VILNIUS UNIVERSITY
BUSINESS SCHOOL

INTERNATIONAL PROJECT MANAGEMENT PROGRAMME

Ligita Žebelovičiūtė

THE FINAL MASTER'S THESIS

AGILE PROJEKTŲ VALDYMO APLINKOS IR PROJEKTŲ KOMANDOS NARIŲ MOTYVACINIŲ VEIKSNIŲ, EFEKTYVUMO IR PROJEKTŲ REZULTATŲ RYŠYS: SAVIDETERMINACIJOS MOTYVACIJOS TEORIJOS TAIKYMAS PROJEKTŲ VALDYMO KONTEKSTE	THE RELATIONSHIP BETWEEN AGILE PROJECT MANAGEMENT ENVIRONMENT AND PROJECT TEAM MEMBERS' MOTIVATIONAL FACTORS, EFFECTIVENESS AND PROJECT PERFORMANCE: APPLYING SELF-DETERMINATION MOTIVATION THEORY IN PROJECT MANAGEMENT CONTEXT

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SUMMARY

VILNIUS UNIVERSITY BUSINESS SCHOOL

INTERNATIONAL PROJECT MANAGEMENT PROGRAMME

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THE RELATIONSHIP BETWEEN AGILE PROJECT MANAGEMENT ENVIRONMENT AND PROJECT TEAM MEMBERS' MOTIVATIONAL FACTORS, EFFECTIVENESS AND PROJECT PERFORMANCE: APPLYING SELF-DETERMINATION MOTIVATION THEORY IN PROJECT MANAGEMENT CONTEXT

Supervisor – Lect. Skirmantas Gricius
Master's Thesis was prepared in Vilnius, 2024
Scope of Master's thesis – 72 pages
Number of tables used in the FMT – 7
Number of figures used in the FMT - 1
Number of bibliography and references – 64

The FMT described in brief: Today's fiercely competitive business environment necessitate financial industry organizations to implement project management and operational strategies to attain enhanced business outcomes. To strengthen the probability of project success it is important to understand potential factors that could positively influence project results. One of the factors which potentially play a crucial role in increasing the likelihood of project success is project team motivation, therefore it was chosen to examine the motivational factors of Agile project teams and their connection to chosen project performance variables. Self-determination motivation theory was selected as a theoretical guideline which outlined the constructs and scope of the current research.

Problem, objective, and tasks of the FMT: Problem of the final master thesis research is: which motivational factors are related to project and team effectiveness outcomes and are most relevant for Agile project management teams in financial industry organization? The objective of the study is to evaluate how Agile project management practices influence

project team members' motivation from Self-determination theory perspective point of view and to evaluate the relationships between Agile project teams members' motivational factors, motivation types, efficiency, and project performance outcomes in financial industry organization. To answer to the research problem and reach the objective, following tasks were formulated: 1) To conduct a critical literature review of relevant empirical studies which would be basis to understanding and interpreting current research results; 2) To evaluate the relationship between motivational factors, motivation types, efficiency, and project performance outcomes of teams which use Agile methods when working on projects in the financial industry organization; 3) To identify the motivational and demotivational factors of Agile project team members in financial industry organization; 4) To evaluate whether and how the motivators and demotivators postulated in Self-determination theory relate with motivational factors relevant for Agile project team members; 5) To provide recommendations for practical use of Self-determination motivation theory in Agile project management context.

Research methods used in the FMT: 1) A systematic analysis of scientific literature; 2) Quantitative research method – survey; 3) Qualitative research method – open question included in a survey.

Research and results obtained: 50 employees who work according to Agile principles in chosen financial industry organization participated in the study by filling in a digital survey. Relevant scales were adapted and open-ended question formulated to gather the data. Quantitative and qualitative results obtained were analysed separately as well as merged to draw conclusions.

Conclusions of the FMT: Correlational analysis showed that demotivators such as autonomy, competence and relatedness basic psychological need frustration have a negative connection with team effectiveness and project results. By qualitative content analysis it was revealed that motivators and demotivators influenced by Agile project management environment relate to motivational factors postulated in Self-determination theory: autonomy, competence, and relatedness psychological need satisfaction/frustration. Additionally, both correlational analysis and content analysis revealed that competency and relatedness need frustrations are relevant demotivators, whereas inconsistent findings were shown for autonomy need frustration: qualitative analysis supported but quantitative analysis did not support this demotivator as relevant for Agile team members in financial industry organization.

SANTRAUKA

VILNIAUS UNIVERSITETO VERSLO MOKYKLA

TARPTAUTINĖS PROJEKTŲ VADYBOS PROGRAMA

STUDENTĖ LIGITA ŽEBELOVIČIŪTĖ

AGILE PROJEKTŲ VALDYMO APLINKOS IR PROJEKTŲ KOMANDOS NARIŲ MOTYVACINIŲ VEIKSNIŲ, EFEKTYVUMO IR PROJEKTŲ REZULTATŲ RYŠYS: SAVIDETERMINACIJOS MOTYVACIJOS TEORIJOS TAIKYMAS PROJEKTŲ VALDYMO KONTEKSTE

Darbo vadovas – Lektorius Skirmantas Gricius
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Modelių iliustracijų skaičius - 1
Literatūros šaltinių skaičius – 64

Trumpas darbo apibūdinimas: Šių dienų konkurencinė verslo aplinka reikalauja, kad finansų industrijos organizacijos įgyvendintų tokį projektų valdymą ir veiklos strategijas, kurios pasiektų gerus verslo rezultatus. Siekiant sustiprinti projekto sėkmės tikimybę, svarbu suprasti galimus veiksnius, galinčius teigiamai paveikti projekto rezultatus. Vienas iš veiksnių, galinčių turėti lemiamą vaidmenį didinant projekto sėkmės tikimybę, yra projekto komandos motyvacija, todėl buvo pasirinkta ištirti Agile projektų komandų motyvacinius veiksnius ir jų ryšį su pasirinktais projekto veiklos kintamaisiais. Savideterminacijos motyvacijos teorija buvo pasirinkta kaip teorinė gairė, apibrėžianti dabartinio tyrimo konstruktus ir apimtį.

Iškelta problema, tikslas ir uždaviniai: Baigiamojo Magistro darbo tyrimo problema: „kokie motyvaciniai faktoriai yra susiję su projektų ir komandos efektyvumo rezultatais bei yra aktualiausi Agile projektų valdymo komandoms finansų sektoriaus organizacijoje?“ Tyrimo tikslas – įvertinti, kokią įtaką daro Agile projektų valdymo praktikos

projekto komandos narių motyvacijai, atsižvelgiant į Savideterminacijos teoriją ir įvertinti ryšius tarp Agile projektų komandos narių motyvacinių veiksnių, motyvacijos tipų, efektyvumo ir projekto veiklos rezultatų finansų sektoriaus organizacijoje. Siekiant atsakyti į tyrimo problemą ir pasiekti tikslą, buvo suformuluoti šie uždaviniai: 1) Atlikti aktualių empirinių tyrimų kritinę literatūros apžvalgą, kuri būtų pagrindas interpretuojant magistrinio baigiamojo darbo rezultatus; 2) Įvertinti komandų, kurios dirba su projektais finansų sektoriaus organizacijoje ir naudojančių Agile metodus, motyvacinių veiksnių, motyvacijos tipų, efektyvumo ir projektų veiklos rezultatų ryšį; 3) Nustatyti Agile projekto komandos narių motyvuojančius ir demotivuojančius veiksnius finansų sektoriaus organizacijoje; 4) Įvertinti, kaip Savideterminacijos teorijoje postuluojami motyvatoriai ir demotyvatoriai yra susiję su motyvaciniais veiksniais, aktualiais Agile projekto komandos nariams; 5) Pateikti rekomendacijas praktiniam Savideterminacijos motyvacijos teorijos panaudojimui Agile projektų valdymo kontekste.

Tyrimo metodai: 1) Sisteminė mokslinės literatūros analizė; 2) Kiekybinis tyrimo metodas – apklausa; 3) Kokybinis tyrimo metodas – atviras klausimas įtrauktas į apklausą.

Atlikti tyrimai ir gauti rezultatai: Tyrime dalyvavo 50 darbuotojų iš pasirinktos finansų sektoriaus organizacijos, užpildę pateiktą apklausą. Duomenims surinkti buvo pritaikytos reikiamos skalės bei suformuluotas atviras klausimas. Gauti kiekybiniai ir kokybiniai rezultatai buvo analizuojami atskirai bei kartu, kad būtų galima pateikti išvadas.

Išvados: Koreliacinė analizė parodė, kad demotyvatoriai, tokie kaip autonomijos, kompetencijos ir susietumo poreikių frustracija, turi neigiamą ryšį su komandos efektyvumu ir projekto rezultatais. Atlikus kokybinę turinio analizę, buvo atskleista, kad Agile projektų valdymo aplinkos veiksniai, darantys įtaką tyrimo dalyvių motyvacijai yra susiję su Savideterminacijos teorijoje postuluojamais motyvaciniais veiksniais: autonomijos, kompetencijos ir susietumo psichologinių poreikių patenkinimu/frustracija. Be to, ir koreliacinė analizė, ir turinio analizė atskleidė, kad kompetencijos ir susietumo poreikio frustracijos yra svarbūs motyvatoriai, tačiau gauti nenuoseklūs rezultatai dėl autonomijos poreikio frustracijos: kokybinė analizė palaikė, tačiau kiekybinė analizė nepatvirtino, kad šis demotyvatorius yra aktualus Agile komandos nariams finansų industrijos organizacijoje.

CONTENTS

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LIST OF ABBREVIATIONS

1. **Agile framework** – an iterative approach to managing projects (Bianchi et al., 2020) usually consisting of the initiation, planning, execution, control and closing processes which are repeated in each iteration (Wysocki, 2009).
2. **Scaled Agile Framework** (Scaled Agile Inc., 2023a) – an Agile framework which offers comprehensive guidance for the implementation of Lean, Agile, and DevOps principles to enable enterprises to excel in the digital era.
3. **Motivational factors according to Self-determination theory (SDT):**

- **Autonomy psychological need satisfaction** – "the degree to which individuals feel volitional and responsible for their own behaviour" (Ryan & Deci, 2002 as cited by Bartholomew et al., 2011, p.1459).
- **Competence psychological need satisfaction** – "the degree to which individuals feel effective in their ongoing interactions with the social environment and experience opportunities in which to express their capabilities" (Ryan & Deci, 2002 as cited by Bartholomew et al., 2011, p.1459).
- **Relatedness psychological need satisfaction** – "extent to which individuals feel a secure sense of belongingness and connectedness to others in their social environment" (Ryan & Deci, 2002 as cited by Bartholomew et al., 2011, p. 1460).
- **Autonomy psychological need frustration** - behaviour is experienced as conditioned by external pressure or coercion, so it is experienced as a violation of one's own will (Bartholomew et al., 2011).
- **Competence psychological need frustration** – experience of ineffectiveness and inability to achieve desired result (Bartholomew et al., 2011).
- **Relatedness psychological need frustration** - experienced lack of close relationships with others and feeling as part of a community (Bartholomew et al., 2011).

4. **Motivation according to Self-determination theory (SDT):**

- "Amotivation is defined as the absence of motivation towards an activity" (Gagné et al., 2015, p. 2).
- "Intrinsic motivation is defined as doing an activity for its own sake, that is, because it is interesting and enjoyable in itself" (Gagné et al., 2015, p. 2).
- "Extrinsic motivation refers to engaging in the activity for instrumental reasons, such as receiving rewards and approval, avoiding punishments or criticism, boosting one's self-

esteem, or reaching a personally valued goal" (Gagné et al., 2015, p. 2). Extrinsic motivation is categorized into subtypes:

- External regulation – actions performed to attain rewards or avoid punishments, which may be social or material (Gagné et al., 2015).
- Introjected regulation – regulation of behaviour in relation to self-evaluation, where actions are taken to enhance or prevent a decline in one's self-worth (Petri & Govern, 2013).
- Identified regulation – involves performing actions because individuals identify with the values and significance associated with those actions and considers them as self-determined (Gagné et al., 2015).

INTRODUCTION

Relevance of the topic

In today's fiercely competitive business environment, organizations are implementing project management approach and operational strategies to attain enhanced business outcomes (Ellahi et al., 2022). Project management is characterized by well-established principles and methodologies designed to enhance project efficiency and effectiveness in order to create value (PMI, 2021). Despite the sophisticated project management techniques and tools, numerous projects still encounter difficulties as the projects operate in the environment of constraints like time, cost and quality (Ellahi et al., 2022). To strengthen the probability of project success it is important to understand potential factors that could positively influence project outcomes.

One of the factors which potentially play a crucial role in increasing the likelihood of project success is project team motivation. Motivated team members are more engaged, committed to achieving project goals (Dasi et al., 2021) and exhibit creative performance (Malek et al., 2020). Such teams are more likely to make progress on meaningful work (Amabile & Kramer, 2011), collaborate effectively (McHugh, 2011), and overcome challenges (Dasi et al., 2021). Therefore, organizations should foster project team's motivation to enhance project's and project team's performance.

In traditional project management, it is considered that one of the project managers' responsibilities is to create an environment which would motivate team members to perform effectively (PMI, 2017). Project manager should understand different factors that motivate each project team member and work with the team to secure commitment to the project and its outcomes (PMI, 2021). However, in an environment of constant change, the traditional project management model is being challenged by the Agile approach as it is considered to be a more flexible method of project management (Lapunka et al., 2017). Because of the move to Agile Project Management, the popularity of Agile methodologies is growing, as is the number of successful projects (Serrador & Pinto, 2015). Specifically in Agile project management, team motivation becomes vital due to increased team control as Agile team members collaborate cross-teams, have possibility to manage their tasks autonomously and actively work on improvements suggested by the project team (Lee & Xia, 2010; McHugh et al., 2011). Project managers should understand how to adjust their leadership and practices

according to the unique requirements of the project and team to achieve project milestones while maintaining effective teamwork and motivation among the project team members.

