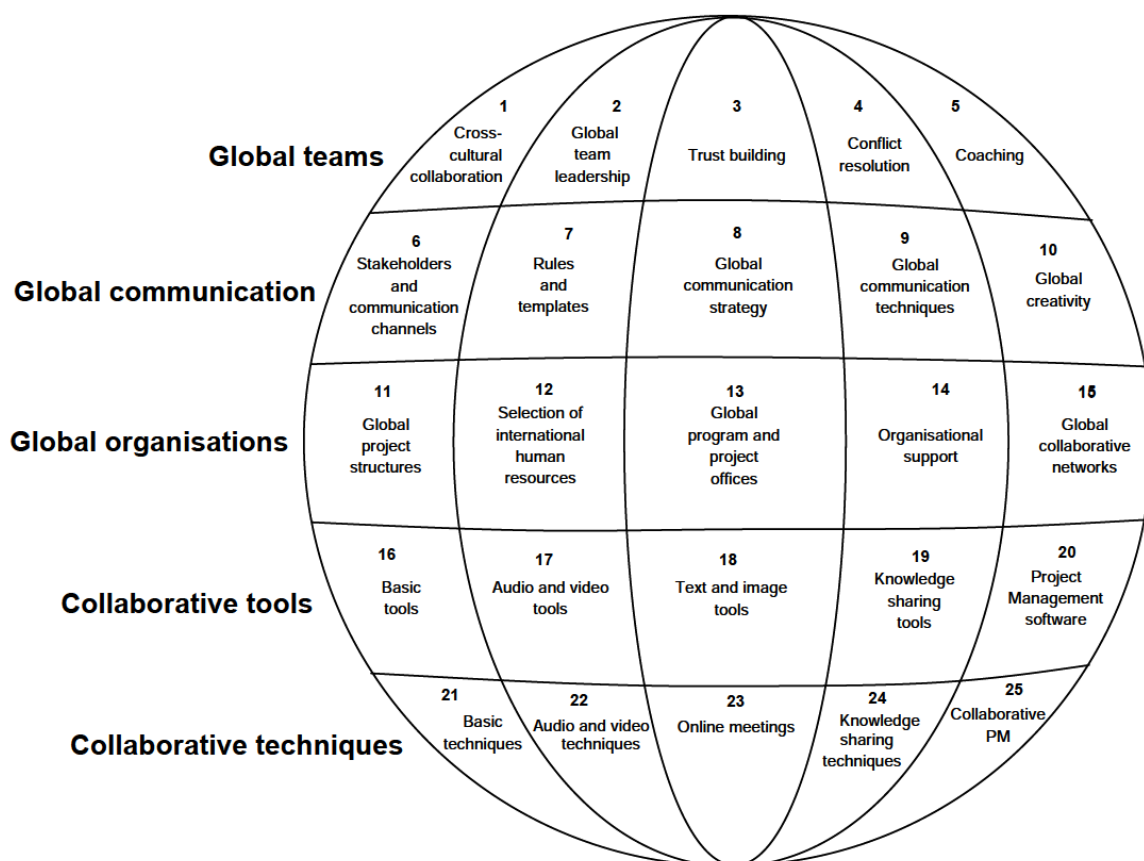
The Global Project Management Framework developed by Binder (2016) is based on organisational theory. The framework presents the most important fields that organisations should address to get a higher probability of success in global project implementation (Binder, 2016).

The Global Project Management Framework is all about soft skills and informal project management, suggesting areas of knowledge that require special attention for effective global project management. Rather than providing 'one-size-fits-all' recommendations, the framework provides guidelines in a quest to harvest the company's good practices, using them to develop and implement a framework in a company or project (Binder, 2016).

The framework itself is divided into five main groups and twenty-five knowledge areas, as can be seen in Figure 4. The practices, processes, measures and theories in the framework are grouped into the following five groups that allow a modular implementation (Binder, 2016); global teams, global communication, global organisations, collaborative tools and collaborative techniques. However, it is important to note that not all five main groups and twenty-five knowledge areas must be applied to meet the challenges of any global project. In contrast, it can be helpful to consider all of them when evaluating what can go wrong and to consider the most relevant to your situation when preparing your project plan and risk assessment.

Figure 4 presents the global project management framework. Five main groups are presented on the left side, and within each group, there are five knowledge areas (inside the circle). A total of 25 knowledge areas should be taken into consideration when executing global projects (Binder, 2009).

Figure 4: The global project management framework



Source: Binder (2016).

During the project execution, monitoring, and controlling activities, the framework is also a valuable reference to help the project team during conflicts and problem-solving in critical

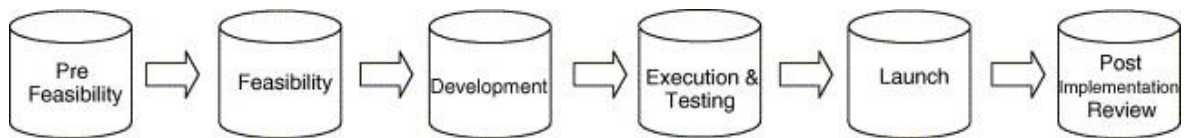
periods (Binder, 2009). It simply presents fields that an organization should address according to specific needs, development level and the area specifics (Binder, 2016).

1.6 Project life cycle

To deliver intended outcomes successfully, project managers usually follow the guidelines of project management processes enabling them to use their knowledge and skills efficiently (Varajão, Colomo-Palacios & Silva, 2017). Further, project managers divide projects into phases to lower the risk and improve management control over projects (Project Management Institute, 2000).

In literature, various project life cycle approaches exist that can help project managers divide the project into phases (Labuschagne & Brent, 2005). One of the most mentioned project management approaches, known as the “traditional approach”, breaks a project down into four different phases, including initiation, planning, implementation, and closure (Gadlage & Manos, 2020). On the other side, Labuschagne and Brent (2005) described a project life cycle with seven processes and named it the “Generic Life Cycle Phases”. The generic life cycle phases are depicted in Figure 5. The seven phases include the following: pre-feasibility, feasibility, development, execution & testing, launch and post implementation review.

Figure 5: Generic life cycle phases



Source: Labuschagne & Brent (2005).

The number of phases within approaches identified during secondary data review differs, as well as the names used to describe the phases. For example, the Project Management body of knowledge (hereinafter: PMBOK Guide) presents a global standard for project management professionals (Mishra, Tripathi & Khazanchi, 2023). The PMBOK Guide divides the project into five phases (i.e., initiation, planning, execution, monitoring, control, and closing) to determine tasks. Table 1 provides a summary description of these phases, referred to as the project life cycle according to the PMBOK guide. According to Mishra, Tripathi and Khazanchi (2023), all the processes in Table 1 incorporate specific tasks that must be completed effectively to ensure the success of a project, which is described in detail in Chapter 1.4 above.

Table 1: Description of project management processes

Process	Description
Initiation	The first phase in the project life cycle starts with initiation and requires the project manager to define tasks that should be completed during the following four phases. In this phase, the project manager estimates expected expenses, which helps them build a foundation allowing all ideas to be laid out and made clear to all respective stakeholders in the project. Choices made within the initiation phase determine how the remaining phases will run and how efficient communication among team members will be. The output of this phase is called project charter - where the project team and tasks are defined.
Planning	The second phase of the life cycle includes a detailed plan for the project execution. Some key activities are requirements gathering, the definition of team roles and schedules, and identification of risks and response plan.
Execution	The third phase and most resource-intensive phase is execution. It ensures carrying out the details of the project charter and project plan for the successful delivery of the deliverable by following processes and managing resources.
Monitoring and Control	This fourth phase serves to supervise all project tasks and metrics to ensure that the project will proceed with minimal risk, meet the planned scope, time, and budget constraints. The monitoring and control process will identify problems, deal with conflict resolution, ensure quality control, and implement control changes. It is significant since it keeps the project on track.
Closing	The last and final phase is closing, as it is an essential aspect of the risk management cycle of an organization. The goal is to ensure project closing activities have been completed, which includes the lessons learned report. By creating the report, an organization can interpret the data and either repeat the processes or apply changes to future projects based on the project's challenges and successes.

Adapted from Project Management Institute (2021b).

Due to the complex nature and diversity (of projects, industries, or even companies) within the same industry sector, we cannot reach an agreement about the life cycle phases of a project. Yet, it is important that the underlying purposes behind each of the stages are considered and implemented throughout the stages of the project life cycle (Labuschagne & Brent, 2005).

To successfully manage projects and produce outcomes, project managers and team members must adjust their approaches to their needs since each industry, company, and project has unique challenges (Project management Institute, 2021a). Therefore, according to Gadlage and Manos (2020), the approaches, as well as phases of the methods, can and should be modified to adapt to specific projects or organizations.

Companies should, according to their specifics and project specifics, choose the most appropriate approach and then, if needed, adopt the approach. According to Project Management Institute (2021b) adapting the most appropriate approach to producing the

desired outcomes according to the project's unique context is usually referred to as tailoring. Tailoring is used for the adaptation of approaches, governance, and processes to make them more suitable for the given environment (Project Management Institute, 2021b). Tailoring the approach is iterative and therefore is a continuous process throughout the project (Gadlage & Manos, 2020).

According to Project Management Institute, when tailoring a project approach, the business environment, team size, degree of uncertainty, and complexity of the project should be considered and discussed by the project team. There also may be situations when the tailoring approach is limited, for example, when organisational policies mandate the use of a specific approach, or a contract specifies a mandated approach (Project Management Institute, 2021b).

2 SKILLS AND GLOBAL PROJECT MANAGEMENT

In the following section, the definition of skills, soft skills and hard skills are provided. The section also includes a clarification of the importance of skills in global project management as well as key soft and hard skills required in a global project.

2.1 Definition of soft and hard skills

According to a study by Hendarman and Cantner (2018), to understand what the skills are, it is helpful to first refer to the broader concept of competency. Stoof, Martens, Van Merrienboer & Bastiaens (2002) provide various definitions of competencies based on a literature review. One of the definitions is provided by Mirabile (1997, p. 75), where soft skills are defined as "Knowledge, skill, talent, connected with great performance in the work, such as problem-solving, analytical thinking, or leadership." Motives, beliefs, and values are some examples of competency definitions.

Spencer and Spencer (1993, p. 9) defined competency as "an underlying characteristic of an individual that is causally related to criterion-referenced effective and/or superior performance in a job or situation". Underlying characteristic means that competency is a fairly deep and enduring part of a person's personality and can predict behaviours in a wide variety of situations and job tasks. As skills are part of competency, they are considered directly linked to each individual and are relevant to the job performance of an individual in general (Hendarman & Cantner, 2018).

According to Lyu and Liu (2021), we can distinguish between two types of skills, which are hard and soft. Hard skills are mainly cognitive in nature and are influenced by an individual's Intelligence Quotient (IQ) (Page, Wilson & Kolb, 1993). Simply, they could be described as skills that might appear on one's resume –an individual's education, experience, and level of expertise (Matteson, Anderson & Boyden, 2016). A more detailed definition of hard skills

was provided by Rainsbury, Hodges, Burchell & Lay (2002). in which they characterized hard skills as skills related to technical aspects of doing some tasks in the job, which frequently requires the acquisition of specific knowledge.

Existing literature suggests that hard skills are more technical in nature as they often incorporate the use of tools such as scheduling, software, spreadsheets, modelling tools, and a myriad of deliverable templates available (Marando, 2012). Hard skills also involve conceptual thinking and problem-solving abilities because those skills can be quantified by IQ, which according to Hendarman and Cantner (2018), classifies them as hard skills.

In the contrary, soft skills are largely intangible - not associated with a deliverable or a real output, and they are employed without the use of tools or templates (Hendarman & Cantner, 2018). Soft skills are broadly applicable, in contrast to hard skills, which are concerned with a person's skill set and ability to accomplish a certain sort of task or activity (Hendarman & Tjakraatmadja, 2012).

Soft skills are generally defined as personality traits, social graces, language proficiency, personal habits, friendliness, and optimism that distinguish individuals (Matteson, Anderson & Boyden, 2016). Some people also refer to soft skills as “interpersonal, human, people or behavioural skills” as they focus more on who people are rather than what they know (Hendarman & Cantner, 2018; Jena, 2017). Matteson, Anderson and Boyden (2016) define soft skills as essentially people skills – the non-technical, intangible, personality-specific skills that determine one's strengths as a leader, listener, negotiator, and conflict mediator. "

Soft skills are personal attributes that enhance an individual's interactions and, consequently, his/her job performance (Hendarman & Tjakraatmadja, 2012). Yet it does not only affect job performance. Still, it might also play a significant role in one's success in life since soft skills are highly competitive in the corporate world enabling individuals to stand out in a crowd (Matteson, Anderson & Boyden, 2016).

Soft skills include leadership, communication, coordination, negotiation, expectations management, influencing, problem-solving, decision-making, and adaptation (Hendarman & Cantner, 2018; Marando, 2012). According to Jena (2017), we can also consider conceptual thinking, time management and motivation as soft skills. The literature states that the borderline between the concepts relating to hard skills and soft skills is not always clear-cut (Hendarman & Cantner, 2018). Hard skills on the other side, include skills such as using software, spreadsheets, modelling tools, etc.

Based on literature review there are some skills which can be classified as the same as hard and soft skills. Problem-solving skills, decision-making skills and conceptual thinking skills are one of those (Hendarman & Cantner, 2018). In view of this discussion, for the empirical analysis in this research, problem-solving skills, decision-making skills, and conceptual thinking skills will be classified as soft skills.

2.2 Skills required in global project management

According to Jena (2017), a project manager has the responsibility to manage the project effectively. The project manager must be able to understand project goals and can accomplish them with available resources (Alam, Gale, Brown & Khan, 2010). Yet to be effective project managers in today's competitive global market and changing work environment, project managers need to possess soft and hard (technical) skills (Alam, Gale, Brown & Khan, 2010; Marando, 2012). However, in many cases, project management is taught just as a set of hard skills – how to create a schedule, how to split up a complex project and so on – and the importance of softer people skills essential to success is underestimated (Cowie, 2013).

