

INVESTIGATING PROJECT-BASED ENGAGEMENT WITHIN THE PROJECT-ORIENTED ORGANISATION

A study on the influence of a project structure on the drivers of employee engagement and human issues within project management.

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Abstract

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Keywords:	Project structure, employee engagement, manager relationship, job demands, job resources, group dynamics.
Research question:	How can a project structure have an impact on project team members' engagement within a project-oriented organisation?
Purpose:	This thesis aims to investigate within a project-oriented organization how the project management structure can influence the project teams' engagement. Its further purpose is to add new knowledge in the subject of project-based engagement and human issues of project management. To study this area, possibilities will open for a greater understanding of workplace engagement, in the specific context of project-oriented organisations implementing the project structure.
Method:	This thesis adopts a quantitative research method with a deductive theory approach, whereby theory is elaborated which devices hypotheses for the research. Furthermore, the collection of primary data for this thesis is retrieved through a self-completion questionnaire in the form of an online survey provided by Google Forms. Data will be retrieved and analysed through the statistical software IBM SPSS
Conclusion:	The most significant finding is the positive relationship between manager relationship and engagement, strongly agreeing with previous literature of Khan (1990) and Matthews et al. (2018). The other two variables found to have a significant relationship to engagement were job-resource availability and work/ task context. This agreed with Bakker et al. (2007), Demerouti et al. (2001), Khan (1990) and Matthews et al. (2018) amongst others. Unexpectedly and as not hypothesised for is that group dynamics has no significant relationship towards engagement. This goes against some of the main literature by Kahn (1990) and Matthews et al. (2018). However, the result has shown all variables are influenced by the project structure and engagement indicated to increase in its whole

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1. Introduction

In this chapter, project management structure and engagement will be introduced. Furthermore, the problem background and definition will be described and how it relates to the purpose of this thesis and the research question.

Today one of the most appropriate organizational practices although it's complex dynamics is the management by projects, which are well established among the project-oriented companies (Gareis, 2007). The management of these project-oriented companies or also referred to as project-oriented organisations require a very different approach in comparison to the functional hierarchical line-management approaches that are adopted today by most companies and organisations throughout the 20th century (Turner & Keegan, 2000). In this thesis, the definition of a project-oriented company or organisation is where the focus is on achieving to satisfy internal and external customers through differential projects (Cattani, Ferriani, Frederiksen & Täube, 2011). Some of these companies may stand as a soul entity or subsidiary of a larger organisation. To give an illustration, these project-oriented organisations' majority of products are of 'bespoke design', meaning that they are made to order rather than 'custom' where it is done to order. This is often because of a complex technology characteristic of the product with a rapid market change (Turner & Keegan, 2000).

Project management structure will help organizations to control all of the managers' responsibilities, to find a proper structure throughout their work (Knutson & Bitz, 1991). The project management structure has through its existence developed and become a significant business tool for organizations to use and implement within their projects (Heitmann, 2010). In today's business environment, organizations are progressively starting to demand the project management structure to be cautiously evaluated and implemented for long-term achievements. An organization's project structure has a large impact on the outcomes and learning techniques of projects. It is believed, therefore, that the commitment and effort from the employees are some of the main factors which contribute to this impact (Kerzner, 2017). Previously many researchers were against the thought of project management structure being used as a

business process. Since it would be seen as only relate to certain projects and not the organisation's project portfolio as a whole. Today the theory behind project management structure has been more proven through adaptations of the approach in other organizations that it can work as an overall strategic business tool. As of this, previously sceptical researchers today stand behind the use of project management structures (Heitmann, 1996.; Kerzner, 2017).

Further in this thesis, there will be a strong focus on the project management structure of a project-oriented organization, while investigating how the team members' engagement is influenced by it. Alséne (1999) is one that has discussed project management structures and compared their flaws. Alséne explains that there are three types of project management structure, they are; (1) the *functional structure* that takes on a hierarchical system where the decision-making power is generated and distributed at the top management level. In this structure, all the decisions are heavily dependent on budgeting, schedule and equipment. The second structure is (2) *Project structure* which shows more decentralized characteristics. The decision making power is then only distributed to the project managers and where the team leaders within that project will act from a supporting role. Lastly, (3) *Matrix structure* which is a sort of mix of both project - and functional structure. Depending on the situation of a project, it may be able to change the structure to find a more convenient approach for problem-solving solutions.