As our world undergoes a growing digitization, business must adapt to this trend by embracing digital advancements and transforming into a more tech-savvy organizations (Shala & Perri, 2022). Since the current research was conducted in financial industry sector organization, let's review this current business trend which inevitably influences financial sector. Like many other industries, the global financial services sector is undergoing rapid transformation due to emerging technologies, new market participants, and changing user needs (Shala & Perri, 2022). FinTech has become an integral part of banking, leading to banks facing competition not only from other financial institutions but also from non-bank entities such as start-ups, search engines, and social networks (Romānova & Kudinska, 2016). FinTech companies have emerged as strong competitors to established financial institutions by offering similar products but with a superior customer experience and faster delivery of new features (Scott et al., 2021). These advantages are partially attributed to the adoption of Agile software development practice and because of this competitive challenge, banks are exploring ways to enhance their own Agile processes to achieve positive results (Scott et al., 2021). Consequently, it is beneficial to evaluate how adapted Agile principles in the banking context influence project team members' motivation to potentially increase the likelihood of successful projects and well-collaborating teams. Therefore, the current study was conducted in a financial industry organization.

Novelty of the research

In the existing empirical literature, there are different approaches to analysing motivation according to Self-determination motivation theory in Agile project management context. Noll et al. (2017) compared the motivation levels of team members before and after introduction of Scrum methodology simply asking to identify whether the motivation level ranges from "definitely low" to "definitely high". Additionally, semi-structured interviews were carried out with project team members to understand the reported motivational levels before and after introduction of scrum. Results were analysed by identifying whether the team members' basic psychological needs of autonomy, competence and relatedness were met, which according to Self-determination motivation theory are moderators of intrinsic motivation (Ryan & Deci, 2000). Malik et al. (2021) conducted quantitative research and

measured Agile team autonomy to understand whether team empowerment mediates the relationship between team autonomy and the innovative behaviour of Agile project teams. Arndt (2020) compared fulfilment of intrinsic motivational needs between Agile and traditional project team members using only quantitative research methods. Memeti et al. (2021) also conducted quantitative research to evaluate whether Agile software development and project management practices affect self-determination needs and intrinsic motivation. Thus, there is a lack of research which analyses motivational factors of Agile project management teams and their relation to Self-determination theory using both quantitative and qualitative methods. In addition, some authors discuss that in Agile project management context the motivators proposed by Self-determination theory are not sufficient (Noll et al., 2017), therefore there is a need to identify additional possible motivators of Agile teams. Moreover, only a few studies identified not only motivating but also demotivating factors relevant in for Agile project team members (McHugh, 2011). Consequently, this research will be conducted using the mixed research method and will aim to identify both motivators and demotivators of Agile project management teams in connection to Self-determination theory.

Agile project management methods favourable effects on project teams are quite well researched in the software industry (Azanha et al., 2017; Bianchi et al., 2020; Mchugh et al., 2013; Noll et al., 2017; Memeti et al., 2021; Trzeciak & Banasik, 2022). However, there is a scarcity of empirical research on the application of Agile project management method and their effect on project team outside of the IT sector, notably in traditional institutions such as banks. The available research suggests that banks have experienced positive outcomes when employing Agile practices to adapt to changing environmental conditions (Berkani et al., 2019; Scott et al., 2021). However, there is a lack of comprehensive information and expertise regarding the widespread adoption of Agile methods and its benefits for project teams in the banking sector. It might be restraining successful implementation of Agile methods, despite practical evidence indicating their effectiveness (Berkani et al., 2019; Scott et al., 2021). Therefore, this study aims to add to the existing body of knowledge by considering the lack of research focusing on context-specific factors that might influence project teams' motivation, effectiveness and project performance in the banking sector.

Problem

Based on the relevance and novelty of this study, following research problem was identified: which motivational factors are related to project and team effectiveness outcomes and are most relevant for Agile project management teams in financial industry organization?

Objective

The objective of the study is to evaluate how Agile project management practices influence project team members' motivation from Self-determination theory perspective point of view and to evaluate the relationships between Agile project teams members' motivational factors, motivation types, efficiency, and project performance outcomes in financial industry organization.

Tasks

1) To conduct a critical literature review of relevant empirical studies which would be basis to understanding and interpreting current research results.
2) To evaluate the relationship between motivational factors, motivation types, efficiency, and project performance outcomes of teams which use Agile methods when working on projects in the financial industry organization.
3) To identify the motivational and demotivational factors of Agile project team members in financial industry organization.
4) To evaluate whether and how the motivators and demotivators postulated in Self-determination theory relate with motivational factors relevant for Agile project team members.
5) To provide recommendations for practical use of Self-determination motivation theory in Agile project management context.

Research methods

1) A systematic analysis of scientific literature

2) Quantitative research method – surveys (Psychological Need Thwarting Scale, Bartholomew et al., 2011; Revised Motivation at Work Scale, Gagné et al., 2015; Group Development Questionnaire's IV Scale, Gren et al., 2020; Speed performance scale, Bianchi et al., 2020; Software functionality scale, Lee & Xia, 2010).

3) Qualitative research method – open question in a survey.

Difficulties and limitations of the research

1) Qualitative data was gathered via survey, therefore quite many research participants did not answer to the open-ended question or answered without reflecting on meaningful information. Additionally, research participants did not ask the author of the thesis for guidance if any of the survey questions were unclear. Moreover, research author did not have the opportunity to ask follow-up questions to gather more valid and comprehensive data from the research participants.

2) Current research sample is concluded from 50 respondents. Since the population is small and a non-probability, convenience sampling was employed to gather research sample, the results of this study cannot be generalized to a wider population.

3) Quantitative data was gathered via correlational analysis which results in data without providing cause and effect implications. Therefore, such results need to be cautiously interpreted.

4) Only the demotivators were measured via quantitative research which resulted in differences between quantitative and qualitative research outcomes. Motivators were not measured in the quantitative research since the approval to use the applicable scale was not provided to the research author.

5) Open-ended question used in the qualitative research could have been formulated in a more precise way to gather even more relevant information of potential motivational and demotivational factors of research participants.

6) Author of the research does not have the experience of conducting qualitative or mixed methods research which could yield threats to the validity of the current research.

7) In the open-ended question results, a small number of the research participants revealed that they use both Agile and traditional project management practices when working on projects which could have influenced the results of the study and negatively affect validity of the data.

8) Quite many variables were researched in the current study, therefore research author experienced challenges to organize the gathered data and compare it to the other studies in the discussion section of the FMT.

9) The survey was filled in by the Agile project team members which could have resulted in social desirability bias and negatively impact the validity of research results.

Structure of the work

Final master thesis chapters include the introduction, literature review, methodology, results, conclusions, recommendations, list of references and annex. In the introduction part, the relevance and novelty of the current research are presented, research problem, objective and tasks formulated, research method and limitations of the research briefly described. Literature review part describes the constructs with were measure in the current research. Relevant work of scholars is critically reviewed, and conceptual model is formulated in the same chapter. Methodology part describes the methodological approaches applied and the measurement principles of instruments used. Validity and reliability of the data is provided. In the result rection both quantitative, qualitative, and mixed data is revealed and discussed, comparing the current findings to those of other researchers. Finally, in conclusions part the most relevant findings are listed, and recommendations part suggest practical implications for professionals.

1. LITERATURE REVIEW

1.1. Agile Project Management Framework

Agile methods are most useful when the requirements of the project outcome are mostly uncertain and are subject to change throughout the project (PMI, 2021). Agile framework is an iterative approach to managing projects (Bianchi et al., 2020) consisting of the same five processes as in traditional project management: initiation, planning, execution, control and closing which are repeated in each iteration (Wysocki, 2009). Project team is engaged in the planning activities of each iteration (sprint): they determine achievable scope based on set priorities, estimate time needed to finish work tasks and collaborate with stakeholders (PMI, 2021). Sprint usually last for 2 weeks in duration, each finishing with a presentation of the progress made (PMI, 2021). Agile framework originates from the Agile Manifesto, which was formulated in 2001 by a group of software developers (Beck et al., 2001). In their Agile Manifesto review article, Fowler & Highsmith (2001) explains that Agile method prioritizes delivering working software by exercising adaptability to the changing requirements and actively involving the stakeholders. Authors elaborate that working according to Agile principles offers the flexibility to revisit and refine project outcomes to make sure they are aligned with the customer needs. Fowler & Highsmith (2001) emphasize the importance of delivering frequently as the upmost priority of any project or development is to create value for the customer as soon as possible. This is done by focusing on the most important parts of the solution first and with each iteration refining and building additional features to the product (Bianchi et al., 2020). Particularly in software projects, it's not always necessary to release a fully completed product (Bianchi et al., 2020). Instead, partial solutions can be introduced in the form of betas, and further product enhancements can be incorporated through subsequent updates and releases (Bianchi et al., 2020). Releasing unfinished solutions allows for a significant portion of these updates to be driven by feedback from customers and users (Cooper, 2014). This involvement includes activities such as engaging customers in conversations about product features, collaborating on user story creation, determining feature priorities, and receiving regular feedback (Misra et al., 2009).

Agile methodologies necessitate a higher degree of communication within development teams (Lee & Xia, 2010) as Agile methods rely more on self-organized teams, placing a greater role on individuals or teams to exercise control (Fowler & Highsmith, 2001). Fowler & Highsmith (2001) emphasized that decisions need to be made by individuals who are actually doing the work as they are the most knowledgeable about the situation. By building projects around motivated individuals and supporting them to get the job done, the probability of project success is higher (Fowler & Highsmith, 2001). The authors argue that self-organized teams in Agile projects are characterized by their high degree of autonomy (Fowler & Highsmith, 2001). They take charge of selecting and completing their tasks, self-organize their activities, and exhibit flexibility in fulfilling the team's organizational needs (Hoda & Murugesan, 2016). Periodically, the project team engages in self-reflection to enhance its effectiveness, making adjustments and tuning its behaviour accordingly to make sure that the Agile practices adhere to the team's and customer's needs (Fowler & Highsmith, 2001). Agile is a framework which propose benefiting principles however it does not offer universal solutions which would fit every project and project team, allowing the project teams to make decisions which of the Agile processes to use and which to adjust (Fowler & Highsmith, 2001). Therefore, it is a usual practice for companies to choose the most relevant Agile framework but to not adhere to the principles completely as Agile way of working should be used to the extent to which it creates value in a specific context.

1.2. Scaled Agile Framework (SAFe)

Since Agile methodologies were initially designed for small teams, they do not naturally scale to meet the requirements of larger enterprises (Scaled Agile Inc., 2016). The Scaled Agile Framework (SAFe) is followed to bridge this gap by building upon Agile principles and integrating insights from systems thinking and Lean product development (Scaled Agile Inc., 2016). The company in which the current research for the final master thesis was conducted in is adapting Scaled Agile Framework (SAFe) by applying its principles into the organization's own Agile framework. Therefore, this methodology is shortly defined in the literature review encompassing aspects of the methodology related to potential enablers of project teams' motivation, effectiveness, and value delivery.

SAFe (Scaled Agile Inc., 2023a) offers comprehensive guidance for the implementation of Lean, Agile, and DevOps principles to enable enterprises to excel in the

digital era. This operating system facilitates more rapid, predictable, and high-quality delivery of innovative products and services (Scaled Agile Inc., 2023a). The framework evolves continuously according to the technology and business trends, and is a flow-based system, consisting of Portfolio Flow, Solution Train Flow, Agile Release Trains (ART) Flow, Team Flow and a supporting Foundation layer:

- Team Flow (Scaled Agile, Inc., 2023b) "describes a state in which Agile teams deliver a continuous flow of value to the customer".
- Agile Release Train (Scaled Agile, Inc., 2023c) Flow "describes a state where an ART delivers a continuous flow of valuable features to the customer".
- Portfolio Flow (Scaled Agile, Inc., 2023d) "describes accelerating the flow of the significant initiatives needed to accomplish the Portfolio Vision and advance the Enterprise strategy".
- Foundation layer (Scaled Agile Inc., 2023a) includes core values, the Lean-Agile mindset, SAFe principles and Implementation Roadmap to support organizations.

The SAFe core values (alignment, transparency, respect for people, and relentless improvement) represent foundational principles that guide behaviour and decision-making (Scaled Agile, Inc., 2023e):

- Alignment value underscores the importance of alignment across the enterprise. Adopting SAFe as a new working approach for organizations involves decentralized decision-making to achieve value in the shortest sustainable lead time. However, if decisions diverge and pull the organization in different directions, it can lead to significant delays and quality issues. The key solution is to establish clear and consistent alignment from the top of the enterprise down to every level of SAFe, ensuring synchronization even to individual contributors.
- Transparency is a cornerstone for building trust by openly sharing progress and information across all organizational levels. Trust, in turn, enables effectiveness and enjoyable, motivation enabling environment which boosts engagement.
- Respect for people is a fundamental human requirement. Given that people are central to how enterprises generate value with SAFe, a fundamental consideration in the new working approach is respect for people. When treated with respect, individuals are empowered to refine their practices and contribute their creativity. Conversely, if there is a lack of respect, individuals cannot fully commit to their teams or organizations.

- Relentless improvement refers to strive for perfection which drives continuous improvements to products and services. Relentless improvement involves a series of small, iterative, and incremental changes and experiments that allow the organization to learn and progress towards the most effective solutions to problems.

The consistent application of SAFe core values requires proactive support of Lean-Agile leadership and a culture of continuous learning (Scaled Agile Inc., 2023a). Leaders within a SAFe organization should embody the core values alongside the Lean-Agile mindset, SAFe principles and practices, and a focus on delivering value to customers (Scaled Agile Inc., 2023a). It is assumed that by following Scaled Agile Framework (SAFe) principles, managers evolve into leaders who are well-versed in Lean-Agile methodologies and subsequently serve as educators and supporters for their teams to foster each individual's motivation and engagement to build optimal team performance (Scaled Agile Inc., 2023a). One of the factors positively influencing such performance is project team's effectiveness described in the following chapter.