According to Van Ingen (2007), ideal effective project management is a balance of technical skills and people skills. Sampson (2007, p. 41) states that skills required for project management are nowadays often divided 50/50 into traditional ‘hard’ skills, such as risk management and scheduling, and ‘soft’, people-oriented skills, such as interpersonal communication.” Zachary and Krone (1984) also suggests a balance between the technical and people aspects of project management. He states that the project manager's goals are to build good working relations so that everyone is eager to work toward a common goal - project completion. The balance between hard and soft skills was also emphasised by the PMBOK guide, where the importance of using both aspects was highlighted if a project is to be successfully implemented (Project Management Institute, 2021b). Therefore, soft and hard skills in global project management are by no means exhaustive, nor are they mutually exclusive (Marando, 2012)

Drossel (1980) places soft skills on the same level as any other technical activity with which the project manager is faced and states that project success depends on establishing an effective team, feedback through team meetings, and commitment to the task. Even earlier, Posner (1987) made a similar observation and noted that the fundamental problems in project management are related to the people, not the technical challenges. He added that poor management and organisational abilities are the leading causes of project manager failure. He was supported by Brousseau (1987), who claimed that a good leadership style and well-executed management are necessary for projects to be successfully managed.

The study by Skulmoski and Hartman (2010) provided the first insight that different skills are required for each stage of a project: effective questioning and generating feedback for the initiation phase; project management expertise and knowledge along with consensus building for the planning phase; interpersonal skills and ability to work well with others for the implementation phase; and writing abilities, sharing information and credit for the closeout stage.

Below are described the hard and soft skills required by project managers leading global teams.

2.2.1 Hard skills required by global project managers

Hard skills are, according to Azim et al. (2010, p. 392), in the context of project management referred to as "processes, procedures, tools, and techniques". Poisson-de Haro and Turgut (2012) stated that managers need hard skills, which include technical and conceptual skills. Scott and Vincent-Lancrin (2014) highlighted that hard skills in project management represent skills special to a certain field or technology. According to Marando (2012), examples of hard skills in project management are creating a work breakdown structure, project schedule, critical path diagram, earned value reports, project budgets, dashboards, and other concrete deliverables.

Below, the essential hard skills that project managers must have been presented in which they have been identified in the literature:

- Planning - In the context of projects, this is referred to as forecasting the work necessary to accomplish the project (Burke, 2013).
- Scheduling Tasks - The purpose of scheduling in a project is to identify the tasks that must be carried out in a specific sequence and the amount of time for the project to be completed on time and within budget (Atin & Lubis, 2019).
- Calculating costs - The ability to estimate and calculate costs based on various project assumptions enables executives to choose wisely when to invest in a project (Dysert, 2003).
- Finding A Critical Path for A Project - A method with a mathematical foundation called the Critical Path Method or Critical Path Analysis is used to schedule a group of project tasks (Santiago & Magallon, 2009). The critical path is the longest path of planned activities to the end of the project (Santiago & Magallon, 2009). Therefore, a critical path in a project context can determine which phases can be delayed and which cannot be delayed in their completion, which can affect the overall project work process and prevent the project from being finished on time (Atin & Lubis, 2019). The critical path helps project managers estimate the project duration and identify task dependencies, resource constraints and project risks (Kelley Jr & Walker, 1959).
- Preparing Risk Mitigation Plans - The goal of the complete and ongoing risk mitigation, monitoring, and management process is to bring the potentially failing project to the safer shore (Shahzad & Safvi, 2008). Through the identification, decision-making, treatment, and monitoring of risks, effective risk mitigation makes it simpler to deal with problems and ensures that they do not result in unacceptable situations (Ahmed, 2019)

2.2.2 Soft skills required by global project managers

In the context of project management, Marando (2012) describes soft skills as interpersonal skills that include traits such as leadership, communication, negotiation, expectations management, influencing, problem-solving, and decision-making. Soft skills are not directly

related to the outcome of the project, yet they have much importance in all the phases of a project since the output cannot be incorporated without the above-mentioned soft skills (Jena, 2017).

Below, the essential soft skills required by the project manager, according to the literature review, are listed and described:

- **Communication** – It is a crucial interpersonal skill in the current global corporate climate. Many businesses often think that effective communication is a core ability everyone has (Cortez, 2014). According to Jena (2017), excellent communication skills are the first fundamental competency a project manager needs to possess because a project manager must communicate with many different people, including clients, team members, etc. Additionally, according to Keil, Lee and Deng (2013), this skill category also includes listening, which is critical for understanding expectations and identifying the issues that arise during the project. Typically, a project manager is said to spend about 85% of his time talking (Jena, 2017).
- **Coordination** - Coordination entails bringing together, harmonizing, and integrating several organizations working in any area (Grigg, 1993). According to Sheeran (1979), it is one of the principal functions of management, ranking along with planning, organizing, directing, and controlling and directly affecting project success.
- **Decision-making** - The ability to use information from the current situation and the knowledge one has of it to plan, choose, and carry out an appropriate goal-directed action or group of activities is known as decision-making (Williams & Ford, 2013).
- **Leadership** - It is an important pillar of soft skill which reflects if we are not directly managing others. (Jena, 2017). Leadership in the context of project management is important because companies need individuals who can not only motivate others but also provide guidance and implement strategic plans (Kačamakovic & Lokaj, 2021).
- **Motivation** - In most cases, project managers lack formal authority over the resources required to achieve project objectives. Therefore, to achieve project goals, project managers must therefore engage and motivate others (Keil, Lee & Deng, 2013).
- **Negotiation** – This is the ability to negotiate with stakeholders, project team members and vendors to arrive at a mutually acceptable scope, schedule, cost, etc. (Keil, Lee & Deng, 2013). It is a friendly fight wrapped in a positive attitude, and the project manager needs to negotiate within and outside the organization for appropriate resources to make the best team (Jena. 2017).
- **Problem-solving** - is referred to as the ability to use information, facts, and data to solve problems successfully (Kačamakovic & Lokaj, 2021). To achieve an appropriate balance between scope, time, cost, and quality, the project manager should use problem-solving techniques (Jena. 2017). This does not imply that the project manager must have an immediate response. Still, it does imply that the project manager must be able to think, evaluate issues, and think of solutions (Kačamakovic & Lokaj, 2021).

- Expectations Management – It is a skill required by the project manager to get a mutually agreeable definition of the scope of the project from all the respective stakeholders (Jena, 2017).

3 QUALITATIVE ANALYSIS OF SOFT SKILLS REQUIRED IN DIFFERENT PHASES OF GLOBAL PROJECT MANAGEMENT ON SPECIFIC PROJECT

The empirical part of the thesis is based on the analysis of internal company documents (i.e., secondary data) and semi-structured interviews conducted with company employees (i.e., primary data). Specifically, the soft skills required in different phases of global project management were examined and analysed on global projects in a manufacturing company.

The empirical part of the thesis starts with a company presentation. Next, the methodology was used, research questions were assessed, and interview protocol, sample characteristics and data analysis approach were described. It concludes with the results chapter, where first results from secondary data sources and then from primary data sources are presented.

3.1 Presentation of the company

To answer the research questions, I have conducted the research in a manufacturing company, yet for privacy, anonymity, and data protection reasons I cannot give the exact name of the company; therefore, I will simply refer to it as "the company" throughout this thesis.

The company was established in the mid-20th century as a manufacturing company in Europe (Internal company source, 2022). Today it operates globally and employs more than 30,000 employees all around the world (Internal company source, 2022). The company has 19 production sites and more than 85 warehouse locations worldwide to be able to deliver the products effectively to more than 120 countries (Internal company source, 2022). As the company relies on a direct sales model, they need a highly effective as well as a very complex supply chain (Internal company source, 2022)

The company provides technology-based solutions for the construction, building maintenance, manufacturing, and energy industries - mainly to the professional end-user (Internal company source, 2022). They are also offering a range of services such as training, technical support, repair, and maintenance (Internal company source, 2022). The company has a so-called direct sales business model with more than 250,000 daily customer interactions. It is known for high-quality, innovative products and services, including power tools, anchors, fire protection systems, and construction software (Internal company source, 2022).

The company culture has a strong focus on employee engagement, innovations and collaboration across departments and countries (Internal company source, 2022). They are committed to sustainability and corporate social responsibility as well as environmental protection (Internal company source, 2022).

3.2 Research questions and methodology

In the empirical part of my research, I analysed the soft skills required in different phases of global project management as well as the advantages, disadvantages, challenges, and successes of global project management. The aim was to examine theoretical concepts on a specific approach empirically, compare its specifics to theory and determine soft skills required by the project manager in individual phases of this approach. During the research, I addressed the following research questions:

RQ 1: What are the critical factors for successfully executing a global project?

RQ 2: What are the main challenges for the project manager during the execution of a global project?

RQ 3: What are the key hard skills required by a project manager in different phases of global project management?

RQ 4: What are the key soft skills required by a project manager in different phases of global project management?

To get the information needed to answer the above-stated research questions, I collected primary and secondary data. Using secondary data internally available in the company, I have described and analysed the Seven Phase approach and the hard skills required in different phases of the approach. As an employee in the company, I had access to internal documentation of global project management and Seven Phase approach used in the company for managing global projects.

In order to collect primary data, I conducted a qualitative study through semi-structured interviews. In addition to the semi-structured interview, there are also unstructured and structured interviews. The unstructured interview is the most flexible method of data collection, where participants are asked open-ended questions and the level of guidance from the interviewer is low (Birmingham & Wilkinson, 2003). The structured interview, on the other hand, is the most systematized type of interview, as it includes predefined closed-ended questions in a specific order and is most often used to test a thesis (Birmingham & Wilkinson, 2003).

A semi-structured interview combines of both, where the questions are predetermined yet not as specific as in the structured interview. The advantages of the semi-structured interview are that it allows the collection of comparable and reliable data, encourages two-way

communication, and allows for flexibility, which results in more detailed answers from the interviewees (Patton, 1987). If necessary, participants can be encouraged to clarify, supplement, or even reformulate their answers (Patton, 1987).

However, this method of data collection also has some disadvantages, such as the comparability of responses, depending on how far away from the predetermined questions the interviewer moved (Patton, 1987). By using semi-structured interview questions throughout the interview, I aimed to follow the clear and outlined direction of the research and enable a more in-depth method of data collection (Baumbusch, 2010). In addition, I aimed to ensure that the interviewees had the opportunity to give comprehensive answers (Bregar, Ograjenšek & Bavdaž, 2005). I interviewed 14 colleagues working in the company's global project management area. For sampling purposes, I used convenience sampling as one of the non-probability sampling methods. Sampling means selecting some part of the population to be able to estimate something about the entire population (Thompson, 2012). In general, sampling methods are classified as probability samples and non-probability samples (Acharya, Prakash, Saxena & Nigam, 2013). Probability samples ensure everyone in the population has an equal chance of being selected for the study (Baridalyne, 2012). On the other side, non-probability samples are those in which the probability that a subject is selected is unknown (Baridalyne, 2012).

I used convenience sampling because it enabled me to reach out to as many colleagues as possible. The convenience of using it makes it the most used sampling method (Acharya, Prakash, Saxena & Nigam, 2013). The advantages are that they are less expensive, and there is no need for a list of all the population elements (Acharya, Prakash, Saxena & Nigam, 2013). However, they are not without limitations, as variability and bias cannot be measured or controlled (Acharya, Prakash, Saxena & Nigam, 2013). I used this method to get enough participants who are actively working in global project management and can share their knowledge and experience in managing global projects in the company. More about the characteristic of the 14 interview participants can be seen in Chapter 3.4.

3.3 Interview protocol

Before conducting the interviews, I prepared the interview protocol. The complete interview protocol can be found in Appendix 3. In the interview protocol, the questions for semi-structured interviews can be found. The questions in the interview guide were divided into four subgroups.

With the first set of questions, I wanted to examine how participants understand the concept of global projects and what are the main differences compared to local projects. Therefore, the first question in the first set was addressing the characteristics of global projects and the main differences between global and local projects. The second question was about the main advantages and disadvantages of global projects in comparison to local (traditional) projects.

The second set of questions addressed the success of the project and critical factors for successfully executing the global project. Participants were asked to describe a successful project, measures for project success and critical factors that could potentially affect project success.

In the third part of the interviews, the focus was challenging in global project management. I wanted to obtain information on what additional challenges in global projects are compared to local projects. And in this context also, what is the biggest challenge for a project manager when executing a global project?

The last set of questions were closely related to the skills required by the project manager in different phases of the approach used in the company. More specifically, the questions focused on the hard and soft skills required in global project management. The discussion started with a question about the required hard skills in global project management. Continued with the discussion about the importance of soft skills in the context of global project management. And finished with questions about soft skills required in each individual phase of the Seven Phase Approach. The complete interview protocol can be found in Appendix 3.

Participants were invited to participate in the interview via email (A letter to participants can be found in Appendix 3). After they agreed to participate, we scheduled an interview slot and did the interview either in person or via Microsoft Teams. All the interviews were recorded for the purpose of preparing transcripts. After the transcriptions were done, I analysed the interviews as described in the next chapter and interpreted the results of the study conducted. I anonymized the answers and safeguarded any sensitive data during the data analysis due to privacy policies.

3.4 Sample characteristics

The interviews were conducted between 4th November and 25th November 2022 in-person or via Microsoft Teams with 14 colleagues from the company. I aimed to do most of the interviews in person since in-person interviews have clear advantages when it comes to interactions and discussions, which positively affects the richness of information produced by the interviews (Johnson, Scheitle, & Ecklund, 2021).

Interview participants have different educational backgrounds and are working in different fields of work in different departments. Six participants were female the other eight participants were male. All of them with a high level of education: three of them with bachelor's degrees, ten with master's degrees and one with a doctoral degree. Out of fourteen interviewees, ten are working in business departments; the rest are working in information technology (IT) departments. Regarding location, twelve interviewees are located and working in Europe (South–Central Europe) and two are located and working in Central America. There are big differences in the time of employment with the company, ranging

from 1 year to 27 years, yet most (11) of them have been with the company for less than ten years. More details regarding gender, education, experience, location, field of work, department, number of years with the company and interview duration can be found in Table 2.

Table 2: Sample characteristics

Part icip ant	Gender	Level of Education	Location	Field of Work	Department	Number of Years with the Company	Interview Duration in Minutes
1	Female	Master's degree	Lichtenstein, Europe	Business	Corporate Sustainability	1	27
2	Male	Doctoral degree	Lichtenstein, Europe	Business	Global Manufacturing	4	25
3	Male	Bachelor's degree	Lichtenstein, Europe	Business	Corporate Communications	10	26
4	Female	Master's degree	Lichtenstein, Europe	Business	Corporate Development	6	30
5	Male	Master's degree	Lichtenstein, Europe	Business	Facility Management	7	29
6	Female	Bachelor's degree	Lichtenstein, Europe	Business	Corporate Development	8	26
7	Male	Master's degree	Lichtenstein, Europe	Business	Corporate Development	6	28
8	Male	Master's degree	Lichtenstein, Europe	Business	Controlling Tool Services	27	31
9	Female	Master's degree	Panama, Central America	Business	Project Management Office	8	26
10	Male	Bachelor's degree	Panama, Central America	Business	Project Management Office	5	27
11	Male	Master's degree	Switzerland, Europe	IT	Corporate Functions IT	4	38
12	Female	Master's degree	Switzerland, Europe	IT	Corporate Functions IT	6	28
13	Female	Master's degree	Switzerland, Europe	IT	Finance and Controlling IT	7	25
14	Male	Master's degree	Switzerland, Europe	IT	Manufacturing & Industry 4.0 IT	13	45

Source: Own work.

3.5 Analysis of the data

I have analysed the secondary as well as primary data to obtain a comprehensive insight into the topic and answers to my research questions. According to Eisenhardt (1989), data analysis is the most challenging and least systematic step in the case study research process and is at the core. Firstly, I collected, reviewed and analysed secondary data sources internally available in the company (e.g., project management guidelines available in the company and materials about the Seven Phase Approach). Based on reviewed secondary data internally available in the company, I described the Seven Phase Approach for

managing global projects in the chosen company. I defined the hard skills required by the project manager in different phases of the approach.

Primary data gathered through interviews were analysed using the thematic method of analysis. The thematic method of analysis is, according to Braun and Clarke (2021) an accessible and theoretically flexible approach for analysing qualitative data, where the emphasis is on identifying, analysing and interpreting patterns of meaning in qualitative data based on developing themes. The thematic method is a six-phase analytical process that makes up the thematic method are not strictly linear. Still, the researcher frequently switches back and forth between the various phases (Terry, Hayfield, Clarke, & Braun, 2017). In the first step, known as familiarisation, researchers gather data and become acquainted with the dataset (Braun & Clarke, 2006). By taking notes during the interviews, I completed the first step of the analysis. In the second step, codes are created for the identified data patterns in relation to the study questions (Braun & Clarke, 2006). We build codes during the coding step that precisely identify common data features; this is crucial for later stages of theme development (Braun & Clarke, 2021). In this stage, I highlighted words or phrases that frequently appeared in the interview transcripts.

The process continues with the third step, where the researcher groups the codes and identifies themes (Braun & Clarke, 2006). Therefore, I reviewed the highlighted words and phrases and started organising them into groups based on themes. In the fourth step, the researcher must halt the theme-generation process and assess whether the suggested themes strongly fit the coded data and the overall data set (Braun & Clarke, 2006). I thus double-checked the themes in this step and their connections to the data collection and research objectives of the thesis. Fifth step, defining and naming the themes, ensures conceptual clarity and provides a clear road map for further analysis and report development (Braun & Clarke, 2021). Within this step, I created five themes: characteristics of global projects, advantages and disadvantages of global projects, challenges in global project management, project success and soft skills required by the project manager in different phases of the Seven Phase Approach.

The last step of thematic analysis is reporting creation, where the researcher has the opportunity to effectively communicate the findings (Braun & Clarke, 2006). Based on the analysis, the results of secondary data analysis are presented first, followed by the presentation of the primary data. At the end of the results chapter, the overview of the hard and soft skills needed by project managers during the various phases of the Seven Phase Approach is provided. The overview of the hard and soft skills required that is presented at the end of the result section is based on a combination of primary and secondary data sources.

3.6 Results

In this chapter, the results of the empirical analysis are presented. The findings from the thematic analysis of primary data are presented after the findings from the analysis of secondary data.

3.6.1 Results from analysis of secondary data

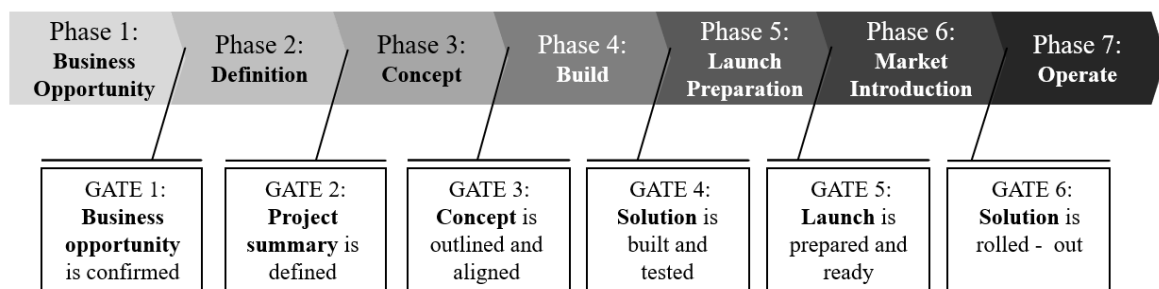
The information below is based on secondary data analysis (internal company data), based on which I present Seven Phase Approach and the hard skills required by project manager in different phases of the approach.

3.6.1.1 Seven phases approach for managing global projects

According to theory, there are many ways of managing projects and many different approaches. The selected international manufacturing company they are using the Seven Phases Approach for managing global projects. Six gates separate the seven phases of the approach. This approach serves as a guideline for a project manager and defines what should be completed during the individual phases.

Figure 6 presents the Seven Phase Approach, where six gates separate the phases. During the first phase, the business opportunity is determined and confirmed at the end of the phase. With business opportunity confirmation (gate 1), we move to the second phase of defining project requirements. The aim of the second phase is to define the project summary (gate 2). After the project summary is confirmed, the concept is developed in the third phase. Once the concept is outlined and aligned (gate 3), the project team can continue building the solution. At the end of the fourth phase, the solution is built and tested (gate 4). After the solution is developed, the project team prepares the launch. Once the launch is prepared (gate 5), the solution can be introduced. In the sixth phase, the solution is completely rolled out (gate 6), and the project team only continues to maintain and operate the solution. The individual phases of the approach, together with the phases' outputs, are in detail described below the Figure 6.

Figure 6: Seven phases approach



Source: Internal company material (2021).

The approach used in the company is well-defined from a technical and organizational perspective, which means a clear purpose of each phase is defined together with the actions and documentation needed. Seven individual phases of the approach are described below, with the activities that should be taken and the documents that should be filled.

The purpose of the first phase, called business opportunity, is to determine ideas, opportunities, challenges, and issues. At the end of this phase, the business opportunity should be confirmed (gate 1). Therefore, this phase requires the activity of arranging a workshop to review the initial scope and requirements of the project. After the workshop, the project business opportunity should be clear to everyone and confirmed.

The output of the workshop document, called project order is drafted. It includes the following: project background, project vision, high-level scope, expected benefits, expected change-impact and high-level risk analysis. Those components of the project order are crucial for understanding business requirements and opportunities.

The purpose of the second (definition) phase is to prepare a project summary (gate 2), which requires setting up the project organization (Figure 8) together with roles and responsibilities. The method for project execution and decision-making is called RAPID (Figure 9). Both setting up the project organization and the RAPID approach are described in detail in Chapter 3.6.1.2.

Additionally, the stakeholder community should be analysed. Once it is done, the stakeholders should review the scope and specify project requirements. At the end of the second phase project plan, including milestones, budget, and resource demand, is prepared together with risk assessment. In this phase, if also needed IT team specifies and prepares an IT solution plan, including architecture, security, and privacy impact assessment for personal data.

The main output of the definition phase is the updated project order from phase 1 (updated milestones, deliverables, refined risk assessment, refined business case). Updated project order is referred to as a project summary. Complementary documents are high-level records of processing activity in case of personal data and detailed business specifications.

The third phase outlines and aligns the concept of the project, which includes several activities: specification of IT solution in detail (architecture of the proposed solution, security review, lifecycle of the proposed solution), aligning cross-team/processes, actively managing stakeholder (including risk owners), planning testing, training, change management. Once it is all done, in the case of technical solution architecture concept should be approved by the enterprise architect (hereinafter: EA).

Outputs of the concept phase are the technical specification with all the technical details about the solution and project scope approved by Steering Board. Once the concept is reviewed and approved (gate 3), the project enters the fourth phase.

The purpose of the fourth phase is to Build (develop) and test the solution. The phase starts with setting up the system/solution and continues with architectural confirmation. Once it is confirmed, it should be tested. Lastly, the implementation rollout and cut over should be planned. As an output of the fourth phase, the technical documentation, training material and first draft of the cut-over plan should be prepared. The documents serve as guidelines for the next steps and the final usage of the developed solution. Once the solution is built and successfully tested (gate 4), the fourth phase is closed.

The fifth (launch preparation) phase is to prepare the launch by validating security, training according to plan, performing data protection impact assessment (if required), planning intensive care support and managing/implementing change. Once the steering board approves the solution, the project team executes the cut-over (gate 5).

In the fifth phase, the detailed training documentation, support plan and final cut-over plan documentation are prepared. The documentation is simply updated from the fourth phase based on additional findings from the fifth phase.

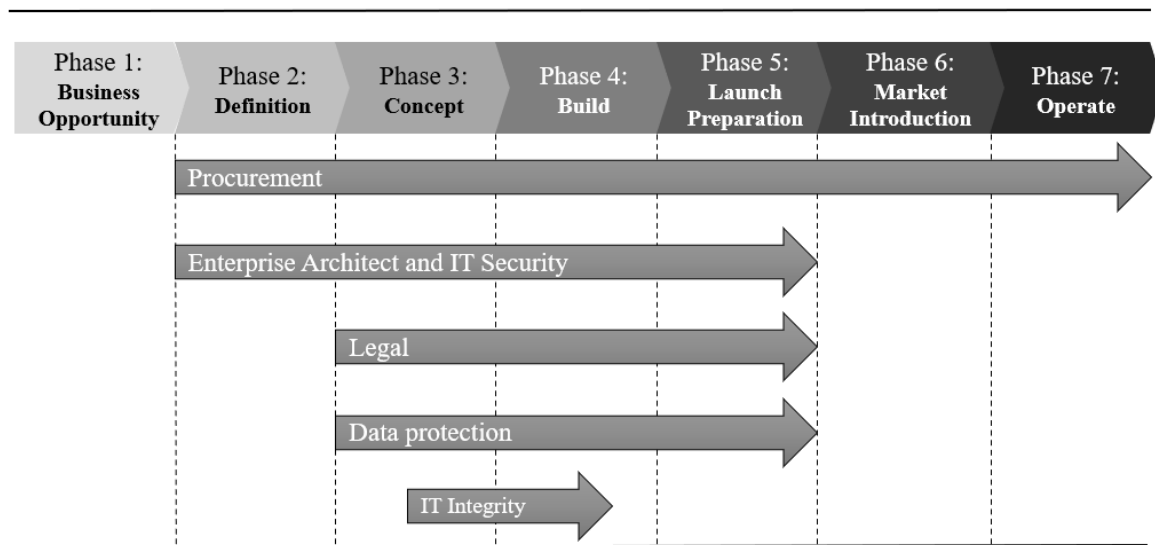
Once the launch preparation phase is done; the solution should be rolled out. The sixth phase of the approach is therefore referred to as market introduction. During this phase, the project team focuses on the handover of the solution and starts with the reporting and controlling, together with analysing the bottom-line impact of the solution.

As an output of the sixth phase, the handover documentation, updated records of processing activity in case of personal data, after action review and bottom-line impact is created. The project team also develops a controlling framework. At the end of this phase, the project is sign-off by the steering board and project owner (gate 6)

Once the solution is completely rolled out, the project enters the seventh phase (Operation). During this, the project team controls, reports, monitors, and supports the final user. The project team is required to participate in feedback loops and, if applicable, to release planning and continuous improvement on the final deliverable. Documents related to this phase are only reporting documents and are generated containing different KPIs (depending on what was defined in the initial phases).

Throughout the whole approach, the project manager is responsible for involving all relevant stakeholders when it is needed (procurement, enterprise architecture and IT security, IT integrity, legal and data protection). Figure 7 presents the approach together with the teams that need to be involved in the different phases of the approach under the project manager's supervision. In the phases from definition to operation, procurement should be involved. The enterprise architect and IT security team are involved from the second up until the sixth phase. Legal and data protection teams are actively involved in the third, fourth and fifth phases. IT integrity team is, if needed, mainly active at the end of the third phase and the beginning of the fourth phase, where the solution is built.

Figure 7: Seven phases approach and relevant stakeholders



Source: Internal company material (2021).