1.3. Project Team's Effectiveness

Project team is "a set of individuals performing the work of the project to achieve its objectives" (PMI, 2021, p. 96). Highsmith & Cockburn (2001, p. 122) claimed that the novelty of Agile methods "is not the practices they use, but their recognition of people as the primary drivers of project success, coupled with an intense focus on effectiveness and manoeuvrability". Effectiveness is related to accomplishing the set objectives and executing the right actions (Bourque & Fairley, 2014, as cited in Ramírez-Mora et al., 2020). Ramírez-Mora et al. (2020) identified that elements influencing effectiveness in Agile software development are related to group dynamics: communication, collaboration, and the cohesion within the team. Hackman and Wageman (2005) defined team effectiveness in three dimensions: productive output, social processes, and group experience. In the following section each dimension is outlined based on the work of these authors. Productive output meets or surpasses the standards in terms of quantity, quality, and timeliness set by the team's clients - the individuals who receive, assess, and/or utilize the output. Social processes enhance the team members' capacity to collaborate interdependently in future projects. Effective teams excel at identifying and correcting errors before significant harm occurs, as

well as recognizing and capitalizing on emerging opportunities. Group experience has a positive impact on the learning and well-being of individual team members. Effective teams are those in which members acquire new skills, cultivate positive interpersonal relationships, and experience enhanced well-being due to their involvement in the team. Since the productive output will be measured by project performance, in this study group effectiveness will be related to social and group dimensions.

1.4. Project Performance

In the current master thesis research, project performance is defined by the meeting of milestones and launch dates in accordance with agreed schedules (on-time completion) and the alignment of project's outcome against set requirements, intended functions and end-user needs (quality) (Lee & Xia, 2010). According to Project Management Institute (2021, p. 70), "quality is the degree to which a set of inherent characteristics of a product, service, or result fulfils the requirements". The requirements entail meeting the customer's specified or implied needs as well as the overall product's, services', or other project result's readiness for usage. Requirements can originate from stakeholders, contractual agreements, organizational guidelines, standards, regulatory entities, or a mixture of these sources (PMI, 2021). Requirements are important as they secure that the project delivers what was intended and reduce the waste of resources (PMI, 2021). Project management institute (2021) summarized that on time-completion in an Agile project management context is optimized by flow-based scheduling which relies on capacity of the resources, supplies and other inputs. Kanban or just-in-time scheduling is used to secure that the time and resources are not wasted, enhancing the efficiency of the project team (PMI, 2021). Scheduling entails project team member's determination of overall duration and needed efforts, considering factors like estimated scope, coordination, communication, conflict, and potential rework (PMI, 2021). In the current research on-time completion and project outcome's quality will be evaluated by connecting these variables with the potential demotivators of Agile team members as well as to motivation types postulated by Self-determination theory. Detailed descriptions of motivators, demotivators and motivation types are describing in the following section of literature review.

1.5. Motivational factors according to Self-determination theory (SDT)

Ryan and Deci (2000) postulated that people have innate basic psychological needs of autonomy, competence, and relatedness. The need for autonomy is “the degree to which individuals feel volitional and responsible for their own behaviour” (Ryan & Deci, 2002 as cited by Bartholomew et al., 2011, p.1459). In the opposite case, the behaviour is experienced as conditioned by external pressure or coercion, so it is experienced as a violation of one's own will (Bartholomew et al., 2011). The need for competence is “the degree to which individuals feel effective in their ongoing interactions with the social environment and experience opportunities in which to express their capabilities” (Ryan & Deci, 2002 as cited by Bartholomew et al., 2011, p.1459). Otherwise, a person experiences that he is ineffective and unable to achieve the desired result (Bartholomew et al., 2011). And the need for relatedness is “the extent to which individuals feel a secure sense of belongingness and connectedness to others in their social environment” (Ryan & Deci, 2002 as cited by Bartholomew et al., 2011, p. 1460). Otherwise, there is a lack of close relationships with others and feeling as part of a community (Bartholomew et al., 2011).

According to Self-determination theory, when autonomy, competence and relatedness needs are met, they result in increased self-motivation and mental well-being, but when they are unfulfilled, they result in reduced motivation and a decline in overall well-being (Ryan & Deci, 2000). Self-determination theory (Ryan & Deci, 2000) explains the development of intrinsic motivation. Intrinsically motivated people perform actions because they want to do them, not because they expect to be rewarded or punished. In contrast, extrinsic motivation describes behaviour when an action is performed for an extrinsic goal. Intrinsic motivation is important because it is associated with psychological well-being and optimal functioning (Ryan & Deci, 2000). According to Ryan & Deci (2000), intrinsic motivation is mediated by the satisfaction of three basic psychological needs and can be reduced by external rewards for behaviour. Authors explain that this happens because external rewards reduce an individual's sense of autonomy. On the contrary, having a choice, recognition of feelings and opinions, the ability to organize one's own activities increases internal motivation, because in such ways people feel more autonomous (Deci & Ryan, 2013). Internal motivation is also mediated by the need for competence because we will enjoy working on a task more if we feel able to do the work required: “optimal challenges, effectance-promoting feedback, and freedom from demeaning evaluation were all found to facilitate intrinsic motivation” (Ryan & Deci, 2000, p. 70). Experience of a sense of relatedness, when a person feels accepted by others and a part

of a group, can also contribute to internal motivation (Ryan & Deci, 2000). On the other hand, the satisfaction of this need may be less fundamental in the development of internal motivation than the satisfaction of the need for autonomy and competence (Ryan & Deci, 2000). In conclusion, Self-determination theory emphasizes the significance of nurturing autonomy, competence, and a sense of belonging among individuals (Deci & Ryan, 2000). To instil these qualities, team leaders need to empower team members to make decisions, encourage open sharing of information and knowledge, promote respectful and considerate interactions, and provide consistent performance feedback (Pârjoleanu, 2020). Since psychological needs of autonomy, competence, and relatedness influence person's motivation, in the current master thesis research these needs will be explored as project team members' motivational factors.

1.6. Motivation according to Self-determination theory (SDT)

Motivation concerns energy, direction, persistence, and behavioural activation (Ryan and Deci, 2000). It is highly valued because of its consequence: motivation produces (Ryan and Deci, 2000). Author of the master thesis chose to explore motivation from the perspective of Self-determination theory (SDT) as it is the most supported and researched conceptualization of motivation (Howard et al., 2021). According to SDT, there are three types of motivation: intrinsic motivation, extrinsic motivation and amotivation (Ryan and Deci, 2000). "Amotivation is defined as the absence of motivation towards an activity" (Gagné et al., 2015, p. 2). "Intrinsic motivation is defined as doing an activity for its own sake, that is, because it is interesting and enjoyable in itself" (Gagné et al., 2015, p. 2). "Extrinsic motivation refers to engaging in the activity for instrumental reasons, such as receiving rewards and approval, avoiding punishments or criticism, boosting one's self-esteem, or reaching a personally valued goal" (Gagné et al., 2015, p. 2). Extrinsic motivation is categorized into subtypes, each demonstrating different degrees of internalization (Gagné et al., 2015). Internalization means that people accept external values, attitudes, or regulatory structures in such a way that external regulation of behaviour is transformed into internal regulation of behaviour (Gagné & Deci, 2005). The level of internalization varies based on the alignment with an individual's existing self-regulations, such as values and interests that guide individual actions (Gagné et al., 2015). External regulation represents a completely non-internalized form of motivation, involving actions performed to attain rewards or avoid

punishments, which may be social or material (Gagné et al., 2015). Another subtype, introjected regulation, refers to regulating behaviour in relation to self-evaluation, where actions are taken to enhance or prevent a decline in one's self-worth (Petri & Govern, 2013). Moving towards to greater internalization, identified regulation involves performing actions because individuals identify with the values and significance associated with those actions and considers them as self-determined (Gagné et al., 2015). Through identified regulation, individuals engage in activities based on their perceived meaning and their connection to personal goals (Koestner and Losier, 2002, as cited in Gagné et al., 2015).

According to SDT, motivation is also broadly divided into autonomous (self-determined) and controlling (non-self-determined). When the motivation is autonomous, a person has a choice of how to behave and is based on his own will when undertaking an activity (Gagné & Deci, 2005). Therefore, intrinsic motivation is an example of autonomous motivation: when people engage in an activity because it is interesting to them, they engage in that activity based on their own will. On the contrary, when the motivation is controlling, the person acts due to the feeling of pressure to perform a certain activity (Gagné & Deci, 2005). The dichotomy of autonomous and controlling motivation is defined by the degree to which external regulation has been internalized. When the regulation of behaviour or the meaning associated with action is internalized, motivation is considered more autonomous (Gagné & Deci, 2005). The more extrinsic motivation has been internalized, the more autonomous the previously extrinsically motivated behaviour will be (Gagné & Deci, 2005). In summary, motivation according to self-determination theory postulates a continuum of controlling - autonomous motivation. This part of the motivation continuum starts with amotivation, which is not at all self-determined, and extends to intrinsic motivation, which is self-determined. Between amotivation and intrinsic motivation there are subtypes of extrinsic motivation, of which extrinsic motivation is considered to be the most controlling type of motivation (least self-determined), while introjected and identified regulations are increasingly more self-determined (Petri & Govern, 2013).

1.7. Autonomy as a motivator in Agile context

Creating a work environment that fosters autonomy makes employees more accountable, ignites their energy and development, and increases chances of thriving (Pârjoleanu, 2020). Research has shown that when employees have the opportunity to design

and manage their tasks, it results in an optimal match between the work requirements and individual strengths which can result in improved job performance and increased engagement (Bakker & Demerouti, 2017). Since Agile teams have decision making authority in terms of their tasks and daily challenges, sense of autonomy enhances the speed and effectiveness of problem solving (Lee & Xia, 2010). Malik et al. (2021) study reveals that organisational leadership's capacity to inspire and empower members in Agile teams is a major contributor to project performance. The research confirms that motivated Agile project teams exhibit strong communication and team autonomy. To enhance project performance, project management should integrate project task designs that bolster both team autonomy and communication, thereby empowering project teams (Malin et al., 2021). Similarly, Gustavsson et al. (2022) study showed that the implementation of SAFe increased most of the team members sense of autonomy. Team members were more aware of organisation's strategic goals and their connection to the developments they were working on after the implementation of SAFe. This knowledge enabled the teams to make autonomous decisions aimed for the long-term value (Gustavsson et al., 2022). Additionally, teams were empowered to give and receive help, voice limitations, and refine requirements with responsible stakeholders (Gustavsson et al., 2022). Overall, the discussed research shows that it is beneficial to increase the autonomy of project team members to achieve the best collaborative outcomes and project results. In most cases, teams working according to Agile methods reports increased autonomy levels, showing that autonomy as a motivator should be relevant in Agile context.

As mentioned before, Agile team members are characterized by their high degree of autonomy (Fowler & Highsmith, 2001). However, there are inconsistent findings when it comes to project team's autonomy in Agile project management environment. For example, according to Conboy and Caroll (2019), team's autonomy may be compromised in Agile context when organization is following Agile methods designed for a large-scale organization. According to the results of their research, tools and processes proposed by developers were usually not excepted if they were viewed as not compliant with SAFe methodologies. Moreover, development teams frequently need to collaborate with other teams which creates dependencies and a constant need to clarify requirements, schedules, testing and integrations (Sablis et al., 2021). The autonomy and empowerment of individual teams could be restricted by these dependencies (Gustavsson et al., 2022). Furthermore, Noll with colleagues (2017) found that despite of the increased autonomy in Agile software development teams, the study results did not show a significant improvement in motivation

after the introduction of Scrum. Notably, experienced engineers, who made up most of the sample, reported a neutral level of motivation. This finding suggests that there might be issues related to autonomy that affect motivation. Experienced developers may have perceived less autonomy in Agile environment than expected, as hinted in their responses (Noll et al., 2017). Some felt pressure to align their estimates with the Product Manager's, even if they believed the tasks would take longer. This contrasted with junior team members who appeared comfortable with their dependence on senior developer input in the planning process, despite its potential impact on autonomy. While some developers believed that autonomy in task estimation and decision-making was essential for high motivation, others were content with a more balanced approach where decisions were reached through consensus. The study suggests that striking the right balance between autonomy and collective decision-making is essential for maintaining motivation (Noll et al., 2017). To summarize, there have been findings that autonomy may be hindered in Agile context. However, it will be affected by the environment of a specific organization and the team. Not all the organizations and teams will unconditionally follow SAFe principles, as they rather could choose to implement the aspects which work for the business and teamwork needs. When it comes to dependencies, having to manage them in a project is inevitable. As shown by Gustavsson et al. (2022), dependencies could not only potentially impede team member's autonomy but rather empower and motivate teams as aligning with the stakeholders secures better decision making and understanding of the value to be provided. Finally, in Agile teams there may be differences in task estimation practices as in other teams and companies the project team members could have a final say in estimation of their work tasks which could yield different autonomy and motivation results on a team level.

1.8. Competence as a motivator in Agile context

Meeting the psychological need for competence involves offering continuous and tangible feedback aimed at personal growth (Pârjoleanu, 2020). When employees receive recognition for their efforts, they tend to value their work more and perform at their best (Pârjoleanu, 2020). Malik with colleagues (2021) argued that competence cognition is work, such as tasks that require a higher level of skill variety or are of greater significance (Seibert et al., 2011). In addition, Trzeciak and Banasik (2022) study showed that most members of Agile teams often have opportunities for growth and progress. Authors argued that

development opportunities such as training, courses, and engagement in various projects improves team members' skills and maximizes employee's effectiveness and satisfaction. Moreover, it has been argued that tasks that stimulate thought and are appealing provide their own intrinsic rewards (Pink, 2009 as cited by Pârjoleanu, 2020). Continuous improvement is one of SAFe's foundational principles that guide the behaviour of Agile teams (Scaled Agile, Inc., 2023e), thus competence need satisfaction should be a natural motivator in such environment. Generally, Agile principles emphasize the positive outcomes of periodic self-reflection and stakeholders' evaluation of team's performance and project results (Fowler & Highsmith, 2001): it serves as a good learning material for future improvements, potentially improving team member's competence. The fact that there is an emphasis on the collaboration with the customer and increased communication within the development teams, intuitively points out that the need for competence should be relevant and satisfied in Agile environment by constantly learning from both the customer and peers.