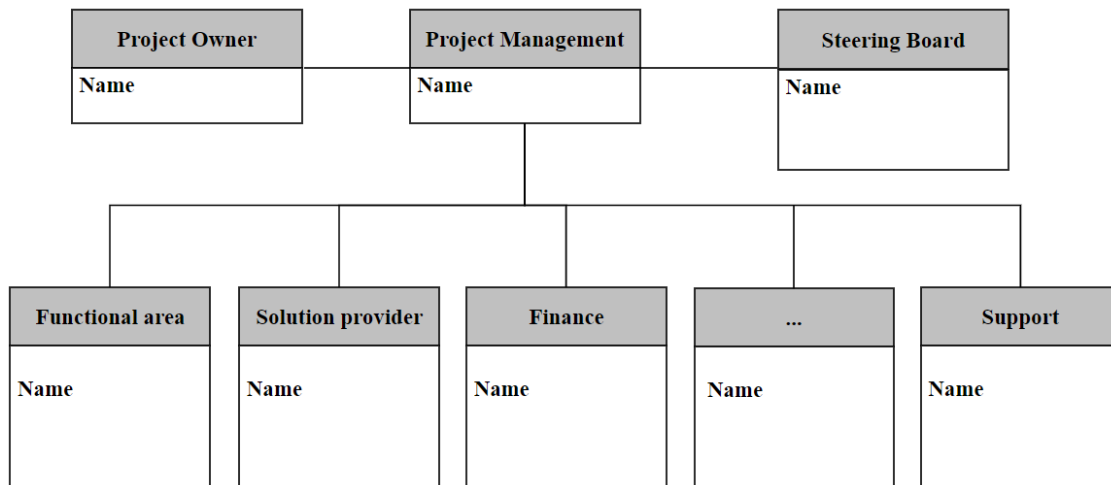
3.6.1.2 Hard skills required by the project manager in different phases of seven phase approach

Based on the analysis of secondary data, I found out that the approach clearly defines the hard skills required by the project manager in each phase. In the first phase, the project order is created, and the project manager should review the project order at the end of phase one and confirm it. With that, the whole project team commits to the targets set in the project order.

The second phase, definition, requires the project manager to estimate the project costs, which then requires to be controlled by relevant stakeholders (usually the project sponsor and main team members). Also, the critical path of the project should be identified - if any of the activities on the critical path are delayed, the whole project completion will be delayed (Antill & Woodhead, 1991).

Besides that, at this stage, the project organisation is defined. Setting up the team that will be working on the project is critical for the successful execution of all the phases described in the Seven Phase Approach. To set up the project team, the project organisation is defined as the RAPID tool used. The project organisation identifies the main persons responsible for the implementation of the project. RAPID is used for assigning roles to the project team members. A simple version of project organisation can be seen in Figure 8. In project organization, usually, the names of responsible team members are presented. Three main roles are the project owner, project manager and steering board. As seen below, together with the project manager, several teams of experts from the functional area, solution providers, finance and other support teams are working on the project.

Figure 8: Simple project organisation chart



Adapted from internal company material (2020).

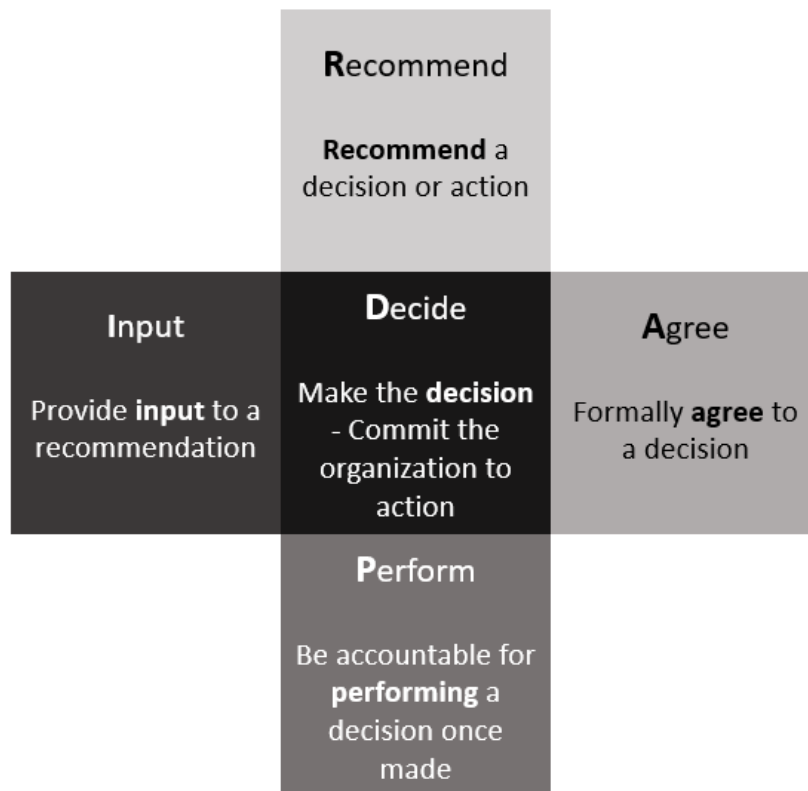
As already mentioned, RAPID is used together with the project organisation. RAPID is an effective tool for guiding decision-making during project execution and is used to assign different roles or activities to people in a decision-making process.

The letters in “RAPID” are an acronym for the different roles:

- R stands for recommend. In the project, there is usually only one person recommending and they are responsible for pulling together the relevant inputs to craft a recommendation in time. Usually, the recommended role is taken by the project manager (Figure 9).
- A stands for Agree. There may be multiple stakeholders required to agree. As are normally assigned for regulatory or legal issues or topics that cannot be decided without their acceptance. For this reason, they have veto rights.
- P stands for performing. There may be multiple performers in the project. In some cases, the performer may also be an input giver to ensure good upfront planning and buy-in.
- I stands for Input. There are usually multiple people responsible for providing inputs. Assign only to those whose knowledge, experience, or access to resources make them valuable contributors of input and assign to those who are profoundly impacted by the decision. Usually, the steering board from Figure 9 is considered an input provider.
- D stands for decision. There is only one decision maker, and that person should be someone who takes accountability on the decisions made altogether. Usually, the decision maker is the project owner (Figure 9). The decision maker, according to RAPID should be assigned at the lowest level possible but high enough that the person can commit the organisation to act on it and bring the decision to closure.

The RAPID tool is presented in Figure 9. The five main roles described above are recommend, input, decide, agree and perform. In the middle, the decision is placed since the decisions made by the project owner affect all the other four roles.

Figure 9: RAPID matrix for defining roles and responsibilities



Adapted from Bain & Company (2011).

In the third phase of the Seven Phase Approach, the costs are calculated, and tasks are scheduled according to project order and resource availability. Besides that, risk mitigation plans should be prepared. Risk and mitigation planning is the process of identifying and assessing specific risks. - Based on that, actions to support opportunities and reduce threats to the overall project objectives are defined.

In phases four, five and six, the project manager is required to do all the planning and monitoring of time, scope, and costs. To ensure project success, the project manager monitors the three components (time, scope, and costs) defined in Project Order in phase one).

During the last phase, the project manager is required to measure project success according to the predetermined targets that were defined in phase one in project order. In the selected company, each project has its own targets that are defined by the project team and confirmed by steering board at the beginning of the project. Based on project success measurements, project evaluation is prepared and presented to the steering board.

3.6.2 Results from analysis of primary data

The results of the thematic analysis of the primary data are presented below. The analysis's findings are divided into five categories: characteristics of global projects, advantages and disadvantages of global projects, challenges in global project management, project success and soft skills required by the project manager in different phases of the approach.

3.6.2.1 *Characteristics of the global projects*

Through qualitative analysis, I wanted to find out the characteristics of global projects. Participant 8 gave a comprehensive description of global projects that also summarizes the definitions provided by other participants: "It all starts with that people are not at the same place. That the project team is distributed among different areas in the world. And working together on one topic or a bigger project." Similarly, participant 2 stated: "Global projects are called global because there are multiple areas, multiple clients, multiple stakeholders involved." The other descriptions of the global project did not differ a lot among participants. The two main characteristics highlighted by the participants were the scalability of the final solution and the fact that the team working on the global project is cross-functional and international.

Analysis of the primary data indicated that besides scalability and cross-functional international teams, global project has high complexity and impact, and they involve multiple stakeholders. Characteristics of global projects identified based on the interview analysis presented in Table 3 - in detail together with illustrative quotes from the interviews.

Table 3: Characteristics of global projects

Characteristic	Illustrative quotes
Scalability of the output – Solution applicable globally.	“Global solution can be scaled up and distributed to many different organizations around the world.” (Participant 13) “When you are having a global project. It is also kind of comparable with the program, as you're having various local projects which are being summed up in one big global program.” (Participant 5)
High impact on business – higher impact thus higher risk	“The impact is much bigger compared to other projects. Even the levels of threats, the risks, the size of the team...” (Participant 12).
Cross-functional international team	“Cross functional international teams, are working on global projects meaning they are having different background, different culture, different disciplines, different knowledge.” (Participant 11)
High complexity due to several reasons	“There is high degree of complexity in global projects. And I mean, this complexity is driven by different needs or expectations, it can be also driven by different systems.” (Participant 6) “In a global project, there are different cultures coming together with different sorts of interests. This comes up with a whole other set of requirements, in terms of the preciseness of what the project has to deliver, but also on how the project should be executed.” (Participant 1)
Multiple stakeholders	“When you are having global project, you have different stakeholders and their different interest groups.” (Participant 5)
Higher management attention	“If you're having a global project, you're having a different tension from management then if you are having a local project.” (Participant 5)

Source: Own work.

After a general question about the characteristics of global projects, participants were asked to point out the differences between global and local projects. Participant seven emphasized the main difference by stating: “First, the most obvious difference is that global projects have international teams compared to a local project, where you usually focus only on one market, one language and one culture.” Participant seven added that regardless of whether the project is local or global, it requires cross-functional teams: “I think that the departments or the functions that would be working on the project would be pretty much the same. But there will be fewer people per function involved in local projects.” (Participant 7). When executing global projects same departments will be involved with the same functional roles as in local projects, yet there may be fewer people per function involved when projects are local and smaller.

Participant three pointed out that the aim of global projects is usually” to find the solution that would really work all around the world” and that local projects, on the other side, usually

aim to “satisfy local needs”. On top of it, participant 13 added that a global project is:” a project or a product that can be scaled up and distributed to many different organizations around the world.” On the other side, according to participant 14, local projects are “providing a specific solution for in a specific country, in that specific part of the business”. Participant 11 also stated that local projects are usually smaller projects.

The global project usually has a broader scope which might result in higher risk; according to participant 12, “Global projects have a much bigger impact. Which results in higher levels of threats, risks...” Besides that, global projects attract more attention from the management, as highlighted by participant 5: “As a global project manager, you're having a different level of attention; you're having a different tension compared to having a local project or a regional project.”

As stated by participant ten also, the regulations and rules used differ: “Local projects are based on a local site, where local legislation is applied. Yet, global projects are usually based on cross-functional topics with international team which involves different countries, nations, and regulations.”

Participant eight highlighted the differences between global and local team meetings: “Since global team is not at the same place, they are not sticking their heads together. And as team cannot work round one whiteboard it cannot be as efficient most probably. Virtual meeting can also be efficient but for sure being in the same room has some more momentum. I would guess if you wanted to discuss different topics, maybe unclear topics and to find solutions that in person meeting are more efficient.” Identified commonalities and differences between global and local projects identified are summarized in table 4 below:

Table 4: Commonalities and differences between global and local projects

Commonalities	Global project	Local project
- Cross-functional team - Same functional roles involved (requires team members from the same functions, irrespective of the size of the team)	- Multinational team - Solution usually standardized and therefore applicable to different countries - Higher risk - More virtual meetings - International rules and regulations applied - More attention from the management	- Local team - Solution developed according to local specifics - Lower risk - More in person meetings - Local rules and regulations applied

Source: Own work.

3.6.2.2 Advantages and disadvantages of global projects

During the analysis of primary data collected, many advantages and disadvantages of global projects were identified. With the purpose of easier analysis, I have grouped the identified advantages and disadvantages into three theme groups: people, managing and outcome

Analysis of primary data indicated that when managing global projects teams, we cannot neglect cultural differences among team members, which has its pros and cons. Participant one pointed out the following advantage of having a global project team: “That different people come together, which gives the opportunity to get a different point of view.” At the same time, according to Participant four, it has its disadvantages: “It requires cultural adaptations” and therefore different management approaches. Having diverse teams in global projects enables companies to be in direct touch with multiple markets and benefit from different views and cultures, but as mentioned, it requires some adaptations (Participant 13).

Developing a global solution with a global team has many advantages. Participant 14 stated that a global standardized solution “generates a common understanding across the organization, so basically, everybody speaks the same language”, meaning that common standardized solution enables easier personnel development. Consequently, it makes it “easier to move people from one part of the organization to another”, since the same system is implemented in all locations and departments (Participant 14).

On the other hand, the analysis of the interviews indicated that the global team is dispersed all around the world. Therefore, meetings are usually virtual, which according to participant 8 may bring some inefficiencies: “Virtual meeting can also be efficient but for sure being in the same room has some more momentum.” Disadvantages of virtual meetings were also mentioned by participants then stating that lack of momentum and spirit in the team can lead to a lack of trust and results in conflicts among team members.

Analysis of primary data indicated many advantages and disadvantages of having a global project and its centralized project. Participant four highlighted that there are “synergies and optimizations of having the processes centralized” when managing the project team globally. This can result in faster deployment and implementation of the solution (Participant two). The complexity level in global projects is higher than in local projects, making global projects difficult to manage. In this context, according to participant one, “Global projects are much more complex, to set up, but also to roll something out.” Participants two and six pointed out that in global projects, there are many stakeholder groups, meaning that the project manager needs to align and coordinate many things at the same time to ensure successful project execution.

Based on the interviews, I found out that participants perceive time zones as an advantage and disadvantage at the same time. Participant eight for example, pointed out the advantage of having a global team working in different time zones: “It means that you can work around

the clock (24 hours instead of 8 hours a day)". Oppositely time zones can make cooperation among team members from different parts of the world difficult: "Sometimes Asian colleagues need to work late, and we must wake up early or late, depending on the situation. This is the biggest disadvantage because work-life balance matters." (Participant eight).

During the interviews scalability of the outcome of global projects was highlighted as the main advantage as it enables efficiency and, consequently, higher returns on investment. Yet participants also highlighted drawbacks of global solutions as they are complex, big, and therefore usually less flexible.

Participant one pointed to a huge advantage: "Solution of the global project is applicable globally. "(Participant one). Regarding this topic, participant 14 contributed: "With big global solutions, it is super easy (compared to the local ones) to further develop and automate things because every time you improve something, you improve it for everyone. And therefore, your business cases are also scaling very much and very quick.". Consequently, having global projects enables companies to reach economies of scale and, therefore higher return on investment (Participant two; Participant four).

On the other hand, the flexibility of global projects is much lower. Participant 14 pointed out that it may affect how flexible is project manager when making decisions: "It hinders you in some development because big global projects are like a tanker. If you have a big boat, you cannot simply just turn left or right and move. If you have such a big boat, you need to align a lot of people before changing the direction".

And it can also affect creativity, innovation, and differentiation from other competitors: "If you're super standardised, it may become a problem for everybody who wants to work creatively, and it's a problem for a company because it's quite hard then to differentiate from your competition." (Participant 14) Global projects can obviously lead to over-standardization.

In Table 5, the advantages and disadvantages of global projects are identified during the interviews and presented in three groups: people in global project management, managing global projects and outcome (deliverable) of global projects.

Table 5: Overview of advantages and disadvantages in global project management

Perspective	Advantage	Disadvantage
People in global project management	Different views due to diverse teams Customer proximity Easier personnel development	Cultural adaptations required Virtual meetings
Managing global projects	Synergies and optimizations of having centralized process Working around the clock	Higher complexity Work life balance can be disrupted due to time zones
Outcome (deliverable) of global projects	Solution is applicable globally Scalability Higher return on investment	Lower flexibility Over-standardization

Source: Own work.

3.6.2.3 Challenges in global project management

Interview participants highlighted complexity as one of the leading global project characteristics. Participant 6 pointed out how the complexity of global projects is higher compared to local projects: “In the end, you need to manage a high degree of complexity in global projects. Different needs or expectations drive this complexity, which can also be driven by different systems and different cultures, which can affect whether we understand things in the same way. “.

High complexity causes many challenges when executing global projects. Participant one indicated that the project manager is dealing with a high degree of complexity, which causes evident project management challenges: “In a global project, there are different cultures coming together with different sorts of interests. This comes up with a whole other set of requirements, in terms of the preciseness of what the project must deliver, but also on how the project should be managed. “.

According to all the participants, project managers face many challenges while managing global projects. The most obvious challenge for project managers resulting from the complexity of global projects highlighted by the participants in communication with all the relevant stakeholders. In this context, we must not forget the coordination of global projects, which can be challenging due to big differences among team members. Those differences mostly come from the fact that the team is international and cultural differences among team members can be huge. With such a diverse team, it might be challenging to align all the interests of different stakeholders and their expectations. Finally, when leading a global team located all around the works, a project manager might be in a situation where he is working

very early or very late due to time zones. The challenges the project manager faces during the project execution are summarized in Table 6.

Table 6: Challenges in global project management

Challenges	Illustrative quotes
Communication	“Dealing with the complexities and the intricacies of communication because there are cultural norms of course, that you have to be sensitive to. But no matter the size of the project, no matter the scope, or whatever, I think the main thing has been to always have clear communication. “(Participant 3)
Coordination	“Being able to collaborate with people. So, to get along with people to make personal connections to build up a network. Also having the capability to think two or three steps in the future. So how what I’m doing now, will impact step two, three, and four. “(Participant 5)
Different cultures	“It is international and across different cultures. So, this requires also somehow cultural adaptations. “(Participant 4) “There is higher complexity, because it is cross functional, because there are different nationalities, different jurisdictions, different laws, and so on. “(Participant 11)
Interest alignment	“Make both sides (business and IT) understand what the other side wants to know. I think that is the biggest challenge how to talk to people with limited IT knowledge and then translate the message to highly skilled IT guys, and the other way around. “(Participant 1)
Time zones	“And of course, the time zones. Our colleagues need to work late, and we must wake up early or late, depending on the situation. “(Participant 13)

Source: Own work.

3.6.2.4 Project success

Analysis of interviews indicated how important and difficult it could be to measure project success. All participants agreed on the importance of measuring project success, and most of them (13 out of 14) agreed that project success could be measured. Measuring project success can be difficult as there is no global standard for doing it. Based on answers from interview participants, two main groups of project success measurements were identified: qualitative and quantitative.

Quantitative measures of success are based mainly on theoretical approaches and are usually restricted by three objectives: time, budget, and final deliverable of the project. In this context, participant 13 described a very systematic approach to measuring project success: “If we do it by the book. Then the most important thing is that we stick to the budget. Nobody wants to overspend. Secondly, we stick to the timeline, because if we promise something on specific date, we should deliver on time. Thirdly, scope. If we promise something we should not reduce the scope or the quality of the final solution.”

According to participant eight, when using quantitative measures, it is crucial to set project targets”, usually in the form of KPIs. Setting project targets and measuring project success was holistically described by participant 10 as follows: “First of all project manager should understand what the goal is and then how do we measure that goal. Based on that, once the project is done, we can do a retrospective and check whether goals were reached.” Participant eight also pointed out the importance of planning and measuring project success based on achieving the plan: “You have certain assumptions that were taken at the beginning about how much time is needed, what is the budget needed, how much resources are required, and if you can keep somehow this plan, then the project is successful.”

On the other hand, based on the interviews, I found that it is not all about quantitative measures and that quality of execution also matters. Participant seven emphasized that when measuring project success, it is not all about meeting the objectives, yet it also matters “how the process was managed, and the project executed”. Above mentioned three factors are key, but there are other perspectives when measuring project success. For example, participant 13 stated: “I measure how comfortable I felt during that project? Because some projects can be super successful, but super toxic. You still deliver on time on budget and within scope, but you feel so exhausted.”

Qualitative measures can be assessed by doing “surveys before the project, during the project and after the project, where we can review how the people feel about” the project (Participant nine). According to participant nine really matters “whether teams are motivated to do the project, if they are willing to support, if they are willing to collaborate and if you really can feel the team spirit”. With regards to qualitative measures, participants did not just point out employee satisfaction but also user and stakeholder satisfaction.

Project success measures that were identified during the analysis of primary data are presented in Table 7 in two bigger groups (quantitative and qualitative), together with practical examples used in the company.

Table 7: Measures of project success

	Measure	Example
Quantitative	Time	Product launched on agreed date
	Budget	Product launched within the budget
	Deliverable (quality and scope)	Product launched with all required functionalities
	Other KPIs	Time saved in % (after the solution is implemented) Return on investment Adoption rate: how many people implemented the platform or how many market organization implemented solution
Qualitative	Solution is widely accepted and used	End user satisfaction survey
	Employee satisfaction	Employees satisfaction survey
	Acceptance from all stakeholders (not only for direct beneficiaries but also from other relevant stakeholders)	Stakeholders' satisfaction survey
	Impact on the business	Impact on business decisions

Source: Own work.

Analysis of primary data also indicated that not all projects are successful, and according to participants and their experience, several factors can affect project success. During the analysis of interview transcripts, more than fifteen critical factors were identified, but some were mentioned only by individual participants. Therefore, in Table 8, only the five most frequently mentioned critical factors are presented together with illustrative quotes extracted from the interviews.

Table 8: Five most critical factors for project success

Critical factor	Illustrative quotes and examples
Stakeholder management	“All the involved stakeholders should give their commitment to the project scope. “(Participant 5) “The support from the different stakeholders which are behind that all. “(Participant 8)
Expectation management	“Common understanding of goals and key deliverables or outcomes of the project is crucial. “(Participant 3) “That is very crucial that you bring everyone on board and everyone along the journey, so that there is a right expectation level. “(Participant 6) “First thing stakeholders management, but second thing is interest alignment between the stakeholders, assuring we are all on the same page, having the same expectations. “(Participant 11)
Communication	“Inform team members and talk to them and discuss with them what could be done, what could not be done. That helps. “(Participant 2) “You need to know who your stakeholders are and how to communicate with them. “(Participant 9)
Planning, organization, and risk assessment	“Lack of organization and structure in a sense of planning, coordinating, and aligning with stakeholders for anticipating unexpected risky situations. “(Participant 4) “Here right project management is crucial. It should be super structured and clear. Everyone needs to know why we are doing this, when we are doing and what we are doing. “(Participant 13)
Team factor (team spirit)	“There needs to be a common goal. There needs to be a good spirit. To me, this is crucial. It's crucial to have good spirit. And once this is in place, then making efforts is not a problem. “(Participant 7) “If you are a project manager and your team is not willing to support you to do the tasks to run the scenes as per the plan, you will not go anywhere. “(Participant 12)

Source: Own work.

3.6.2.5 Soft skills required by the project manager in different phases of seven phase approach

According to participants project manager possessing soft skills is an essential factor for the successful execution of the global project and highlighted how important they are, especially in global projects. Most (10 out of 14) of the participants stated that soft skills required by a

global project manager change throughout the phases since every project requires different skills from the project manager. The rest (four participants) think that the skills required do not depend on the phases but are more related either to the management style of the project manager or to project specifics (team, outcome, etc.).

Even though participants were not unanimous on whether the process itself impacts required soft skills, they all agreed that communication is the most important skill. All participants confirmed that communication is a key soft skill throughout the project execution. As highlighted by participant 13: “Always communication - It's like the superpower of a project manager.” Participant seven confirmed the importance of communication by stating: “Communication is important everywhere – in all the phases, from beginning to the end of the project.” Participant nine emphasized the importance of communication by saying: “Communication is the key skill for any project manager.” Participant 13 developed on the above statements by stating that it is crucial to communicate with all relevant stakeholders: “So for me communication to all levels is very important. Everyone should be informed to be able to perform and make right decisions. And the level of details depends on the role of the person project manager is communicating with.”

After a detailed analysis of interviews addition to communication, coordination, problem solving, and motivation were identified as crucial soft skill in all phases. Participant 12 explained: “During all those phases I try to keep same quite high level of coordination, communication, and motivation. You need to coordinate the team from the beginning to the end. And motivation as mentioned before with motivated teams, you can go everywhere. So, these three I keep more or less at the same level throughout the project.” Participant 13 further highlighted the need for problem-solving skills: “You always need this from beginning to end. And it's not like project manager needs to solve the problem. But project manager needs to like make sure that people, right people at the right time are in the right place. That they are collaborating in the way that problem gets solved.” More than half participants confirmed that coordination, problem-solving, and motivation are present in all the phases of the Seven Phase Approach.

Other soft skills are in focus either at the beginning of the project or in the development phases. Participant six highlighted: “I think conceptual thinking is for me, not in all phases. It's something which is important more in the beginning of a project.” Participant three also confirmed that at the beginning of the project conceptual thinking is crucial: “In the first and second phase conceptual thinking is crucial. I think it matters up until phase three. But if you're still concepting in phases five and six, you're probably not doing it the right way.”

As stated by participant 13 in initial phase's expectation management is required: “I think here, expectation management is very important, especially in the beginning of the project, where you need to set the stage and then you start delivering from there on. In phase one and phase two, you manage expectations from everyone, and then you have your scope defined.” Besides conceptual thinking and expectations management, participant two highlighted:

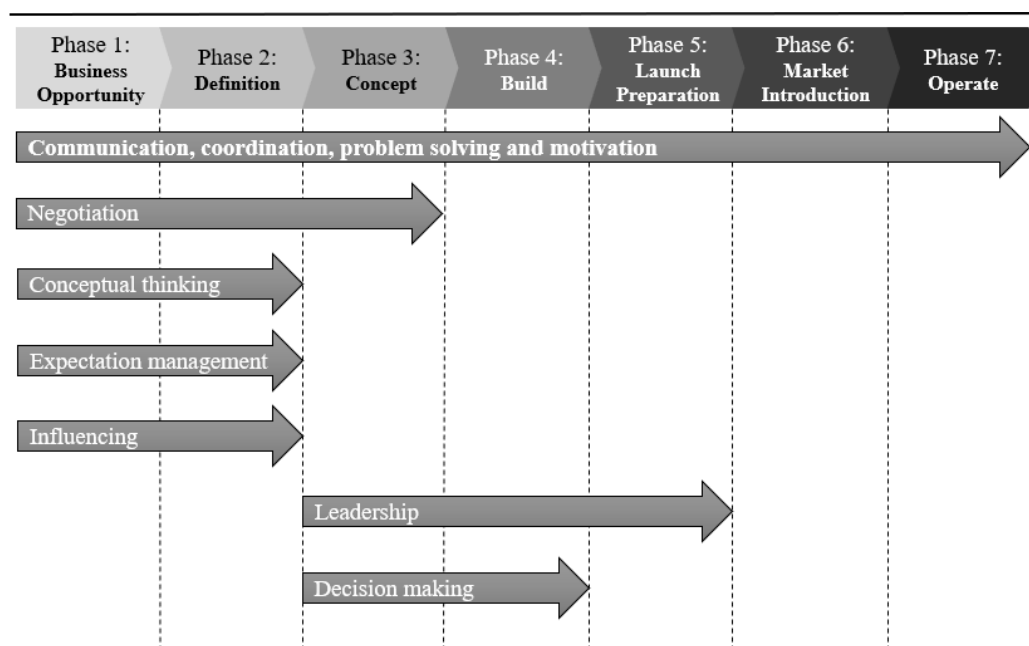
“Negotiation skills are used in the first two or three phases. At that time, you are getting all the approvals. Once you have them it is not relevant anymore.”