1.9. Relatedness as a motivator in Agile context

The third possible motivational factor – relatedness – generally has shown less of an impact to project team's motivation in most research. However, Trzeciak and Banasik (2022) study findings indicate that team dynamics and relationships in Agile context are vital, as positive interactions contribute to enhanced performance and foster a sense of job satisfaction and loyalty. In this study, employees within IT Agile teams largely perceive their team's work as successful. This can be attributed to the team's self-organizing nature and the project's adaptive management approach. The selection of individuals for the project, considering both their professional expertise and interpersonal skills, plays a crucial role. Inadequate selections in these aspects can result in goal failure, demotivation, and reduced employee efficiency (Trzeciak & Banasik, 2022). As already mentioned, Hackman and Wageman (2005) emphasized that in order to be an effective team, it is important to foster positive interpersonal relationships within the team to enhance learning of new skills and maintain optimal well-being. Though relatedness might not be an essential motivator in Agile context, it is still important for team members well-being and effectiveness.

1.10. Motivators, motivation and project team performance in Agile project management environment

Although the following studies did not analyse Agile teams, they showed relevant findings associated to the topic at hand. Fischer et al. (2019) explored the effects of extrinsic rewards and intrinsic motivation on creative and innovative workers' performance. The study reveals a positive influence of intrinsic motivation on the creative and innovative performance of knowledge workers. Research also highlights that extrinsic motivators can independently have a significant positive impact on creative and innovative outcomes. The authors stressed that extrinsic motivators and intrinsic motivation should not be viewed as antagonistic but rather should be considered simultaneously. Relational rewards, such as symbolic public recognition, individual praise, and performance management, were found to complement intrinsic motivation in fostering creativity and innovation. However, transactional rewards, such as monetary and training/personal development investments, did not significantly affect creative and innovative performance, suggesting that the impact of extrinsic motivators varies (Fischer et al., 2019). Similarly, Bakker and Demerouti (2017) have shown that motivation has a positive impact on job performance. Motivation enables individuals to stay focused on their work tasks and maintain a goal-oriented mindset. In turn, engaged employees exhibit high levels of energy and enthusiasm, leading to improved job performance. Additionally, Ford et al. (2021) findings revealed that top-tier aerospace project members primarily draw personal motivation from the following intrinsic factors: sense of accomplishment, meaningful work, job satisfaction, recognition, and challenging tasks. On the other side, personal demotivators, such as the absence of recognition, poor team dynamics, excessive stress, and stagnation or burnout, were also largely intrinsic. Factors in the project environment that motivated team members were strong project leadership, a healthy team dynamic, and clear communication.

Some research studies and authors have demonstrated the impact of specific project management environmental factors on the motivation and performance of project team members. For example, McHugh and colleagues (2011) demonstrated that in Agile context, iteration planning meetings, daily stand-ups, and iteration retrospectives serve as platforms for team members to openly express their preferences for specific tasks and promote self-motivation. These practices also facilitate task allocation, enabling teams to assign challenging tasks to boost motivation, especially among less experienced members. Moreover, the researchers concluded that project teams use daily stand-up meetings as a way

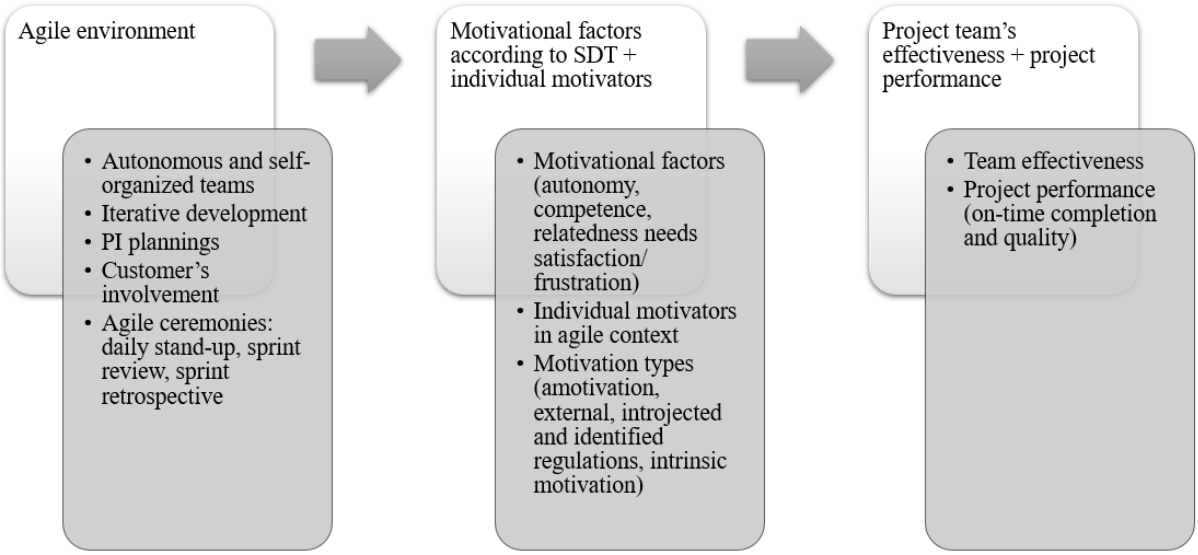
to address challenges and offer feedback on ongoing tasks. Both researched teams unanimously agreed that daily stand-ups, in particular, enhance transparency regarding completed or ongoing work, serving as a strong self-motivator for all team members since the progression of tasks motivate. Likewise, Kakar (2013) concluded that feeling of progress done in a project motivates Agile teams. Additionally, researchers (McHugh et al., 2011) showed that in one of the researched project teams, the customer played an active role in retrospectives, where they assessed the finalized software and offered feedback. According to the Product Owner, the customer's consistent participation in retrospective meetings serves as a significant motivator for the team to meet their obligations. Similarly, So (2010) has argued that the regular practice of retrospectives within Agile methodologies is anticipated to have a beneficial impact on fostering open and effective communication within the project team. The conclusions of these studies correspond to Malik et al. (2021) observation that Agile practices are inherently motivating because they engage and involve the team members and create an active orientation towards the project.

At the same time, McHugh and colleagues (2011) showed demotivating factors in Agile project environment. One of such factors is the frequency and duration of meetings associated with the three Agile practices: iteration planning, stand-up meetings and retrospectives. Some team members perceived these meetings as demotivating and disruptive because they reduced the time available for working on deliverables, causing frustration. For instance, team members felt that more meetings lead to increased workload and less time to complete tasks, which can be particularly demotivating when they are under pressure to make progress. Furthermore, instances where iteration planning and daily stand-ups run longer than expected can lead to tiredness, distraction, and demotivation, particularly in long-term projects. Individuals also felt a sense of responsibility to the team because team members can easily identify who is working on specific tasks and monitor daily progress during stand-up meetings. This aspect, as reflected by Agile team members, increased stress, and peer pressure because of a need to constantly deliver and report the progress made. Finally, complex tasks can also be a demotivator since it is difficult to put a correct estimation of the work needed to complete it. As a result, such task completion is delayed which is demotivating for Agile team members because of the lack of progress. McHugh et al. (2011) research is one of a very few studies which address the demotivating aspects of Agile project management practices. Consequently, current master thesis will also aim to detect aspects which potentially decrease team members' motivation because of Agile methods.

1.11. Conceptual model

Figure 1 represents conceptual model of this study which proposes possible solution to the current research problem: ***which motivational factors are related to project and team effectiveness outcomes and are most relevant for Agile project management teams in financial industry organization?*** Study is designed to identify whether there is a relationship between Agile project team member's motivational factors, motivation types and teams' effectiveness as well as project results. Demotivators and motivation types are drawn from the Self-determination theory (SDT). Additionally, author explores whether the individual motivators of Agile team members correspond to the ones postulated by SDT.

Figure 1. Conceptual model



2. METHODOLOGY

2.1. Objective

The objective of the study is to evaluate how Agile project management practices influence project team members' motivation from Self-determination theory perspective point of view and to evaluate the relationships between Agile project teams members' motivational factors, motivation types, efficiency, and project performance outcomes in financial industry organization.

2.2. Research questions

1) What is the relationship between motivational factors, motivation types, efficiency, and project performance outcomes of teams who use Agile methods when working on projects in the financial industry organization?
2) How does the applied Agile project management framework practices influence project team members' motivation in the financial industry organization, and which identified motivational factors are most relevant?
3) Are the motivators and demotivators relevant in Agile project management environment relate to the motivators and demotivators postulated in Self-determination theory?

2.3. Research methods and design

Given that this study's first research question involves evaluating relationships between variables (quantitative method is applicable), second question is regarding influence of one variable to another (qualitative method is applicable) and combining both research methods when analysing research results would be relevant to answer to the third research question (methodological triangulation is applicable) (Ştefura, 2014), mixed method approach was applied for the current study. In addition, mixed methods research was selected to improve and enhance the reliability, validity, and accuracy of the research results (Creswell & Creswell, 2018). Finally, mixed method research was chosen to provide novelty and new

insights since there is a lack of research which analyses Agile project management and Self-determination theory using both quantitative and qualitative methods.

Convergent mixed methods design was applied for research results analysis. Author of the final master thesis used side-by-side comparison to analyse the data: gathered both quantitative and qualitative data, conducted separate analyses, and compared the results to determine whether the findings align or contradict one another (Creswell & Creswell, 2018). The analysis of qualitative data refines and elaborates the statistical findings of quantitative data by providing a more comprehensive and nuanced understanding of study participants' perspectives (Creswell, 2003 as cited in Creswell & Creswell, 2018).

2.4. Studied variables

Both quantitative and qualitative data was gathered via a survey which consisted of closed and open ended questions. Closed questions were used to gather quantitative data based on the scales which were adapted for the current study. One open question was used to gather qualitative data and was selected by the research author. The full questionnaire is provided in the annexes of the final master thesis.

Psychological Need Thwarting Scale (PNTS) (Bartholomew et al., 2011) was adapted to measure autonomy, competence and relatedness psychological needs frustration during project work. In the final master's thesis, frustration of psychological needs for autonomy, competence, and relatedness is regarded as demotivating factors in the project environment. Scale consists of 9 items, 3 of them measured autonomy need frustration (example item: “I feel that my freedom to choose how to do my work on a project is being restricted”), 3 items measured competence need frustration (example item: “while working on projects, there are situations where I am forced to feel incapable to do my work”) and 3 items measured relatedness need frustration during project work (example item: “there have been situations when I felt rejected by the project team”). Items were evaluated by research participants by choosing one option from 5 possible answers: 1 (completely disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), 5 (strongly agree).

Revised Motivation at Work Scale (R-MAWS) (Gagné et al., 2015) was used to measure the study participants' motivation during project work. Research participants were asked to evaluate the extent to which they agree with the given statements, evaluating the reasons for which they put or would put effort into their work. Items are evaluated by

choosing one option from seven possible answers: 1 (completely disagree), 2 (disagree), 3 (somewhat disagree), 4 (neither agree nor disagree), 5 (somewhat agree), 6 (agree), 7 (strongly agree). The improved scale of motivation to work is well represented by 5 factors: intrinsic motivation, identified regulation, introjected regulation, external regulation and amotivation (Gagné et al., 2015). Intrinsic motivation was measure by 3 items (example item: "because I have fun doing my project work"), identified regulation was measured by 3 items (example item: "because I personally consider it important to put efforts into project tasks"), introjected regulation was measured by 4 items (example item: "because I have to prove to myself that I can"), extrinsic regulation was measured by 6 items: 3 of the items measured social approach and social avoidance motives (example item: "to get others' approval (e.g., supervisor, colleagues, family, clients..."), and other 3 items measured material approach and material avoidance motives (example item: "because others will reward me financially only if I put enough effort in my job (e.g., employer, supervisor …"), amotivation was measured by 3 items (example item: "I don't put efforts because I really feel that I'm wasting my time when working on projects").

Group Development Questionnaire's (GDQ) (Gren et al., 2020) IV Scale was used to measure project team's effectiveness. Scale consists of 3 items (example item: "The project group acts on its decisions"). Research participants were asked to choose from following answers to evaluate each item: 1 (completely disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), 5 (strongly agree).

On-time project completion was measured by applying Speed performance scale (Bianchi et al., 2020) which was adapted by Bianchi and colleagues according to Chen et al.'s (2005) study. Scale consists of 3 items (example item: "Most of the projects I work on are finished on time"). Research participants were asked to choose from following answers to evaluate each item: 1 (completely disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), 5 (strongly agree).

Quality of the project outcome was measured by adapted Software functionality scale (Lee & Xia, 2010). Scale consists of 3 items (example item: "The outcome delivered by the projects achieves its functional goals"). Research participants were asked to choose from following answers to evaluate each item: 1 (completely disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), 5 (strongly agree).

Agile project management framework's practices influence on project team members' motivation was measured by an open ended question: "Please reflect and share how Agile

project management framework practices which you work according to affects your motivation to work on projects at Company A, if at all?".

2.5. Sampling

Research sample consisted of a total of 50 employees (26 women and 24 men) from the selected financial industry company (Company A). All the participants had the experience of working with projects according to Agile principles. The age of the participants spanned between 24 to 61 years. The majority of researched population consisted of developers (34 %). Descriptive statistics of the sample are presented in Table 1.

Non-probability, convenience sampling was conducted to obtain research results for the final master thesis. This type of sampling was chosen as the potential respondents were available for the research author to approach in a needed time frame (Kumar, 2019): most of the approached team members have participated in Agile framework trainings with the research author. Therefore, author was aware that these employees and their team members would potentially meet the criteria of having experience of working in projects according to Agile principles. Other potential participants were contacted via known contacts in Company A. Team managers in Company A were contacted by the research author with a request to share online survey with their team members. The survey was distributed if the teams' managers agreed to share the survey with their teams that fulfilled the specified criteria of having experience of working in Agile project environment in Company A.

Sample size of 50 respondents was used to conduct quantitative study since it is enough to perform the intended statistical analysis of quantitative research: for both exploratory factor analysis and evaluation of correlations between variables at least 30 participants are needed (Arndt 2020; Pakalniškienė, 2012). For qualitative research, 31 study participants' answers were used since they have yielded answers to the research question (19 respondent were excluded as there was no answer provided to the question or reply was not relevant to the research question). 31 study participants were enough for the saturation point to be reached: no new information was discovered after 25th respondent (Kumar, 2019).

Table 1. *Descriptive statistics (compiled by the author)*

Demographic variables		**Frequency**	**%**
Gender	Male	24	48
	Female	26	52
Age Groups	24 – 29	7	14
	30 – 39	17	34
	40 – 49	16	32
	50 – 61	10	20
Experience working in Agile environment (years)	0,5 – 1	7	14
	1,5 – 3	18	36
	3,5 – 5	11	22
	6 – 8	8	16
	10 – 15	6	12
Usual role in a project	Developer	17	34
	Business Analyst	8	16
	Project Manager	8	16
	Product Owner	4	8
	Tester	4	8
	Scrum Master	3	6
	Epic Owner	3	6
	Specialist	2	4
	Multiple roles	1	2

2.6. Evaluation methods

2.6.1. Quantitative research

The results of the quantitative data were obtained by calculating the averages of the respondent's answers to the presented items: total estimates of the autonomy, competency and relatedness psychological needs thwarting, intrinsic motivation, identified regulation, introjected regulation, external regulation and amotivation, team effectiveness, project on-time completion and quality scales were obtained. Statistical analysis was conducted by using SPSS program.

The reliability of the scale items was measured by internal consistency (Cronbach α) (Pakalniškienė, 2012). The formula for Cronbach's alpha considers both the number of test items and the extent to which these items covariate with each other (Ramírez-Mora et al.,

2020). Higher Cronbach's alpha suggests stronger internal consistency among the items, indicating that they are more likely to correlate with each other (Ramírez-Mora et al., 2020). It implies that the items are collectively tapping into the same construct, providing a reliable measure (Ramírez-Mora et al., 2020). Internal consistency should range from 0 to 1 and it is considered that coefficients reaching 0,60 are enough to be used in research (Pakalniškienė, 2012), although usually the aim is that the coefficients would reach 0,7 (Aiken, 2002 as cited by Pakalniškienė, 2012). Scale items which were used in the final master thesis internal consistency results are shown in Table 1. In summary, Cronbach α for all the used scales ranged from 0,653 to 0,931, which shows that these instruments can be used in the study and are reliable.

Construct validity – the extent to which a questionnaire is measuring what it claims to measure (Cronbach & Meehl, 1955) was evaluated by exploratory factor analysis (Pakalniškienė, 2012). If the research method lacks validity, the study results cannot be fully trusted (Pakalniškienė, 2012). Before conducting factor analysis, it is necessary to evaluate if the data is suitable (Pakalniškienė, 2012). For that, the following tests were conducted: Bartlett's test of sphericity showed whether there are statistically significant correlations between variables, and the Keizer–Meyer–Olkin measure or KMO – whether correlations between pairs of variables are explained by other variables (Pakalniškienė, 2012). As shown in Table 1, KMO and Bartlett's test of sphericity indicated that almost all of the used scales are suitable for factor analysis. For all the measured items, except Introjected regulation, Bartlett's test of sphericity p value is less than 0,05 ($p < 0,05$) and KMO coefficient is greater than 0,60 which means that almost all of the used scales are suitable for factor analysis (Pakalniškienė, 2012). Since the data of the scale which measured introjected regulation is not suitable for factor analysis, validity of this scale cannot be determined. Therefore, it was decided by the author to exclude this scale and not interpret its data in the result and discussion sections of the final master thesis. It was also evaluated that the research sample is substantial enough for exploratory factor analysis. All of the used scales contain 3 items, therefore the sample should consist of 3*10 = 30 respondents (Pakalniškienė, 2012). The sample contains 50 study participants. As demonstrated in table 1, factor analysis results revealed that each variable's set of items had one significant factor (with an eigenvalue > 1). This finding suggests that the items measured the variable for which they were originally designed, therefore the instruments used to measure the intended constructs in the final master thesis is valid (Ramírez-Mora et al., 2020). Lastly, it was estimated that the factor weights of the studied variables (correlations between variables and measured factor) are

sufficient. The factor weights should be more than 0,4 (Raubenheimer, 2004 as cited by Pakalniškienė, 2012). In the current study the smallest factor weights belong to project team's effectiveness factor (from 0,70 to 0,88), the largest – to intrinsic motivation factor (from 0,90 to 0,94).

Correlation analysis was conducted to identify the relationships between measured constructs using the Pearson correlation coefficient. In correlation analyses, both statistical significance and effect size are valuable for result interpretation (Ramírez-Mora et al., 2020). Statistical significance assesses the likelihood that a correlation occurred by chance and is represented by p-values (commonly set at 0,05, 0,01, and 0,001, representing 95%, 99%, and 99.9% probability levels) (Myers et al., 2010, as cited by Ramírez-Mora et al., 2020). Effect size measures the strength of a relationship: it's considered low for correlation values around 0,10, medium for values around 0,30, and large for values exceeding 0,50 (Cohan, 1998 as cited by Arndt., 2020). Correlation coefficients vary between -1.0 and 1.0, with negative values representing negative correlations and positive values indicating positive correlations (Ramírez-Mora et al., 2020). Before conducting correlation analysis, it was checked and approved that all the measured variables are normally distributed. Correlation analysis results of the current study are presented in Table 4 and Table 5, Results section (P. 42).

Table 2. *Reliability and validity data of the variables measures in the final master thesis (compiled by the author)*

Variable	Cronbach's α	KMO	Bartlett's test of sphericity p	Factor weights in 1 factor
Autonomy need frustration	,856	,714	,000	,84 – ,91
Competence need frustration	,711	,662	,000	,77 - ,84
Relatedness need frustration	,895	,697	,000	,86 – ,92
Amotivation	,816	,647	,000	,76 – ,85
Extrinsic regulation (social)	,802	,622	,000	,70 – ,92
Extrinsic regulation (material)	,823	,717	,000	,85 – ,88
Introjected regulation	,775	,559	,000	-

Identified regulation	,788	,618	,000	,73 – ,91
Intrinsic motivation	,931	,665	,000	,90 – ,94
Project team's effectiveness	,778	,634	,000	,70 - ,88
On-time completion	,653	,606	,000	,70 – ,93
Quality of project performance outcomes	,867	,722	,000	,87 – ,89

2.6.2. Qualitative research

Open-ended question which was included in the research survey was chosen as a strategy to gather qualitative data since this approach is suitable for comprehensive exploration of diverse perspectives and experiences (Braun et al., 2021). It is also particularly beneficial when investigating relatively unexplored areas of larger groups (Braun et al., 2021) which is applicable in the current study. In addition, open-ended questions on a survey enables respondents to express their thoughts and perspectives freely, resulting in broad and varied insights (Kumar, 2019). Despite concerns about potential loss of data depth compared to interviews, qualitative surveys have the capacity to deliver rich, deep, and complex data (Braun et al., 2021). It is important to emphasize the importance of the appropriate formulation of qualitative survey questions: such questions should be open, clearly defined, as short as possible (Braun & Clarke, 2013 as cited by Braun et al., 2021) and without assumptions of the possible answers (Braun et al., 2021). Consequently, the current open-ended question was precisely phrased to enable the broadest spectrum of potential responses, moreover it was formulated in a way that respondent with varied perspectives would feel included (Braun et al., 2021): "Please reflect and share how the Agile project management framework practices affect your motivation to work on projects at company A, if at all?". To clarify the question, the definition of Agile project management practices was included in the questionnaire.

Qualitative data was analysed through content analysis by identifying the main themes (Kumar, 2019) related to Agile project team member's motivators and demotivators

that emerged from the answers to the open ended question included in the research survey. The results of the qualitative data were analysed by firstly coding the verbal answers of the participants. Additionally, motivators and demotivators postulated in Self-determination theory - autonomy, competence, and relatedness psychological need satisfaction/frustration (Ryan & Deci, 2000) - were used in content analysis to identify their relevance to team members' motivation as well as to validate the research data. Motivational and demotivational factor codes were derived from literature review (deductive approach) and are presented in Table 3. However, as these codes are not enough to enclose motivators and demotivators in Agile context, open coding strategy was also employed to identify original themes which emerged from the study (inductive approach) (Classen et al., 2007). In addition, identified motivators and demotivators frequency of occurrence was indicated to provide their prevalence (Kumar, 2019). Content analysis was chosen because of possibility to converge the qualitative and quantitative data using the same chosen variables: motivators and demotivators of Agile teams (Creswell & Creswell, 2018). This analysis was applied to connect specific themes with the quantitative data of the research (Creswell & Creswell, 2018).

In this research, validity of the results was achieved by using multiple methods to validate the data, since the results obtained in both quantitative and qualitative research had similarities (Ştefura, 2014). In addition, validity was strengthened by using the same constructs used in quantitative research when analysing mixed data (Creswell & Creswell, 2018).

Table 3. *Motivational and demotivational factors derived from Self-determination theory (Bartholomew et al., 2011)*

Motivational factors	**Description**
Autonomy psychological need satisfaction	Perceived experience of behaviour as self-chosen and self-approved
Competence psychological need satisfaction	Perceived experience of effectiveness and ability to express capabilities
Relatedness psychological need satisfaction	Experience of perceived belongingness and connectedness with others
Demotivational factors	
Autonomy psychological need frustration	Behaviour is experienced as conditioned by external pressure or coercion, so it is experienced as a violation of one's own will

Competence psychological need frustration	Experience of ineffectiveness and inability to achieve desired result
Relatedness psychological need frustration	Experienced lack of close relationships with others and feeling as part of a community

2.7. Research Ethics

All the instruments used to gather quantitative research data are compliant with the researcher's code of ethics: if it was applicable, the author of the measurement was contacted with a permission request to use the applicable scale for the final master thesis. The permission was granted for Psychological Need Thwarting Scale (PNTS) (Bartholomew et al., 2011) from the author of the instrument. Group Development Questionnaire's (GDQ) (Gren et al., 2020), Speed performance scale's (Bianchi et al., 2020) and Software functionality scale's (Lee & Xia, 2010) authors confirmed that only appropriate citation of the authors are applicable. Revised Motivation at Work Scale (R-MAWS) was used without contacting the authors due to publisher's copyright claim in the article: "this article may be used for research, teaching, and private study purposes" (Gagné et al., 2015). Information regarding the authorization to use the instruments is provided in the annexes of the final master thesis.

To ensure anonymity of research participants, no personally identifiable information was asked to be specified in the survey (e.g., name or e-mail). Before filling in the survey, each participant was asked to consent to participating in the survey. Information and consent forms presented to the research participants are displayed together with the survey questions in the annexes.

3. RESULTS

3.1. Quantitative data

To answer to the first research question, correlation analysis was conducted to identify the relationships between measured demotivators, motivation types, efficiency, and project performance outcomes of teams who use Agile methods when working on projects in the financial industry organization. The outcome is presented in Table 4 and Table 5.

Pearson correlation has shown that competence need frustration was significantly negatively related to intrinsic motivation (r = -,535, p = ,000) and relatedness need frustration was significantly positively related to amotivation (r = ,349, p = ,013) (Table 4). It implies that the more studied sample respondents experience competence need frustration, the less they would be intrinsically motivated. Whereas the increased experience of relatedness need frustration increases the research participants' amotivation. Autonomy need frustration was not significantly related to the motivation types in the current study. Therefore, it can be suggested that competence and relatedness need frustrations are relevant as demotivators for the researched sample, and autonomy need frustration may be less or non-relevant demotivator. It is important to note that relatedness need frustration correlation is quite low, thus the connection between variables is not strong. On the other hand, competence need frustration connection to intrinsic motivation is moderately strong.

Correlational analysis has also indicated that studied demotivators are significantly negatively associated with almost all the measured team and project performance outcomes (Table 5). For instance, autonomy need frustration, although quite low, had negative significant correlations with project team's effectiveness (r = -,280 =, p = ,049) and on-time project completion (r = -,321, p = ,023). Moderate, statistically significant negative correlations were found between competence need frustration project team's effectiveness (r = -,658, p =,000), on-time project completion (r = -,321, p = ,023) and project outcomes quality (r = -,458, p =,001). Similarly, moderate and significant correlations were identified between relatedness need frustration and project team's effectiveness (r = -,427, p = ,002), as well as on-time project completion (r = -,304, p = ,032). And a weaker significant and negative correlation was detected between relatedness need frustration and project outcomes quality (r = -,284, p = ,046). Thus, all the measured demotivating factors were relevant for the group effectiveness and project outcomes within the measured sample: the more autonomy,

competence and relatedness frustration is experienced, the more positive outcomes of group effectiveness and project results decrease.

Finally, two of the motivation types – amotivation and intrinsic motivation significantly correlated with project performance outcomes and team effectiveness (Table 5). Amotivation was negatively significantly linked to project quality outcomes (r = -,294, p =,038), although the correlation of these items is quite low. Intrinsic motivation correlated strongly with project team's effectiveness (r = ,663, p = ,000) and, also, weakly with project quality outcomes (r = ,285, p = ,045). Hence, from all the motivation types studied in the current research, only amotivation and intrinsic motivation were relevant: the higher the amotivation, the lower would be the quality of the project outcomes; the higher the experiences intrinsic motivation, the higher project team effectiveness and project quality would be rated.

Table 4. *Correlations between demotivators and motivation types (compiled by the author)*

Variable	Autonomy need frustration	Competence need frustration	Relatedness need frustration
Amotivation	,247	,255	**,349***
Extrinsic (social) regulation	,069	-,094	,124
Extrinsic (material) regulation	,055	-,223	-,097
Identified regulation	-,214	-,075	,022
Intrinsic motivation	-,217	**-,535****	-,123

Note. *p < 0,05; **p < 0,01; ***p < 0,001. Statistically significant values are bolded.