According to participant four in the early stages, we should not forget about influencing others: “Obviously at the beginning it is more about convincing others, influencing others onboarding and exciting them.” And as stated by participant one influencing then turns into leadership: “I think, at the beginning (first two phases) are riskier from stakeholder perspective and you need to influence them. And in the later phases, the influencing would transition more into leadership.” Leadership is according to participant two “something which comes in not directly in phase one, but it comes a little bit later when you really work on the solution”, meaning it is crucial in the concept, build and launch phases.

Besides leadership participant 12 finds decision-making as a significantly important skill in phases of developing solutions: “Decision-making is definitely something that I use and abuse during the concept and building phase, when you really need to solve issues in order to be able to launch the solution. At that time, you need to prioritize the issues because maybe you cannot fix all of them. So, you prioritize, you focus and decide which issues are more urgent according to business needs.”

As seen in Figure 10 in the initiation phases (business opportunity, definition and concept) primarily soft skills required are negotiation, conceptual thinking, expectations management and influencing. Once the project moves more to the development phases (from concept to launch preparation phases), focus is on leadership and decision-making.

Figure 10: Soft skills required in different phases of seven phase approach



Source: Own work.

3.6.3 Overview of skills required by project manager in different phases of seven phase approach

In Figure 11 below, both hard and soft skills required by the project manager in different phases of seven Phase Approach are presented. The overview is based on secondary as well as primary data. Hard skills required in various phases of seven Phase approach were identified during the analysis of internally available data in the company. On the other hand, the soft skills required were identified based on the analysis of interviews.

Figure 11: Overview of skills required in different phases of seven phase approach

Phase 1: BUSINESS OPPORTUNITY	Phase 2: DEFINITION	Phase 3: CONCEPT	Phase 4: BUILD	Phase 5: LAUNCH PREPARATION	Phase 6: MARKET INTRODUCTION	Phase 7: OPERATE
<u>HARD SKILLS</u>	<u>HARD SKILLS</u>	<u>HARD SKILLS</u>	<u>HARD SKILLS</u>	<u>HARD SKILLS</u>	<u>HARD SKILLS</u>	<u>HARD SKILLS</u>
Review project order	- Cost estimations - Define project organization - Finding critical path for a project	- Cost calculation - Scheduling tasks - Preparing risk mitigation plans	Planning, coordination and monitoring of time, scope and costs	Planning, coordination and monitoring of time, scope and costs	Planning, coordination and monitoring of time, scope and costs	- Measuring success - Evaluating project
<u>SOFT SKILLS</u>	<u>SOFT SKILLS</u>	<u>SOFT SKILLS</u>	<u>SOFT SKILLS</u>	<u>SOFT SKILLS</u>	<u>SOFT SKILLS</u>	<u>SOFT SKILLS</u>
- Communication - Coordination - Motivation - Problem solving - Negotiation - Expectations management - Influencing - Conceptual thinking	- Communication - Coordination - Motivation - Problem solving - Negotiation - Expectations management - Influencing - Conceptual thinking	- Communication - Coordination - Motivation - Problem solving - Negotiation - Leadership - Decision making (prioritizing)	- Communication - Coordination - Motivation - Problem solving - Leadership - Decision making (prioritizing)	- Communication - Coordination - Motivation - Problem solving - Leadership	- Communication - Coordination - Motivation - Problem solving	- Communication - Coordination - Motivation - Problem solving

Source: Own work.

4 DISCUSSION AND RECOMMENDATIONS

This section starts with the interpretation of the results. After that, the limitations of the research and further research improvements are presented. At the end of this section, some practical recommendations for global project managers and the usage of soft skills are described.

4.1 Interpretation of the results

As part of my master's thesis, I wanted to investigate the critical factors for successfully implementing a global project (RQ1). According to the existing literature, only 9% of all projects are successful - on time, on budget, with required features and functionality (Standish Group, 2015), which is consistent with the findings of my research. Based on qualitative research, I found that the following factors influence the success of a project: stakeholder management, expectations management, communication, planning, organization, risk assessment, and team factor. The findings of the present study regarding the factors that influence the success of global projects are largely consistent with the findings of previous studies that highlighted the following factors for the success of global projects: leadership, communication, stakeholder management, expectation management, change management, clarity of objectives, planning, resources, and team factors (Gronwald, 2017).

In addition, primary and secondary data analysis highlighted the importance of stakeholder management, expectations management, communication, planning and team factor. Based on qualitative research, I also identified organisation and risk assessment as being a critical factor for project success. Existing studies also highlighted leadership, change management, and clarity of objectives and resources as critical factors. These factors were not identified in my study.

In the following paragraph, the five main critical factors identified during the qualitative research are discussed and interpreted. Based on qualitative research, I have found that one of the biggest critical factors for project success is stakeholder management. Interview participants pointed out that stakeholder management as a critical factor goes hand in hand with expectations management. Since many stakeholders are involved, their expectations should be aligned to avoid misunderstanding and project sponsor dissatisfaction. At the same time, the qualitative research highlighted how difficult it can be to manage all respective stakeholders since during, global projects, usually standardized, scalable solution is developed, which requires a lot of alignment among the stakeholders.

Furthermore, research indicated that stakeholders are usually coming from different cultural backgrounds, speak different languages, and are located all around the world, which makes stakeholder management in global projects even more complex. Based on the qualitative

research, I found that the expectations of the respective stakeholders should be aligned at the beginning of the project to set project goals and measure project success.

Based on the interviews, I found that both above-mentioned challenges have their origins in the fact that communication in global projects is difficult. It is difficult to communicate due to cultural differences, time zones, language barriers and the distant location of the project team members. Inefficient communication can cause team members to make the wrong decisions and thus affect the success of the project. Qualitative research also indicated that since global projects involve many stakeholders, communications should be tailored to the target group – the way of communication and the level of details should be adapted according to the target group. Participants during the interviews stated that, for example, management requires more high-level reports without operational details, and the project team developing the solution requires detailed operational and technical instructions. A project manager should therefore adapt the way of communication according to what is required from the group he is reporting to or communicating with.

The fourth critical factor identified during the qualitative research was planning and organizing together with risk assessment. According to interview, participants planning and organising can help project teams overcome unexpected risky situations. Meaning that with detailed planning and organization, we can mitigate the risks and ensure a higher probability of project success.

Finally, a factor identified during qualitative research is the team factor. In this context, interview participants emphasized how important it is to have team members connected and working together towards a common goal. According to participants' experience, if there is great team spirit, then the project team can overcome any barriers, yet if there is no connection among team members, projects usually tend to be unsuccessful.

As part of this research, I also wanted to find out what the biggest challenges are for project managers when executing global projects (RQ2). Existing literature suggests that global projects are facing many of challenges due to complexity resulting from different cultures, different languages, time zones and distant locations (Binder, 2009; Lilliesköld, Eriksson & Jonsson, 2002). The findings of the present study are consistent with these findings, as the interview participants also emphasized that global projects are very complex due to different cultures, locations, systems, and expectations can lead to many difficulties. such as misunderstandings and lack of trust among team members. The complexity of global projects affects and increases the challenges project managers face during the execution of global projects.

According to the literature, the biggest challenge for project managers in global projects is managing people in general, which requires the project manager to use soft skills (Bourne and Walker, 2004). The findings of my research, on the other hand, suggest that the biggest challenge for project managers when executing global projects is communication with all

the respective stakeholders. Interview participants emphasized how complicated communication in global projects can be due to different cultural norms, time zones, virtual meetings and the size of the project. In addition, participants highlighted that it could be hard to coordinate a global team due to their distant locations, different norms, and sometimes different expectations. Project managers that participated in qualitative research stated that there is no general rule that can be applied. Still, it is rather a constant adaption based on the project, team, or individual specifics. The project manager should therefore choose the most appropriate approach based on project team specifics. When comparing qualitative research to the literature review, it was emphasised that communication is the biggest challenge. At the same time, soft skills are highlighted as the biggest challenge for project managers in the literature review.

The findings of my research suggest that we must not neglect cultural differences among global team members. Those cultural differences are affecting project requirements and require from project manager certain cultural adoptions. Diverse global teams for sure have benefits for the project outcome, yet from the project manager's perspective, communicating, coordinating, and aligning expectations among such a diverse team presents a challenge and, therefore, a disadvantage.

As mentioned before, interview participants think that aligning interests can be difficult due to cultural differences among team members. Cultural differences among team members are not the only reason for the difficulty in interest alignment - we should not forget about team members having different educational backgrounds and different experiences. Therefore, global team members perceive things differently and have different expectations when it comes to project execution and the outcome of the project.

Finally, the findings of the present study indicate that the time zone also poses a challenge for project managers when implementing global projects. Global project team members are located worldwide - they work in different time zones. As already mentioned before, time zones can be beneficial for the project's success (24/7 working hours), yet it is a disadvantage from a work-life balance perspective. Let's think about the project manager as a person that needs to coordinate and communicate with everyone or at least with representatives of all departments. They are required to work sometimes early or sometimes late in the evening. Not only project managers are required to work early or late, but also other project team members are required to work outside of office hours if they need to cooperate with the team members that are located somewhere else.

As part of my research, I also wanted to identify the most important hard skills project managers need in the various phases of global project management (RQ3). The findings of my research suggest that the hard skills required by the project manager are highly dependent on the process. Meaning that the hard skills required depend on in which phase the project is because each phase has defined intended outcomes, and this requires specific knowledge and skills from the project manager. Based on the qualitative research, I can find that the

hard skills required by the project manager in global projects are highly dependent on the approach that's used for managing the global project and its' phases.

The findings of my qualitative research further suggest that the project manager is mostly active in the first three phases. In those three phases, the project manager is required to review the project order, estimate, and calculate the cost, define project organization, identify critical path, schedule tasks, and prepare risk mitigation plans. Those actions require from project manager's highly specialized knowledge and expertise. The project manager should be able to understand the project objectives and technical possibilities of how the project can be executed. After the first three phases, project objectives are defined in detail. The project manager enters the next three phases, where he is mostly responsible for monitoring the three objectives – time, scope, and budget. Phases four, five and six, besides monitoring, required from project manager to plan tasks and coordinate project team members. In the last seventh phase project manager is only required to measure the project's success and based on the measurements, evaluate the project.

The results regarding the hard skills required for project management, which I determined by analysing the internally available data in the selected company, are consistent with existing literature (see, for example, Jena, 2017). There is only one exception – existing research does not mention the hard skill of defining project organization as a relevant skill for project managers. On the other side, based on qualitative research, this is one of the crucial hard skills required by the project manager since by defining project organization and responsibilities project manager ensures that everything runs smoothly.

Finally, in the present study, I also wanted to find out which soft skills are required by project managers in the various phases of global project management (RQ4). Based on the interviews, I found that soft skills are essential for the successful execution of global projects. Furthermore, most interviewees stated that various project phases require a range of soft skills for the specific task. It means that the soft skills required depend upon the project phases - Each phase requires different soft skills from the project manager. On the other side, only a few interview participants (less than 30%) stated that soft skills required by project managers do not change throughout the phases. They believe that same skills are required throughout the whole process. Even though there was disagreement whether the skills needed depended on the phase of the project, all interview participants agreed that the most important soft skill required by the project manager is communication. This finding is consistent with existing literature. According to Jena (2017), excellent communication skills are the first fundamental competency a project manager needs to possess. In addition to communication, existing literature highlights several other soft skills crucial for project managers. Those skills are coordination, decision-making, leadership, motivation, negotiation, problem-solving and expectations management. Findings from the qualitative research highlighted two additional soft skills. Those two skills are conceptual thinking and influencing - they were mentioned by the participants during the interviews but were not mentioned in the literature.

Based on the findings of the present research, we can conclude that soft skills are crucial for project success and that project manager users are required to use certain skills. As mentioned, some people think that skills required by project manager depend upon process and others think that they're independent of the project phases.

4.2 Limitations and further research

I faced many limitations during the research when preparing theoretical and empirical parts. While preparing the theoretical part, I needed more literature about the skills required in individual project phases. Much literature is available about unique approaches and their grades, yet there needs to be literature discussing the abilities required in each step of the methods. I only found one source discussing skills being dependent on project phases. All the other articles and research only discussed the importance of soft and hard skills and presented how important they are for the whole project rather than for a specific phase. With this thesis, I contribute to developing the knowledge about soft skills required in the different stages of the approach. In future research, it would be helpful to study soft skills needed in various phases of other methods. I only observed soft skills required in the so-called Seven Phase approach. Yet, since there are many approaches, comparing soft skills needed in different phases of different methods should be made.

Furthermore, there needs to be an approach that is standardised and globally used for managing global projects. Each method for managing global projects has its specifics – approaches identified during the secondary data analysis have different phases and other actions required in each phase. Consequently, it's hard to compare approaches among them and identify soft skills needed in an individual phase. This limitation prevented me from making generalised conclusions about the hard and soft skills required in different phases of the global project. I could only identify skills needed by project managers in different phases of seven phase approach used in selected manufacturing companies. I gathered the information about hard skills required in various project phases from secondary in the company's internally available data sources. I gathered the information about soft skills needed in different stages of the project, and I gathered tough semi-structured interviews conducted with colleagues from the company. As mentioned above, it would be beneficial to compare skills required in different approaches in future research. This would enable us to conclude whether the usage of skills significantly depends on the phase of the selected approach.

In the empirical part of the master thesis, the main limitations resulted from the sample. The sample used for the interviews during the qualitative research is relatively small; therefore, results cannot be generalised to the whole population. Furthermore, interviews were done with the participants all working for the same company operating in the manufacturing industry, which can also not generalise the findings. For further research, I suggest adding companies working in other sectors or more companies from the same industry. Besides that,

for further research, I recommend a more significant sample than the current user since more companies will be involved (preferably from different sectors).

According to Hennink and Kaiser (2022), when answers begin to reiterate, it indicates that the sample used for qualitative research is big enough. Consequently, more approaches will be observed. In this case, the model should be more significant to ensure that answers gathered during the interviews start to repeat. By doing that, results could be generalised to the entire population or at least for the entire industry.

When conducting the interviews, I faced two limitations – the language barrier and the fact that some interviews were conducted virtually. In the virtual interviews commitment of the respondents was lower compared to the in-person interviews. Virtual interviews make it difficult for the participants to articulate the answers. Besides that, sometimes, during the virtual interviews, we faced technical problems (e.g., noise, disconnection, etc.). Regarding interviewing execution, I should not neglect the language barrier since all the interviews were in English. Some participants found it difficult to express their thoughts since English is, for them, a foreign language. This affected the level of engagement and discussion during the interviews. For further research, conducting interviews with the participants in their mother tongue and person would make sense.

Besides the possibilities mentioned above for improvement, it would make sense to research in different countries with participants from different cultural backgrounds and then compare the results. This would enable the researcher to compare management styles among countries and give project manager advice about how to overcome the barrier of cultural differences.

In addition, further research could also examine the usage of individual soft skills that were identified as necessary for global project management. It would be beneficial for project managers to know how to use soft skills and implement them in the project. This could positively impact the project's success because soft skills should be tailored according to project specifics and specific situations.

4.3 Practical recommendations

Based on the finding of my research, I am presenting a few recommendations for project managers to improve the project execution process and increase the possibility of the project being successful.

First, based on my research, I found how important it is for a project manager to really take care of efficient and clear communication with all the respective stakeholders. The project manager should thus adapt the way of communication according to the target group because different stakeholders require different kinds of information and unique way of communication. Furthermore, the project manager should ensure that in each phase of the project, all the relevant team members are informed about the next steps so that they can

make the right decisions when needed. It does not mean that the project manager oversees informing everyone, yet the project manager should emphasise the importance of communication among team members. As global team members are usually dispersed or around the world, technology can be used to increase and improve communication among project team members.

Second, based on the findings of my research, I can conclude that for project success, it is crucial that all the relevant stakeholders are included from the beginning of the project. It increases the probability of the project sponsor being satisfied with the project outcome. To be able to manage stakeholders and their expectations project manager should prepare a plan of communication and stakeholder management. this ensures that during the project, stakeholders are informed and, therefore, able to perform what is required from them.

Finally, the findings of my research suggest that global project managers should focus on cultural differences among team members. Global teams require more adaptations and coordination than local teams if we want them to be successful. In that sense, the project manager should organize workshops about cultural differences and how to overcome these barriers. by doing this project manager can assure the team members understand each other and that they are able to communicate clearly and, therefore, corporate efficiently.

Recommendations presented in this chapter are not universal as they depend on several factors like the country and organisational cultures involved in the project, the number of locations, the different languages, the team size and the project duration, size, and complexity. This chapter only presents an overview you what can be helpful for understanding the soft skills required in general and in specific project phases, yet it can change due to project specifics. Therefore, project managers should determine the best alternatives for their own situation based on their experience and the real-life examples and practices taken from other international companies. Soft skills used should suits the requirements of their global projects, adapted to the specific needs of their organisation.

CONCLUSION

Soft skills are interpersonal, human, people or behavioral skills employed without the use of tools or templates (Hendarman & Cantner, 2018). According to authors Azim et al. (2010), soft skills play a very vital role in the professional life of an individual when assessing the project management environment. They include skills such as communication, coordination, leadership, problem-solving, influencing, motivation and many more (Hendarman & Cantner, 2018; Marando, 2012).

Hard skills, on the other side, are more technical in nature and incorporate the use of tools such as scheduling, spreadsheets, modelling tools, and a myriad of deliverable templates available (Marando, 2012). Rainsbury, Hodges, Burchell & Lay(2002) characterised hard skills as skills related to technical aspects of doing some tasks on the job, which frequently

require the acquisition of specific knowledge. Examples of hard skills used in global project management are planning, finding critical paths, cost calculation, and preparation of a risk mitigation plan are examples of hard skills used in project management (Jena, 2017).

I conducted a qualitative study through semi-structured interviews to study the critical factors for project success, the main challenges for project managers and key hard and soft skills in different phases of the approach.

Hard skills and soft skills overlap in all project phases, according to empirical study. The soft skills that a project manager needs are not one-time endeavours but threads applied throughout the project phases. Since soft skills are personal and interpersonal attributes, they must be recognized by the project manager, which soft skills should be applied at which phase. The project manager should adopt the usage of soft skills to the simple gesture of day-to-day activities and the complex process of the project.

Research also indicated that the hard skills required by the project manager are highly dependent on the process. Indeed, the hard skills required by project managers depend on the approach used and its' phases. The project manager uses different soft skills depending on the phase of the project.

We can infer from the complexity of international projects that a project manager's responsibilities extend beyond just overseeing the technical aspects of a project. Apart from technical skills, the project manager should also know how to implement essentially soft skills, including interpersonal ability and cognitive aptitude, along with the capability to understand the situation and people and then dynamically integrate appropriate leadership behaviours (Alam, Gale, Brown & Khan, 2010). The existing literature suggests that the soft skills of project managers have the greatest influence on project success since it is people who deliver successful projects using their knowledge and creativity, not through the mere use of techniques or hardware (El-Sabaa, 2001).

We can conclude that even if a project manager has prepared a perfect plan, it is not going to help if he is not going to communicate the entire plan to his team members. Furthermore, the project manager cannot even prepare the plan if the specific business objectives of the project are not known. To understand the business objective and scope of a project, a project manager must talk to different respective stakeholders, as different stakeholders have their own assumptions and priorities. So, to manage the stakeholders and to understand the exact requirement of the project, which satisfies the need of the stakeholders, negotiation, leadership, and organization skills are highly required. With the help of these soft skills, a project manager arrives at a mutually agreeable definition of the scope of the project.

This master's thesis exemplifies why managing global projects necessitates the application of both soft and hard skills by the project manager. It is critical to strike a balance between them and tailor their use to the project phase.

REFERENCE LIST

1. Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it. *Indian Journal of Medical Specialties*, 4(2), 330–333.
2. Ahlan, A. R., Kartiwi, M., Subiyakto, A. & Sukmana, H. T. (2015). Measurement of information system project success based on perceptions of the internal stakeholders. *International Journal of Electrical & Computer Engineering* (2088–8708), 5(2), 271–279.
3. Ahmed, R. (2017). Risk mitigation strategies in innovative projects. In *Key Issues for Management of Innovative Projects* (pp. 85–97). Rijeka: IntechOpen.
4. Alam, M., Gale, A., Brown, M., & Khan, A. I. (2010). The importance of human skills in project management professional development. *International Journal of Managing Projects in Business*, 3(3), 495–516.
5. Anantatmula, V. S. (2010). Project manager leadership role in improving project performance. *Engineering management journal*, 22(1), 13–22.
6. Anantatmula, V. S., & Thomas, M. (2008, July). Global projects: how to manage them successfully?. In *Project Management Institute Research Conference, Warsaw, Poland*.
7. Antill, J. M., & Woodhead, R. W. (1991). *Critical path methods in construction practice*. John Wiley & Sons.
8. Atin, S., & Lubis, R. (2019, November). Implementation of critical path method in project planning and scheduling. In *IOP Conference Series: Materials Science and Engineering* (Vol. 662, No. 2, p. 022031). IOP Publishing.
9. Azim, S., Gale, A., Lawlor-Wright, T., Kirkham, R., Khan, A., & Alam, M. (2010). The importance of soft skills in complex projects. *International Journal of Managing Projects in Business*, 3(3), 387–401.
10. Baca, C.M. (2007). Project manager! Who? Me? *Machine Design*, 79(20), 64–66.
11. Baccarini, D. (1999). The logical framework method for defining project success. *Project management journal*, 30(4), 25–32.
12. Bain & Company. (2011). *RAPID: Bain's tool to clarify decision accountability*. Retrieved 15th November 2022 from <https://www.bain.com/insights/rapid-tool-to-clarify-decision-accountability/>
13. Baker, B. N., Murphy, D. C., & Fisher, D. (1988). Factors affecting project success. In Cleland, D. I. & King, W. R. (Eds.) *Project Management Handbook* (2nd ed.), pp. 902 – 909. New York: Van Nostrand Reinhold.
14. Baumbusch, J. (2010). Semi-structured interviewing in practice-close research. *Journal for specialists in pediatric nursing*, 15(3), 255.
15. Baridalyne, N. (2012). Sampling, sample size estimation and randomisation. *Indian Journal of Medical Specialties*, 3, 195-7.
16. Begel, A., & Nagappan, N. (2008, August). Global software development: Who does it?. In *2008 IEEE International Conference on Global Software Engineering* (pp. 195-199). IEEE.

17. Bhullar, P. S. (2018). Global Project Management—Challenges and Barriers. *Asian Journal of Management*, 9(1), 717–722.
18. Binder, J. (2009). *Global project management: communication, collaboration, and management across borders*. Hampshire: Routledge.
19. Binder, J. (2016). *Global project management: communication, collaboration, and management across borders*. Hampshire: Routledge.
20. Birmingham, P. & Wilkinson, D. (2003). *Using research instruments: A guide for researchers*. London: Routledge.
21. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77–101.
22. Braun, V. & Clarke, V. (2021). *Thematic analysis: A practical guide*. London: SAGE Publications.
23. Bregar, L., Ograjenšek, I. & Bavdaž, M. (2005). *Metode raziskovalnega dela za ekonomiste: izbrane teme*. Ljubljana: Ekonomska fakulteta.
24. Brousseau, J. (1987). Project management: People are the key resources. *Computing Canada*, 2, 17–19.
25. Burke, R. (2013). *Project management: planning and control techniques*. Chichester: John Wiley & Sons.
26. Cleland, D. I., & Gareis, R. (2006). *Global project management handbook: Planning, organizing, and controlling international projects*. McGraw-Hill Education.
27. Cooke-Davies, T. (2002). The “real” success factors on projects. *International journal of project management*, 20(3), 185–190.
28. Cortez, F. (2014). *The utilization of soft skills in retention of professionals: An explanatory sequential mixed methods inquiry* (Doctoral dissertation), Corpus Christi: Texas A&M University.
29. Cowie, G. (2003). The importance of people skills for project managers. *Industrial and Commercial Training*, 35(6), 256–258
30. De Wit, A. (1988). Measurement of project success. *International journal of project management*, 6(3), 164–170.
31. Dinsmore, P. C. (1998). *Winning in business with enterprise project management*. New York: AMACOM.
32. DiVincenzo, T. (2006). Project managers stay in charge and out front. *Occupational Outlook Quarterly*, 50(2) 19–25.
33. Drossel, M. (1980). Organizing a project team. *IEEE Transactions on Professional Communication*, 3, 148–150.
34. Dunn, S. C. (2001). Motivation by project and functional managers in matrix organizations. *Engineering Management Journal*, 13(2), 3–10.
35. Dysert, L. R. (2003). Sharpen your cost estimating skills. *Cost Engineering*, 45(6), 22.
36. Ebbesen, J. B., & Hope, A. (2013). Re-imagining the iron triangle: embedding sustainability into project constraints. *PM World Journal*, 2(III), 6–19.

37. Eisenhardt, K. M. (1989). *Building Theories from Case Study Research*. *Academy of Management Review*, 14(4), 532–550. <https://doi.org/10.5465/amr.1989.4308385>
38. El-Sabaa, S. (2001). The skills and career path of an effective project manager. *International journal of project management*, 19(1), 1–7.
39. Gadlage, K., & Manos, J. L. (2020). Implementation, Phases, and Project Management. In *Comprehensive Healthcare Simulation: Program & Center Development* (pp. 25-30). Springer, Cham.
40. Gillard, S. (2005). The competencies of effective project managers: A conceptual analysis. *International Journal of Management*, 22(1), 48–53.
41. Globerson, S., & Zwikael, O. (2002). The impact of the project manager on project management planning processes. *Project management journal*, 33(3), 58–64.
42. Grigg, N. S. (1993). New paradigm for coordination in water industry. *Journal of Water Resources Planning and Management*, 119(5), 572–587.
43. Gronwald, K. D. (2017). Global communication and collaboration. *Global Project Management, Global Sourcing, Cross-Cultural Competencies*. Heidelberg: Springer.
44. Hendarman, A. F., & Cantner, U. (2018). Soft skills, hard skills, and individual innovativeness. *Eurasian Business Review*, 8(2), 139–169.
45. Hendarman, A. F., & Tjakraatmadja, J. H. (2012). Relationship among soft skills, hard skills, and innovativeness of knowledge workers in the knowledge economy era. *Procedia-Social and Behavioral Sciences*, 52, 35–44.
46. Hennink, M., & Kaiser, B. N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Science & Medicine*, 292, 114523.
47. Jarvenpaa, S., & Leidner, D. (1999). Communication and trust in global virtual teams. *Organization Science*, 10, 791–815.
48. Jena, A., & Satpathy, S. S. (2017). Importance of soft skills in project management. *International Journal of Scientific Research and Management*, 5(7), 6173–6180.
49. Johnson, D. R., Scheitle, C. P., & Ecklund, E. H. (2021). Beyond the in-person interview? How interview quality varies across in-person, telephone, and Skype interviews. *Social Science Computer Review*, 39(6), 1142–1158.
50. Kačamakovic, M. K., & Lokaj, A. S. (2021). Requirements of organization for soft skills as an influencing factor of their success. *Academic Journal of Interdisciplinary Studies*, 10(1), 295–303.
51. Keil, M., Lee, H. K., & Deng, T. (2013). Understanding the most critical skills for managing IT projects: A Delphi study of IT project managers. *Information & management*, 50(7), 398–414.
52. Kelley Jr, J. E., & Walker, M. R. (1959). Critical-path planning and scheduling. In *Papers presented at the December 1-3, 1959, eastern joint IRE-AIEE-ACM computer conference* (pp. 160-173).