Table 5. *Correlations between demotivators, motivation types and project team effectiveness, project performance outcomes (compiled by the author)*

Variable	Project team's effectiveness	On-time completion	Quality of project performance outcomes
Autonomy need frustration	**-,280***	**-,321***	-,181
Competence need frustration	**-,658****	**-,321***	**-,458****
Relatedness need frustration	**-,427****	**-,304***	**-,284***

Amotivation	-,272	-,192	**-,294***
Extrinsic (social) regulation	,213	-,158	,043
Extrinsic (material) regulation	0,235	-,014	,099
Identified regulation	,239	,166	,120
Intrinsic motivation	**,663****	,124	**,285***

Note. *p < 0,05; **p < 0,01; ***p < 0,001. Statistically significant values are bolded.

3.2. Qualitative data

To answer the second and third research questions, qualitative content analysis was conducted to identify how the applied Agile project management framework practices influence project team members' motivation in the financial industry organization. Additionally, the results reflect whether the motivators and demotivators postulated in Self-determination theory (Deci & Ryan, 2000) relate in Agile project management environment of the researched population. The definitions of motivating and demotivating factors derived from the literature review were presented in methodology section (Table 3, P. 39) and will be used to compare current research data with research evaluated in the literature review. This part is presented in the discussion section of the results. All the identified motivators and demotivators of current study's Agile project team members, their prevalence and connection to autonomy, competence and relatedness basic psychological needs are presented in Table 6 and Table 7, at the end of the qualitative data results section (P. 51).

Only the information which revealed how Agile framework practices motivates or demotivates project team members were analysed to make sure that the research author would not misinterpret the meaning behind respondents' answers. Therefore, 19 respondents' answers were excluded from the qualitative data analysis part since there was no answer to the open-ended survey question, the answer given did not reveal the motivators or demotivators in Agile environment or was too ambiguous to be interpreted. Thus, 31 respondents' data is analysed in the qualitative research part of this study. For data analysis purposes, the research participants were coded according to their usual role in a project and a number. In the upcoming result sections, the motivating (coded with letter M and a number) and demotivating (coded with letter D and a number) factors within the context of the researched Agile project teams will be described and related to autonomy, competence and

relatedness basic psychological needs. The most prevalent elements that influence motivation and amotivation of the examined group will first be addressed, concluding with those that were observed less frequently.

3.2.1. Agile project team members' motivational factors in financial industry organization

M1. Iterative development: progress and results

The most common theme (reflected by 8 respondents) related to iterative development of Agile framework which was mentioned as positive influence on motivation was the feeling of progress and accomplishment. As reflected by Project Manager 13, *"having the work structured in iterations with well-defined small goals within well-defined short timeframes gives a better sense of achievement (even if they are small milestones), which stimulates my motivation".* Similarly, Business Analyst 8 expressed that "*when applying Agile framework, I like to see ongoing results (MVP deliveries) of the project… it motivates me to see results and developments on the way."* The iterative nature of Agile divides tasks in short timeframes, consequently enhancing the feeling of progress as *"when small parts are finalized and then we can take another step of building new functionality"* (Tester 1). The ability to see results faster motivates since "*the best part of Agile model is that you can deliver in smaller parts and faster not one whole piece at the end. I see the result faster, and it motivates me*" (Business analyst 23). Additionally, the flexibility to release smaller features according to customer needs emphasizes the customer-centric approach, fostering motivation in the Agile work environment: *"Agile provides possibility to deliver what is actually important at a time that customer needs… it's still possible to release smaller features to the customer, collect feedback and improve next releases on the go"* (Scrum master 16).

M2. Collaboration

Second most common motivator (mentioned by research 7 participants) was the ability to collaborate with other project team members. Respondents emphasized Agile framework's positive impact on teamwork, service-quality, and reflected that it is motivating

"when we do things together in the team. The team together make our service as good as possible" (Developer 38). Agile is seen as a framework that encourages collective focus on tasks, fostering team bonding and shared responsibility: "*I believe Agile is a way more collaborative framework because it allows the whole team to focus on same tasks/features at the same time and work together to define needs/requirements, identify issues and solutions, I think it creates a better bonding in the team"* (Tester 14). Appreciation of diverse competencies within the team is recognized as valuable, creating an environment where everyone's ideas are heard which contributes to motivation: "*When a group start to use our different competencies in the group and you can rely on that everyone's idea/solution is spoken and heard, that creates value to me and gives energy to continue. To give and get in collaboration...that is when it is at it's best."* (Epic Owner 36). Agile is seen as an effective and motivating way of working that enhances team dynamics and serves as elevator for potential development: "*it is a good way of working (Agile), interesting to work cross departments/teams/knowledgeable persons. There are good discussions, we share and learn a lot"* (Specialist 46).

M3. Created value

6 research participants replied that for them, value delivery is important motivator when working with projects. Project manager 10 reflected that "*results we achieve while working on temporary challenging assignments influence my motivation*" (Project manager 10). The customer-centric nature of Agile framework is emphasized as another motivator, with a focus on "*possibility to deliver what is actually important at a time that customer needs"* (Scrum master 16). Respondents note that Agile makes it easier to achieve deliverables quickly: "*Agile practices motivate a lot to perform and provide value as soon as possible*" (Business analyst 9), *"it is easier while working to Agile framework to achieve deliverables faster"* (Epic Owner 22). Additionally, collaboration within project groups is motivating as *"the value to be part of a project group or Epic team, is to create better solutions for our customers and users"* (Epic Owner 36).

M4. Autonomy

Agile team members depict autonomy as another motivator: ownership of their tasks allows to freely express views, offer critiques, and provide suggestions as reflected by

Developer 15, "*I feel that I have a lot of flexibility and ownership in my tasks, I can share my views on how the things are going with the project, i.e., criticize or give suggestions*." The importance of collective decision-making is highlighted as a motivator by Specialist 46: "*we have mandate to take decisions*" and Developer 26 reflected that ability to *"make decisions together with team"* is motivating and empowering. Lastly, the opportunity "*when I can influence my tasks"* is seen as a motivational factor by Developer 28, emphasizing the significance of personal impact.

M5. Possibility to adapt and change requirements

Team members appreciate the flexibility of Agile practices, allowing them to modify requirements based on ongoing insights and fostering a motivating project environment: "*…because during the project we adapt and change requirements according to our findings, we don't stick to the written requirements just because*" (Developer 3). Additionally, team members benefit from the adaptability of Agile environment and the collaborative decision-making process within the team: "*I think Agile framework makes the work more fun and understandable, both short and long-term… it allows for discussions, analysis and decision making while project is ongoing*" (Product Owner 4). "*Working Agile is motivating as we can react on changes*" (Developer 39) indicating that the agility of the framework, particularly its ability to promptly respond to changes, is experienced as motivating.

M6. Continuous learning

Continuous learning and the absence of routine is highlighted as a significant motivator, indicating a preference for dynamic work environment and evolving challenges by Project manager 10: "*…practices which influence my motivation is constant learning, no routine…*". Working on projects within the company is seen as motivating due to the opportunity to gain insights into different parts of the organization: "*working on projects in Company A is interesting, because it gives opportunity to learn about other parts of Company A than just my own*" (Developer 30). Specialist 46 implies that "*it is a good way of working (Agile), interesting to work cross departments/teams/knowledgeable persons. There are good discussions, we share and learn a lot*", emphasizing the importance of collaboration and continuous learning as motivational factors within Agile project teams.

M7. PI planning and prioritization

Improved planning processes emerge as a significant motivator, contributing to delivery transparency, workload awareness, and the avoidance of overtime: "*Agile way of working enhances planning time of the next quarter and month, therefore, you are able to deliver what is planned, to be opened to your stakeholders about the upcoming deliveries, and agree with them what should be postponed to the next quarter. I am better aware how much I have done and how much I can do the upcoming month. Therefore, I don't take too much, no overtime needed. Also, better awareness about your project members availability*" (Epic Owner 20). Similarly, as a positive impact for satisfaction with the progress of work tasks (motivator M1), well-organized planning was depicted by Developer 35: *"good planning helps minimizing multitasking and jumping between many tasks. That is helping with concentration and satisfaction with work progress".* Likewise, Product owner 4 also emphasized that in Agile environment it is "*easier to focus on current objectives*". These insights collectively show the motivational benefits when clarification of priorities and planning is done well, resulting in reduced multitasking.

M8. Clear scope

The clarity regarding sprint deadlines and scope provides a tangible and measurable framework for team members, contributing to a goal-oriented and motivating work environment. As reflected by Developer 5, "*personally, usually business requirement granularity reflects on motivation for the project. Clear requirements are less struggle, stress, and better delivery*" and Tester 1, "*it is clear <...> scope of sprint*", when requirements are clearly defined and detailed, team members experience enhanced motivation by looking forward to improved project delivery.

3.2.2. Agile project team members' demotivational factors in financial industry organization

D1. Barriers to execution

When it comes to demotivators of the researched population, the most frequent one was categorized as barriers to execution: 5 participants have responded to the open-ended survey question in relation to this theme. One of them was Project manager 13, assessing that "*barriers to execution in the form of extensive bureaucracy and too many stakeholders affect the motivation to work on projects in a very negative way*". Challenges with project dependencies were also identified by Epic Owner 26: "*a lot of our initiatives includes dependencies to other teams, Tribes etc and we have a lot of technical modernization which makes it more difficult to create value to the end user in a shorter time*". These aspects negatively impact project teams' motivation since dependencies on other teams and technical challenges are evaluated as obstacles, making it more difficult to deliver value to end-users. Tester 28 shares the experience of managerial unawareness of Agile principles, the challenges teams face, and a reluctance to share information effectively which contribute to a significantly less motivating work environment: "*So, there is a huge number of managers in Company A and have an impression that majority of them are not aware on what are the requirements in general, how flows should be working, what effort team requires to do things. There is a lot of miscommunication, unwillingness to share information while at the same time expecting that things somehow magically will be done. In best case scenario it increases indifference about how things are done and not willingness to get involved in worst case scenario (for Company A) it increases alertness on what is happening in job marked and readiness to quit*". Additionally, working with regulatory deadlines is highlighted as a difficulty, restricting teams from working according to Agile principles: "*problems occur when working with regulatory deadlines where you cannot use the Agile framework fully*" (Business Analyst 46). Finally, stakeholder's unavailability is identified as a demotivator by Developer 2: "*... unless all business people are on holiday and then a situation with many stuck stories starts. And some business people don't reply at all, so really decreases motivation to take stories in which they are the contact person*". The inability of stakeholders to answer questions, particularly during holidays, results in stories getting stuck. This situation significantly diminishes motivation, especially when the designated contact persons do not respond at all.

D2. Scope creep

The mention of taking on multiple roles, including both traditional work role and project-related responsibilities, is highlighted as a potential demotivator due to the associated high workload and complexity: "*the negative aspect is that sometimes it requires you to have several roles (working in your traditional role as well as project role) can create too high workload and complexity*" (Product owner 42). This observation suggests that while Agile encourages adaptability, managing various roles concurrently may be challenging for team members. Another insight revolves around concerns regarding inadequate attention to Agile methods, such as project planning, specifically in phases like scope definition and milestone setting. This oversight can lead to scope creep, indicating potential difficulties in maintaining project focus and control: "*I do not feel that Agile project management is done fully, as I think that for some project phases like project planning (scope, tasks, milestones, schedules) we do not pay enough attention in the beginning and very often we ourselves do create scope creep* (Multiple roles 11)".

Demotivators with single frequency of occurrence

In this section, demotivational factors which were mentioned only once by the research participants will be covered. Developer 2 mentioned 2 such demotivators:

- D3. Inefficient meetings: "…*many meetings without a decision made regarding some issue leads to wasted time and lately, this has been happening more and more*". Meetings that do not yield decisions regarding important topics as well as increasing occurrence of such meetings is perceived as a waste of time, affecting motivation negatively.
- D4. No action after retrospective meetings: "*many reflections and discussions, no actions. Motivation level: low*". The lack of action following retrospective meetings contributes to a low motivation level for Developer 2 because of the absence of tangible outcomes or improvements after discussions and reflections.

Other singular mention of demotivational factors in Agile environment were:

- D5. Decentralized collaboration: "*Agile decentralizes much of the work and collaboration to the existing teams and you never get that real feeling of a common goal and togetherness. Most probably that is a good thing for developers since they strengthen*

their team, but for supporting functions in the Agile context it can be hard to get that motivational spirit since you do not have many colleagues or dedicated teams. This is of course also strengthened by the desire to not dedicate any resource fully to a project anymore, but instead everyone should do everything at the same time" (Project Manager 18). This insight notes that while Agile decentralizes work, it may result in a diminished sense of a common goal and togetherness, particularly impacting supporting functions. The avoidance of dedicating resources fully to a project and the expectation for partly collaboration may contribute to lack of motivation.

- D6. Too much flexibility: "*From what worked with Agile sometimes are too flexible and can create chaos during work. e.x. changing requirements, changing solutions, not enough time for initial analysis*" (Developer 19). Another team member emphasizes that the constant changes in requirements and solutions are seen as potentially leading to chaos during work, with a particular need for more stability during the initial analysis phase. This reflection highlights the need for maintaining structure and allocating more time for initial project analysis in order to maintain motivation within Agile teams.
- D7. Created value is small: "…*although sometimes the outcome & impact is smaller instead of having bigger project & bigger outcome with the significant impact would motivate more*" (Epic Owner 22). Here the respondent points out that in some cases, the created value in Agile projects may be perceived as small. This contrasts with the potentially more significant impact of larger projects, showing a need to feel more value from working on smaller initiatives or taking on bigger projects to increase motivation.