53. Kušar, J., Rihar, L., Kisiček, K. & Starbek, M. (2004). Izkušnje pri uvajanju pisarne projektnega vodenja. *Projektna Mreža Slovenije*, 7(4), 42–46. <https://doi.org/ISSN1580-0229>
54. Labuschagne, C., & Brent, A. C. (2005). Sustainable project life cycle management: the need to integrate life cycles in the manufacturing sector. *International journal of project management*, 23(2), 159–168.
55. Lilliesköld, J., Eriksson, M., & Jonsson, N. (2002). *Starting a global project: what is different compared to a "normal" project?* Project Management Institute. Retrieved 14 September 2022, from <https://www.pmi.org/learning/library/starting-global-project-different-1000>
56. López, A., Nicolas, J., & Toval, A. (2009). Risks and safeguards for the requirements engineering process in global software development. In 2009 Fourth *IEEE International Conference on Global Software Engineering* (pp. 394-399). IEEE.
57. Lyu, W., & Liu, J. (2021). Soft skills, hard skills: What matters most? *Evidence from job postings. Applied Energy*, 300, 117307.
58. Marando, A. (2012). *Balancing Project Management Hard Skills and Soft Skills*. Rabb School of Continuing Studies: Division of Graduate Professional Studies, Brandeis University.
59. Matteson, M. L., Anderson, L., & Boyden, C. (2016). " Soft skills": A phrase in search of meaning. *portal: Libraries and the Academy*, 16(1), 71–88.
60. Mirabile, R. J. (1997). Everything you wanted to know about competency modeling. *Training & Development*, 51(8), 73–78.
61. Mishra, A., Tripathi, A., & Khazanchi, D. (2023). A Proposal for Research on the Application of AI/ML in ITPM: Intelligent Project Management. *International Journal of Information Technology Project Management (IJITPM)*, 14(1), 1–9.
62. Neeley, T. (2015). Global teams that work. *Harvard Business Review*, 93(10), 74–81.
63. Niazi, M., Mahmood, S., Alshayeb, M., Riaz, M. R., Faisal, K., Cerpa, N., Khan, S. U. & Richardson, I. (2016). Challenges of project management in global software development: A client-vendor analysis. *Information and Software Technology*, 80, 1–19.
64. Pace, M. (2019). A correlational study on project management methodology and project success. *Journal of Engineering, Project, and Production Management*, 9(2), 56.
65. Page, C., Wilson, M., & Kolb, D. (1993). *Managerial competencies and New Zealand managers: On the inside, looking in*. Auckland: University of Auckland
66. Patton, M. Q. (1987). *How to use qualitative methods in evaluation* (No. 4). Newsbury Park, London, New Dehli: Sage Publications
67. Poisson-de Haro, S., & Turgut, G. (2012). Expanded strategy simulations: developing better managers. *Journal of Management Development*, 31(3), 209–220.

68. Posner, B. Z. (1987). What it takes to be a good project manager. *Project Management Journal*, 1, 51–54.
69. Prabhakar, G. P. (2008). What is project success: a literature review. *International Journal of Business and Management*, 3(9), 3–10.
70. Project Management Institute. (2000). *A Guide to the Project Management Body of Knowledge* (PMBOK® Guide - 2000th ed.). Newtown Square: Project Management Institute.
71. Project Management Institute. (2021a). *Pulse of the Profession 2021*. Retrieved 14 September 2022, from <https://www.pmi.org/learning/thought-leadership/pulse/pulse-of-the-profession-2021>
72. Project Management Institute. (2021b). The standard for project management and a guide to the project management body of knowledge (PMBOK guide). Newtown Square, PA: Project Management Institute.
73. Rainsbury, E., Hodges, D., Burchell, N. & Lay, M. C. (2002). Ranking workplace competencies: Student and graduate perceptions. *Asia-Pacific Journal of Cooperative Education*, 3(2), 8–18.
74. Redmill, F. (1997). *Software projects: evolutionary vs. big-bang delivery*. Hoboken; John Wiley & Sons, Inc..
75. Sampson, B. (2007). Get with the project. *Professional Engineering*, 20(12), 41–42
76. Santiago, J., & Magallon, D. (2009). Critical path method. *CEE320, Winter 2013*, 1–19.
77. Schwalbe, K. (2015). *Information technology project management* (8th ed.). Boston: Cengage Learning.
78. Scott, R., & Vincent-Lancrin, D. (2014). The human factor in innovation. In S. Dutta, B. Lanvin, & S. Wunsch-Vincent (Eds). *The Global Innovation Index 2014*. Ithaca: Cornell University, INSEAD, WIPO Fontainebleau.
79. Shahzad, B., & Safvi, S. A. (2008). Effective risk mitigation: a user prospective. *International Journal of Mathematics and Computers in Simulation*, 2(1), 70–80.
80. Sheeran, F. B. (1979). *Management essentials for public works administrators*. Kansas City: American Public Works Association.
81. Skulmoski, G. J., & Hartman, F. T. (2010). Information systems project manager soft competencies: A project-phase investigation. *Project Management Journal*, 41(1), 61–80.
82. Spencer, L. M., & Spencer, S. M. (1993). *Competency at work*. New York: John Wiley & Sons
83. Stoof, A., Martens, R. L., Van Merriënboer, J. J., & Bastiaens, T. J. (2002). The boundary approach of competence: A constructivist aid for understanding and using the concept of competence. *Human resource development review*, 1(3), 345–365.
84. Špundak, M. (2014). Mixed agile / traditional project management methodology – reality or illusion? *Procedia - Social and Behavioral Sciences*, 119(1), 939–948. Retrieved 19th January 2023, from <https://doi.org/10.1016/j.sbspro.2014.03.105>

85. Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. *The SAGE handbook of qualitative research in psychology*, 2, 17–37.
86. The Standish Group. (2015). *Chaos report 2015*. Retrieved 18th October 2022 from https://www.standishgroup.com/sample_research_files/CHAOSReport2015-Final.pdf
87. Thompson, S. K. (2012). *Sampling* (Vol. 755). Hoboken: John Wiley & Sons.
88. Thomsett, R. (2002). *Radical project management*. Upper Saddle River: Prentice Hall Professional.
89. Van Ingen, S. (2007). Leadership of project teams. *Chemical Engineering*, 114(1), 55–58.
90. Van Wyngaard, C. J., Pretorius, J. H. C., & Pretorius, L. (2012, December). Theory of the triple constraint—A conceptual review. In *2012 IEEE International Conference on Industrial Engineering and Engineering Management* (pp. 1991-1997). IEEE.
91. Varajão, J., Colomo-Palacios, R., & Silva, H. (2017). ISO 21500: 2012 and PMBoK 5 processes in information systems project management. *Computer Standards & Interfaces*, 50, 216–222.
92. Watson, W. E., Kumar, K., & Michaelsen, L. K. (1993). Cultural diversity's impact on interaction process and performance: Comparing homogeneous and diverse task groups. *Academy of management journal*, 36(3), 590–602.
93. Williams, A. M., & Ford, P. R. (2013). ‘Game intelligence’: anticipation and decision making. In *Science and soccer* (pp. 117-133). Abingdon-on-Thames: Routledge.
94. Zachary, W. B. & Krone, R. M. (1984). Managing creative individuals in high-technology research projects. *IEEE Transactions on Engineering Management*, 1, 37–40.
95. Zielinski, D. (2005). Soft skills, hard truths. *Training*, 42(7), 18–22

APPENDICES

Appendix 1: Povzetek (Summary in Slovene language)

Zaradi tehnološkega razvoja in globalnega poslovanja podjetij iz dneva v dan narašča pomen, hkrati pa tudi število izvedenih globalnih projektov. (Pace, 2019). Pri izvedbi globalnih projektov igrajo pomembno vlogo projektni managerji, ki so zadolženi za vodenje projektov in osebno odgovorni za uspehe le-teh. (Project Management Institute, 2021b). Projektni vodje z uporabo različnih pristopov zagotavljajo boljše vodenje projektov in s tem večjo možnost za uspeh podjetij (Project Management Institute, 2000).

Poznamo različne pristope za vodenju projektov, le-ti pa se med seboj razlikujejo predvsem po številu faz, ki morajo biti opravljene za zaključek projekta. (Labuschagne & Brent, 2005). Če želijo projektni managerji uspešno zaključiti projekte, morajo v svojem procesu vodenja uporabiti tako trde kot tudi mehke veščine. (Azim et al., 2010; Marando, 2012).

Namen magistrske naloge je bil poglobiti razumevanje pomena mehkih veščin v posameznih fazah globalnega projekta, s tem pa omogočiti globalnim projektnim vodjem lažje in uspešnejše vodenje projektov. Uspešno zaključeni projekti namreč ključno vplivajo na samo uspešnost podjetij. Cilj te magistrske naloge je bil preučiti literaturo na temo globalnih projektov in veščin, ki so potrebne za zagotavljanje uspeha globalnih projektov, ter empirično raziskati, katere veščine so potrebne v posamezni fazi globalnega projekta, pri čemer je poudarek namenjen mehkih veščinah.

V empiričnem delu magistrske naloge sem tako na primeru izbranega proizvodnega podjetja raziskovala, kako se v praksi uporabljajo trde in mehke veščine v posameznih fazah tako imenovanega sedemfaznega pristopa (Seven Phase Approach). Seven Phase Approach je pristop za vodenje globalnih projektov, ki ga uporabljajo v izbranem podjetju. Izbrano podjetje deluje od sredine dvajsetega stoletja, ustanovljeno je bilo v Evropi, dandanes pa posluje globalno in zaposluje več kot 30.000 zaposlenih po vsem svetu. Podjetje uporablja model direktne prodaje in slovi po kvalitetnih ter inovativnih produktih in storitvah za gradbeno industrijo.

Na podlagi analize internih podatkov podjetja, sem ugotovila, da je v izbranem podjetju uporaba trdih veščin jasno definirana, zato sem informacije o tem, katere trde veščine potrebuje projektni vodja v posamezni fazi, povzela iz sekundarnih virov, ki so navedeni v internih virih podjetja. V okviru raziskave sem izvedla 14 pol-strukturiranih intervjujev z zaposlenimi iz izbranega podjetja. Nato sem, na podlagi intervjujev empirično preučila pomembnost in uporabo mehkih veščin v posameznih fazah omenjenega pristopa.

Na podlagi raziskave sem pripravila pregled potrebnih trdih in mehkih veščin v posameznih fazah globalnega projekta. Pripravila sem tudi priporočila projektnim vodjem glede uporabe mehkih veščin za uspešnejše vodenje globalnih projektov. Magistrska naloga ponazarja, zakaj vodenje globalnih projektov od projektnih vodji zahteva uporabo mehkih in trdih veščin. Pri tem je ključnega pomena, da se med njimi vzpostavi ravnovesje in da se njihova uporaba prilagodi fazi projekta.

Appendix 2: Letter to participants

Dear participant,

my name is Elma Hilic, and I am a student in the International Full Time Master Programme in Business and Organization (IMB) at School of Economics and Business in Ljubljana, Slovenia. I am currently working on my master's thesis under the supervision of Assistant Professor Darija Aleksić, PhD. Therefore, I am conducting research to examine the importance of soft skills in global project management and to improve the understanding of what soft skills project managers should have in each phase of global project execution to successfully implement global project.

Since you are involved in global projects in one way or another, I would appreciate if you would be willing to share your valuable insights and experiences with me. I would like to conduct an interview with you, lasting up to 45 minutes, in which we would discuss the following topics:

1. Key factors of global project success
2. Benefits of global projects
3. Challenges in global project management
4. Important soft skills a project manager needs at each phase of global project execution

Interviews will be recorded (if you agree) for the purpose of preparing transcripts. After the transcriptions are done, I will delete the recordings.

Participation in the research is completely voluntary. At any time, you may withdraw from the research study without having to provide a reason. Your responses will be treated strictly confidential. Your personal information will remain confidential and will not be shared with third parties without your explicit consent. Therefore, your privacy is guaranteed.

I would like to thank you in advance. Your answers provide valuable information that contributes to my knowledge on this subject. For any further questions regarding this study, please contact me at elma.hilic@hilti.com.

Respectfully,

Elma Hilic

Appendix 3: Interview guide

Characteristics of global projects

1. For multinational companies, conducting global projects is almost a necessity due to their global operations. In your opinion, what are the characteristics of global projects? How do global projects differ from locally executed projects?
2. What do you think are the advantages/disadvantages of global projects compared to local (traditional) projects?

Project success

3. In today's world, international companies depend on the success of global projects. In your view, what makes a project successful? Please give some examples.
4. Do you think the success of the project can be measured? If yes: How do you measure the success of your global project?

Challenges in global project management

5. What are the critical factors for successful execution of a global project? Please give some examples.
6. Global projects are facing many additional challenges compared to locally executed projects. In your opinion, what are the biggest challenges in global project management?
7. What is the biggest challenge for the project manager when executing a global project?

Skills required in global project management

8. What are the most important hard skills required by a global project manager?
9. According to literature, the biggest challenge for companies in the process of digital transformation is managing employees. Therefore, it is essential that the project manager has certain soft skills, as possessing hard skills is not enough. In your opinion, how important it is for project managers to possess soft skills?
10. In your opinion, what are the most important soft skills for a global project manager? Are the same soft skills needed in all phases of the project? Please explain.
 - a. Which soft skills are crucial in phase 1 (Business opportunity)?
 - b. Which soft skills are crucial in phase 2 (Definition)?
 - c. Which soft skills are crucial in phase 3 (Concept)?
 - d. Which soft skills are crucial in phase 4 (Build)?
 - e. Which soft skills are crucial in phase 5 (Launch preparation)?
 - f. Which soft skills are crucial in phase 6 (Market introduction)?
 - g. Which soft skills are crucial in phase 7 (Operate)?