Table 6. *Motivational factors of Agile project management teams in financial industry organization (compiled by the author)*

Motivators in Agile environment	**Autonomy psychological need satisfaction**	**Competence psychological need satisfaction**	**Relatedness psychological need satisfaction**	**Frequency of occurrence**
M1. Iterative development: progress and results		X		8
M2. Collaboration		X	X	7
M3. Created value		X		6
M4. Autonomy	X			5
M5. Possibility to adapt and change requirements	X	X		4
M6. Continuous learning		X		3
M7. PI planning and prioritization	X			3
M8. Clear scope		X		2

Table 7. *Demotivational factors of Agile project management teams in financial industry organization (compiled by the author)*

Demotivators in Agile environment	**Autonomy psychological need frustration**	**Competence psychological need frustration**	**Relatedness psychological need frustration**	**Frequency of occurrence**
D1. Barriers to execution	X	X		5
D2. Scope creep	X			2
D3. Inefficient meetings		X		1
D4. No action after retrospective meetings		X		1
D5. Decentralized collaboration			X	1
D6. Too much flexibility	X			1
D7. Created value is small		X		1

3.3. Discussion

The objective of the current research was to evaluate how Agile project management practices influence project team members' motivation from Self-determination theory perspective point of view and to evaluate the relationships between Agile project team members' motivational factors, motivation types, efficiency, and project performance outcomes in financial industry organization. In the following section, the results of the thesis will be interpreted and explained by comparing them with literature review. Additionally, since mixed research method was applied in the current study, results of the quantitative and qualitative research will be compared (Cresswell & Cresswell, 2018). The structure of this chapter will be organized by discussing the results gathered via quantitative data, qualitative data and both methods, answering the applicable research questions of this thesis. Finally, practical solutions to the research problem – "which motivational factors are related to project and team effectiveness outcomes and are most relevant for Agile project management teams in financial industry organization" – will be provided.

3.3.1. Quantitative method data findings

Finding 1: Autonomy psychological need frustration is related to on-time project completion and project team effectiveness

The first research question (what is the relationship between motivational factors, motivation types, efficiency, and project performance outcomes of teams who use Agile methods when working on projects in the financial industry organization?) was answered by conducting quantitative correlational research. Correlational analysis has shown that there is a negative relationship between autonomy psychological need frustration and on-time project completion as well as project team's efficiency. Though not directly, since current study measured lack of autonomy relationship to team and project outcomes, these findings align with the following researchers as they have reported positive outcome of autonomous teams: Bakker and Demerouti, 2017 (increased job performance); Lee and Xia, 2010 (speed and effectiveness of problem solving); Malik et al. 2021 (enhanced project performance); Gustavsson et al. 2022 (autonomous teams aim for long-term value). Though, it is important to note that correlations between autonomy need frustration and measured team and project

outcomes of the current study are quite weak, therefore conclusions should be drawn with caution.

Finding 2: Competence psychological need frustration is related to on-time project completion, project outcome quality and project team effectiveness

Competence need frustration also showed negative corelation with measured project outcomes of team effectiveness, project quality and timeliness outcomes. Meaning that if competence frustration is experienced, team effectiveness and project quality and on-time outcomes decreases. Competence need frustration showed moderate correlation with team effectiveness, showing a stronger link with this variable and a weaker link with project outcomes. Results correspond to ideas summarized by Pârjoleanu (2020): when employees receive recognition for their efforts, they tend to value their work more and reach for their potential (Pârjoleanu, 2020). Additionally, Trzeciak and Banasik (2022) study showed that most members of Agile teams often have opportunities for growth and progress. Authors argued that development opportunities such as training, courses, and engagement in various projects improves team members' skills and maximizes employee's effectiveness.

Finding 3: Relatedness psychological need frustration is connected to on-time project completion, project outcome quality and project team effectiveness

Moderately strong connection was found between relatedness need frustration and project team's effectiveness. Also, a weaker connection was identified with project outcomes quality. The results indicate that relatedness need frustration negatively related to the studied team and project outcomes. Findings sync with following author's study results. Trzeciak and Banasik (2022) study findings indicate that team dynamics and relationships in Agile context are vital, as positive interactions contribute to enhanced performance and foster a sense of job satisfaction and loyalty. Moreover, ideas of Hackman and Wageman (2005) similarly emphasizes that in order to be an effective team, it is important to foster positive interpersonal relationships within the team to enhance learning of new skills and maintain optimal well-being.

Finding 4: Intrinsic motivation is related to project outcome quality and project team effectiveness. Amotivation is related to project quality outcomes.

Correlational analysis also showed that intrinsic motivation has a moderate connection with project team's effectiveness and project quality outcomes: the more project team members are intrinsically motivated, the more likely they will perform well and collaborate effectively. Whereas amotivation showed smaller negative link with project quality outcomes. Similarly, a positive influence of intrinsic motivation on the creative and innovative performance of knowledge workers was shown by Bakker and Demerouti (2017): motivation has a positive impact on job performance. According to these authors, motivation enables individuals to stay focused on their work tasks and maintain a goal-oriented mindset. In turn, engaged employees exhibit high levels of energy and enthusiasm, leading to improved job performance. Current research finding correspond to Self-determination theory in general: intrinsic motivation which is self-determined, show the strongest effect on positive work tasks outcomes (Ryan and Deci, 2000). Additionally, Fischer et al. (2019) add to this since their study reveals a positive influence of intrinsic motivation on the creative and innovative performance of knowledge workers.

3.3.2. Qualitative method data findings

Qualitative data findings allow to answer to the second and third research questions:

1) How does the applied Agile project management framework practices influence project team members' motivation in the financial industry organization?
2) Are the motivators and demotivators relevant in Agile project management environment relate to the motivators and demotivators postulated in Self-determination theory?

Finding 5: Most relevant motivators of Agile project teams are related to feeling of work progress and accomplishment, collaborating with colleagues, and creating value

As indicated in Table 6, most of the research participants reflected these motivators, influenced by Agile practices:

- seeing work in progress or experienced frequent deliveries create a sense of accomplishment. It was also highlighted by the researchers such as McHugh et al. (2011), Ford et al. (2017) and Fowler and Highsmith (2001) that ongoing results, feeling of progress and sense of accomplishment in one's work is significantly motivating for project team members.
- collaboration with colleagues allows bonding, sharing responsibilities and learning from each other. McHugh et al. (2011) reports corresponding findings from their study: Agile practices encourage teamwork and create sense of belongingness and sharing feedback. Ryan and Deci (2001) evaluated that relatedness is less prevalent to intrinsic motivation, however, in the current findings teamwork and working together is mentioned quite frequently.
- value delivery is motivating because of results reached in timely delivery for the customer in need. Respectively, the positive outcomes of value creation in interactions are outlined in Agile Manifesto (Fowler & Highsmith, 2001) and Scaled Agile Framework body of knowledge (Scaled Agile, Inc. (2023a)).

Motivators such as autonomy, possibility to adapt and change requirements, continuous learning, PI planning, prioritization practices and clear project scope were also mentioned, though less frequently. To summarize the motivators resulted from agile project management environment, each was connected to applicable basic psychological need. As seen in Table 6, the most relevant motivator related to Self-determination theory in Agile project management context is competence need satisfaction. Academics support this finding with their research reports (Ford et al., 2021; McHugh et al., 2011; Kakar, 2013). It is worth mentioning that autonomy need satisfaction was in the second place and relatedness need satisfaction in third which also corresponds to most other researchers' findings. For example, Malik et al. (2021) study revealed that motivated Agile project teams exhibit strong team autonomy. Similarly, Gustavsson et al. (2022) study showed that the implementation of SAFe increased most of the team members sense of autonomy.

Finding 6: Most relevant demotivators of Agile project teams are related to barriers to execution and scope creep

Table 7 shows most frequently mentioned demotivators in agile project management environment:

- barriers to execution is demotivating because of extensive bureaucracy, many dependencies, inefficient communication and regulatory deadlines. Barriers to execution, as argued by Sablis et al., creates constant need to clarify requirements, schedules, testing and integrations. The autonomy and empowerment of individual teams could be restricted by these dependencies (Gustavsson et al., 2022) and result in controlling motivation when a person is demotivated because of behavior experienced as external (Gagné & Deci, 2005).
- scope creep demotivates because of increased workload and complexity. Similarly, McHugh (2011) and Ford (2017) revealed in their findings that indeed increased workload leads to stress or even burnout, negatively affecting motivation of project team members.

Demotivators of agile project team members also are mostly related to competency need frustration as well as autonomy need frustration, similarly to connection made with identified motivators.

3.3.3. Mixed methods data findings

Second and third research questions will be discussed in this section at the same time since the data from both quantitative and qualitative studies complement the answers to the raised questions. Here are the research questions covered in this segment:

1) How does the applied Agile project management framework practices influence project team members' motivation in the financial industry organization?
2) Are the motivators and demotivators relevant in Agile project management environment relate to the motivators and demotivators postulated in Self-determination theory?

Finding 8: Competency psychological need frustration negatively impacts motivation

Quantitative: The data of the current research suggest that competence psychological need frustration is related to intrinsic motivation: if Agile project team member experiences that he/she is ineffective and unable to achieve desired results, intrinsic motivation is likely to decrease.

Qualitative: Answers to open-ended survey question revealed that barriers to execution, inefficient meetings which wastes time, no action after retrospective meetings and small created value negatively affects motivation of Agile teams in financial industry organization. These themes linked with the competence need frustration by the author as the thoughts of research participant were connected to feeling of ineffectiveness and barrier of reaching desired goal.

Comparison or integration: Results of quantitative and qualitative data correspond in this case.

Discussion: This finding is generally aligned with McHugh (2011) qualitative research results. McHugh (2011) emphasized that Agile ceremonies such as iteration planning, stand-up meetings and retrospectives can be perceived as demotivating since they reduce the time available for working on deliverables, causing frustration, workload, stress and in turn, demotivation. In addition, complex tasks completion on time might be challenging because of inaccurate estimations which is demotivating for Agile team members.

Finding 9: Relatedness psychological need frustration negatively impacts motivation

Quantitative: Data indicated that relatedness need frustration is positively associated with amotivation: the more Agile project team members experience relatedness need frustration, the more likely their amotivation would increase.

Qualitative: One reflection provided by the research participant was related to decentralized collaboration for supporting roles in Agile projects. Because of a cross-collaboration and autonomous nature of agile teams, Agile project team members do not

usually form a dedicated project team and then a lack of common goal and togetherness can be experienced. Which, as reflected by respondent of current study, decreases motivation.

Comparison or integration: Results of quantitative and qualitative data correspond in this case. Although, since the relatedness need frustration was revealed by only one responded and the correlation in quantitative study was weak, it could be argued that for the studied population, relatedness need frustration is less significant demotivator than competence need frustration.

Discussion: This finding somewhat corresponds to the study conducted by Trzeciak and Banasik (2022). Their findings indicated that team dynamics and relationships in Agile context are vital, as positive interactions contribute to enhanced performance and foster a sense of job satisfaction. However, these researchers did not study motivation in the Agile context, therefore the results of current study cannot be directly related and compared. Ford et al. (2021) findings are also partly relevant: in their study project teams did not work according to Agile framework, however but it is worth to mention that one of top-tier aerospace project members' personal demotivators was poor team dynamics, whereas motivating factors were a healthy team dynamic, and clear communication. This finding partly relates to the master thesis research results: identified demotivator was experienced lack of connectedness with other project team members.

Finding 10: Autonomy psychological need frustration inconsistent results

Quantitative: Autonomy need frustration is not indicated as a potential demotivator for the researched group.

Qualitative: Research author linked the following emerged themes from the qualitative data to the experience of autonomy need frustration: barriers to execution, scope creep and too much flexibility. Autonomy psychological need frustration was reflected by 8 respondents since dependencies, strict deadlines and increased scope created a sense of externally conditioned behaviour which may negatively affect motivation.

Comparison or integration: Autonomy psychological need frustration results showed in qualitative data is inconsistent with quantitative results. Even though qualitative data revealed that autonomy need frustration is experienced as a potential demotivator, quantitative results showed that lack of autonomy may potentially be less relevant demotivator for the researched group.

Discussion: The results' inconsistency reflects the findings of Noll et al. (2017). Their data showed that even though autonomy has increased for team members who switched to Agile principles, the motivation has not increased for more senior employees. However, current study findings do not align with other authors' conclusions. For instance, McHugh (2011) argued that meetings relevant in Agile context increase workload and less time to complete tasks which can be particularly demotivating for Agile team members. Additionally, dependencies increase complexity of tasks which can also be a demotivator since it is difficult to put a correct estimation of the work needed to complete it. However, Gustavsson et al. (2022) revealed that dependencies could not only potentially impede team member's autonomy but rather empower and motivate teams, since alignment with the stakeholders can secure better decision making and understanding of the value to be provided.

This inconsistency and results of from other authors' studies indicates that autonomy need frustration may be experienced differently and as a result, yield different results. It could also mean that in the current study the open-ended questions in the survey may have been understood differently by the study participants or the research author might have misinterpreted the meaning of open answers and incorrectly categorized the emerged themes to autonomy need frustration. Such outcome may also have been influenced by small sample of the current study.

3.3.4. Solution to the research problem

The raised problem of this research - which motivational factors are related to project and team effectiveness outcomes and are most relevant for Agile project management teams in financial industry organization – was answered by the current study. The most relevant motivators for such team members are related to competence psychological need satisfaction: feeling of accomplishment when progress is seen and reached results are frequent; collaboration with other team members and learning from them; value created for the customer; feeling autonomous by contributing to the decisions made during project; satisfaction of adapting to changed requirements; continuous learning and clear scope. The most relevant demotivators of Agile project team members in financial industry organization were related to autonomy and competence need frustrations: barriers to execution in form of many dependencies, time constraints and bureaucracy; stress and higher workload created by scope creep; inefficient meetings with no decisions or actions made. The demotivators related to project team effectiveness and on-time completion outcomes are autonomy, competence

and relatedness need frustrations. The demotivators related to the quality of project performance outcomes are competence and relatedness need frustration.

CONCLUSIONS

1. Demotivators such as autonomy, competence and relatedness psychological need frustration have a negative connection with Agile project team members' effectiveness and project results.
2. Strongest negative relationship was found between competence need frustration and following outcomes: project team effectiveness, project quality performance of on-time project completion. The more employees experience competence need frustration, the more likely project team effectiveness, project quality performance and on-time completion will decrease.
3. Intrinsic motivation has positive connection with project team's effectiveness and project quality outcomes: the more project team members are intrinsically motivated, the more likely they will perform well and collaborate effectively.
4. Most relevant motivators of Agile project team members in financial industry organization are related to feeling of accomplishment, collaborating with colleagues, and creating value.
5. Most relevant demotivators of Agile project team members in financial industry organization are related to barriers to execution and scope creep.
6. Motivators and demotivators influenced by Agile project management environment relate to motivational factors postulated in Self-determination theory: autonomy, competence, and relatedness psychological need satisfaction/frustration.
7. Both correlational analysis and content analysis revealed that competency and relatedness need frustrations are relevant demotivators, whereas inconsistent findings were shown for autonomy need frustration: qualitative analysis supported but quantitative analysis did not support this demotivator as relevant for Agile team members in financial industry organization.

RECOMMENDATIONS

For leaders in Agile project environments

To increase the probability of maintaining motivated, effective Agile project teams who reach positive project outcomes, leaders should make sure continuous flow of deliveries progress is made by providing constructive feedback, support and collaborate with team members to enhance their experience of competence need satisfaction. Additionally, leaders should support team members when any barriers of execution occur, whether it would be dependencies, scope creep or bureaucracy. Moreover, it is important to make sure to celebrate the deliveries and progress made in iterations, emphasizing the created value for the customers, and in addition, enhancing collaborative spirit of Agile project team members. Furthermore, it is important to maintain Agile project team members autonomy allowing team members to manage their work tasks and to empower team members to contribute when decisions are made by providing opportunities to express personal opinion and position. Moreover, since positive collaboration and team spirit amongst project team members increase motivation, efforts should be made to increase such experience by showing a positive example of respectful and friendly behaviour, encouraging favourable group dynamics by enhancing positive group feeling. Finally, it is significant to stick to the scope of the project as much as possible to ensure that workload is not increased which created stress and could demotivate team members.

For team members in Agile project environments

Agile project team members can also benefit from current research results. To enhance own and project team motivation it is important to celebrate the project progress and value provided to cater for sense of accomplishment. In addition, contributing as a collaborator who shares information on timely basis and contributes to teamwork should increase team members' sense of satisfaction and motivate to reach the best possible project results. Taking initiative to manage owns work, contributing to ideas and decisions during project work will empower and in turn, enhance motivation. Finally, learning new things may serve as a motivator since it could create new insights and help to solve challenges at hand.

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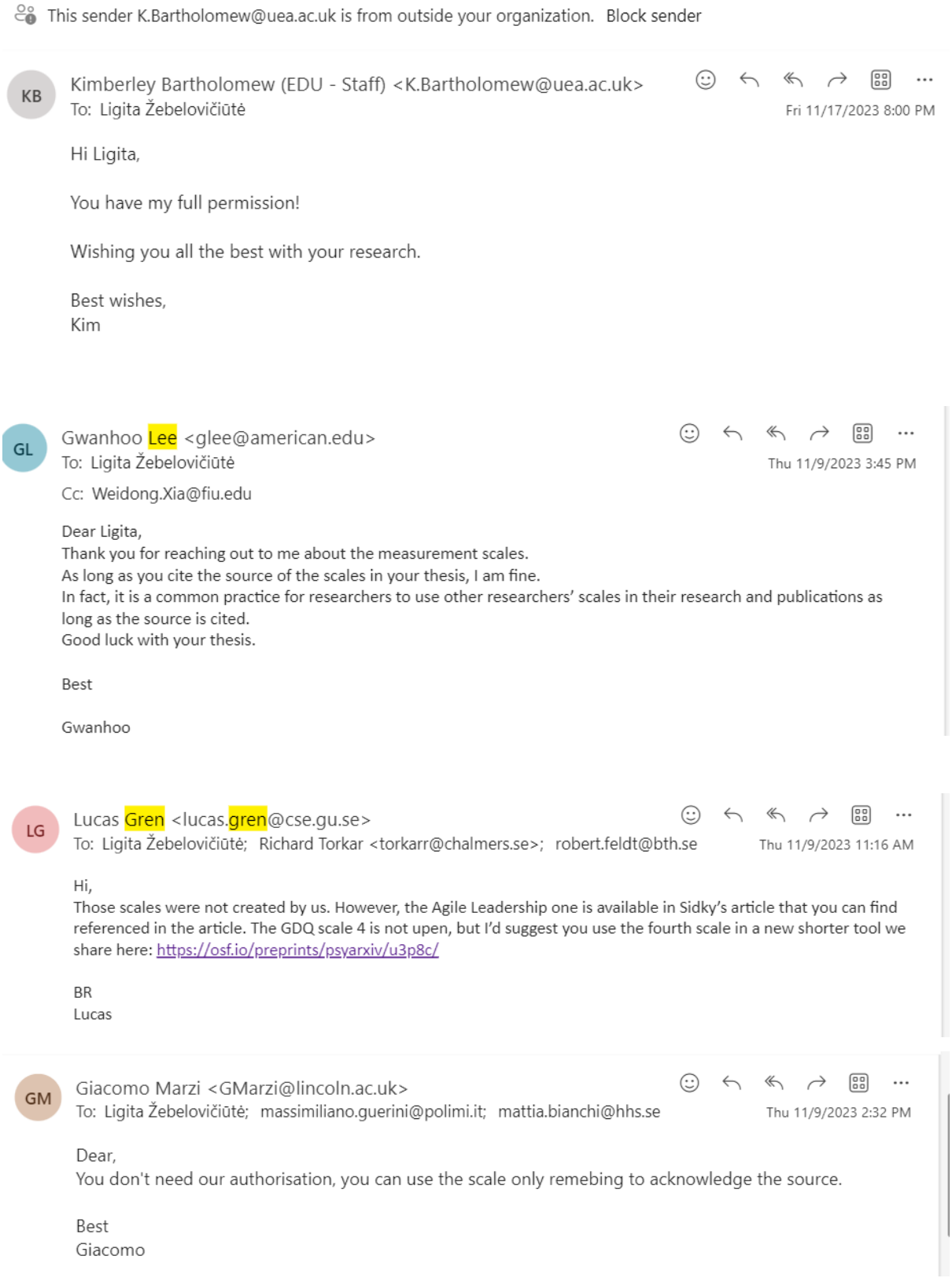
ANEXXES

Annex 1. Answers from authors of scales adapted in the final master thesis



This sender K.Bartholomew@uea.ac.uk is from outside your organization. Block sender

KB

Kimberley Bartholomew (EDU - Staff) <K.Bartholomew@uea.ac.uk>
To: Ligita Žebelovičiūtė
Fri 11/17/2023 8:00 PM

Hi Ligita,

You have my full permission!

Wishing you all the best with your research.

Best wishes,
Kim

GL

Gwanhoo Lee <glee@american.edu>
To: Ligita Žebelovičiūtė
Thu 11/9/2023 3:45 PM
Cc: Weidong.Xia@fiu.edu

Dear Ligita,
Thank you for reaching out to me about the measurement scales.
As long as you cite the source of the scales in your thesis, I am fine.
In fact, it is a common practice for researchers to use other researchers' scales in their research and publications as long as the source is cited.
Good luck with your thesis.

Best

Gwanhoo

LG

Lucas Gren <lucas.gren@cse.gu.se>
To: Ligita Žebelovičiūtė; Richard Torkar <torkarr@chalmers.se>; robert.feldt@bth.se
Thu 11/9/2023 11:16 AM

Hi,
Those scales were not created by us. However, the Agile Leadership one is available in Sidky's article that you can find referenced in the article. The GDQ scale 4 is not upen, but I'd suggest you use the fourth scale in a new shorter tool we share here: https://osf.io/preprints/psyarxiv/u3p8c/

BR
Lucas

GM

Giacomo Marzi <GMarzi@lincoln.ac.uk>
To: Ligita Žebelovičiūtė; massimiliano.guerini@polimi.it; mattia.bianchi@hhs.se
Thu 11/9/2023 2:32 PM

Dear,
You don't need our authorisation, you can use the scale only remebing to acknowledge the source.

Best
Giacomo

Annex 2. Survey

Dear participant,

I am Ligita Žebelovičiūtė, your colleague and 2nd-year master's student at Vilnius University Business School. I would like to kindly ask you to participate in a study which purpose is to find out whether there are any relationships between project team members' motivational factors, motivation and team's performance in Agile project environment. Your participation is very important as it is anticipated that this study will add to the existing literature and help provide new insights. This research is being conducted as part of a Master's course in Social Sciences at Vilnius University Business School, and it will be carried out from *20th of November, 2023 until 8th of December, 2023.*

Your participation in this study is voluntary and there are no right or wrong answers in the questionnaire - the correct one is the one you choose. To take part, you must meet the criteria of having the experience as an Agile project team member in Company A.

Your personal opinion is very important, so please answer honestly. In compliance with the researcher's code of ethics, I ensure anonymity and complete confidentiality of information - only aggregated data from all survey questionnaires will be used for analysis. You will not be required to provide any personally identifiable information. Company A will not be identified or mentioned in the final Master thesis.

If at any point you would have any questions regarding the study, please contact me at *e-mail* or via Teams.

Thank you in advance for your honest answers and the time you took to fill out the questionnaire.

I consent to taking part in this study: Yes ☐

I. In this part of the questionnaire, please provide general data about yourself and your role in projects.

Please enter your age: _____

Please indicate your gender: _____

Do you work according to Agile framework principles during a project? ☐ Yes

If needed, please refer to more information below:

- Agile framework is an iterative approach to managing projects. It prioritizes adaptability and active stakeholder involvement, offering the flexibility to revisit and refine project outcomes. Agile methods rely more on self-organized teams, placing a greater role on individuals or teams to exercise control. A meeting is conducted after an iteration during which the team presents its goal/scope, the work completed, the key decisions and a demo of the completed work. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly. Continuous planning and prioritization occur both in iteration planning and preparation for the next PI Planning.

How long have you been working according to the Agile project management framework (E.g., 2 years; 0,5 years)? _____

What is your usual role in a project? (E.g., scrum master/project manager, product owner, epic owner, specialist, developer, tester, business analyst, etc.) _____

II. In this part of the questionnaire, please evaluate features of your usual project environment and your well-being when working on projects. Please answer the questions based on the experience of working on projects as a project team member at Company A.

Rate how much you agree with these descriptions by choosing the answer that best suits you.

1	2	3	4	5
I completely disagree	I disagree	I neither agree, nor disagree	I agree	I completely agree

I feel that my freedom to choose how to do my work on a project is being restricted	1	2	3	4	5
I feel pressured to act in a certain way when working on projects	1	2	3	4	5
While working on projects, I feel pressured to do things that are decided for me	1	2	3	4	5
While working on projects, there are situations where I am feel incapable to do my work	1	2	3	4	5
While working on projects, sometimes things are said to me that make me feel incompetent	1	2	3	4	5
While working on projects, there have been situations which made me feel inferior	1	2	3	4	5
There have been situations when I felt rejected by the project team	1	2	3	4	5
There have been situations when I felt unwanted by the project team	1	2	3	4	5
There have been situations when I felt disliked by other people in the project team	1	2	3	4	5

III. The statements below describe various reasons why people do their jobs. Indicate how much you agree with the following statements when thinking about the experience of working on projects as a project team member at Company A.

1	2	3	4	5	6	7
I completely disagree	I disagree	I somewhat disagree	I neither agree, nor disagree	I somewhat agree	I agree	I completely disagree

Why do you or would you put efforts into your job when working on projects?

To get others' approval (e.g., supervisor, colleagues, family, clients...)	1	2	3	4	5	6	7
Because others will respect me more (e.g., supervisor, colleagues, family, clients...)	1	2	3	4	5	6	7
To avoid being criticized by others (e.g., supervisor, colleagues, family, clients...)	1	2	3	4	5	6	7
Because others will reward me financially only if I put enough effort in my project work (e.g., employer, supervisor...)	1	2	3	4	5	6	7
Because others offer me greater job security if I put enough effort in my project work (e.g., employer, supervisor…)	1	2	3	4	5	6	7
Because I risk losing my job if I don't put enough effort	1	2	3	4	5	6	7
Because I have to prove to myself that I can	1	2	3	4	5	6	7
Because it makes me feel proud of myself	1	2	3	4	5	6	7
Because otherwise I will feel ashamed of myself	1	2	3	4	5	6	7
Because otherwise I will feel bad about myself	1	2	3	4	5	6	7
Because I personally consider it important to put efforts into project tasks	1	2	3	4	5	6	7
Because putting efforts during a project aligns with my personal values	1	2	3	4	5	6	7
Because putting efforts in this job when working on projects has personal significance to me	1	2	3	4	5	6	7
Because I have fun doing my project work	1	2	3	4	5	6	7

Because what I do in my project work is exciting	1	2	3	4	5	6	7
Because the project work I do is interesting	1	2	3	4	5	6	7
I don't put efforts because I really feel that I'm wasting my time when working on projects	1	2	3	4	5	6	7
I do little because I don't think it is worth putting efforts into the project tasks which I am responsible for	1	2	3	4	5	6	7
I don't know why I'm doing project tasks, it's pointless work	1	2	3	4	5	6	7

IV. Please evaluate the results and collaboration of your project team you usually work with. Please answer the questions based on the experience of working on projects as a project team member at Company A.

1	2	3	4	5
I completely disagree	I disagree	I neither agree, nor disagree	I agree	I completely agree

The outcome delivered by the projects achieves its functional goals	1	2	3	4	5
The delivered product/service meets set requirements	1	2	3	4	5
The capabilities of the delivered product/service fits end-user needs	1	2	3	4	5
Most of the projects I work on are finished on time	1	2	3	4	5
In the projects I work on, milestones and launch dates are typically postponed to what was initially scheduled	1	2	3	4	5
In the projects I work on, work overload and time pressure occur frequently in the near-launch phases	1	2	3	4	5
The project group acts on its decisions	1	2	3	4	5
The project group encourages innovation and creativity	1	2	3	4	5
Commitment to the project group's task is high in the project group	1	2	3	4	5

Please reflect and share how the agile project management framework practices affects your motivation to work on projects at company A, if at all? _____

Thank You for taking part in this study!