The project management structure is a tool that enterprises implement to stay organized in all of their ongoing operations. Furthermore, the structure that is being implemented will reflect on the work type and characteristics of a project (Alséne, 1999). In this thesis, it expands to focus solely on one project-oriented organisation. This organisation is through verbal contact established to implement the 'project structure' and therefore focus is upon this specific structure (see chapter 4.2).

An employees' commitment is a part of the influence of the project outcome, as of this it could also be that a related factor is the project structure (Kerzner, 2017). Ibrahim and Al Falasi (2014) supports this argument explaining that a greater level of engagement equals greater results and success. This is

because the team members' engagement contributes to them being more passionate about their work. This passion results in more time and quality-work being spent on the projects. It proves that the more the employees are engaged in their work and committed to a project within their organization, the better of competitive advantage they will also have (Ibrahim & Al Falasi, 2014).

Matthews, Stanley and Davidson (2018), as an example, explains how human factors and project challenges influence team members' engagement. Presented in Matthews et al. (2018) study accompanied by others (see chapter 2) four variables are emphasised as drivers of engagement. These variables can be summarized as, job-demand resources, related to physical, physiological and organisational aspects of a job (Demerouti, Bakker, Nachriener & Schaufeli, 2001). Manager relationship, which relates to project managers' attitudes, feedback and mentoring directly influencing the team members. Further explained drivers are work/task context, that the more the team members know that there is room for improvement within learning objectives and knowledge development within their project, the more engaged they will be to perform within that project (Matthews et al., 2018.; Khan, 1990). Lastly, group dynamics is a critical driver for engagement (Matthews et al., 2018). Considering these drivers, the thesis will in whole emphasise on these specific predictors of engagement, as they are in the context of project-oriented organisations.

1.1. Problem Background

The commonly asked question within project management have in past studies and also in more recent ones, mainly been focusing to answer project managements linkage with project performance and success. Many studies have conceptualized the construct of project management success in many ways, all however yet to compellingly provide a full understanding of the success factors for a project (Mir & Pinnington, 2014). For instance, Muller and Turner (2007) point out that each project is unique and defined very differently and won't describe success as a common thing. There is as well a complexity within project management, as pointed out by Alias et al. (2014). Alias et al. (2014) suggest, on the

other hand, that from previous literature the most critical success factors is recognized to have a relationship with support, communication, skills, motivation, and commitment of the project team participants. Therefore, to possibly understand greater probabilities for project success one should investigate the engagement of employees within a project-oriented organisation.

Byrne (2014) explained that in practice employee engagement occurs as a state within employees where they are giving 100% or more to their work. The word engagement has many various explanations. However, the main common explanation is as a verb signifying behaviour and performance, or as a concept for energy, involvement, and efficiency (Byrne, 2014). To lift the importance of investigating project management structures influence on employee engagement as a contributor to project-success probabilities. It is mentioned by Mir and Pinnington (2014) in their study that ‘project management’ construct variables had significantly more impact on project success than the project’s efficiency.

Additionally, variables employees could directly relate to in their project environment had a greater impact on project success, such as managerial support and communication. On a further note, an interesting recommendation by Mir and Pinnington (2014) is that project-oriented organizations should increasingly consider investing more in project management. There was a shown positive impact discovered from well-performing project management towards the project teams. The reason for this is that a motivated employee has a better engagement and could, therefore, lead to higher retention and a higher probability for better project results.

1.2. Problem Definition

This leads to the problem definition. Studies on project organized organizations have always been of great interest to managers and practitioners (Bethencourt, 2012.; Griffin, 2015.; Hale, 2016). More particularly have project managements linkage with project success been more focused upon (Mir and Pinnington, 2014.; Lechler & Dvir, 2010.; Jitpaiboon, Smith & Gu, 2019). In some of these studies, there has been a bigger effort to understand project performance, efficiency, and policies impact on

project success. From this, the most compelling framework that explains project success has been the critical success factors theories (Mir & Pinnington, 2015), which Alias et al. (2014) mentions relates to the commitment of project participants. Additionally, much literature and past studies have shown a probability and certain amount of proof that the project participants have a great influence on the outcome of a project, which further depends on the aspects within project management (Mir & Pinnington, 2014.; Hale, 2016.; Matthews et al., 2018.; Markos & Sridevi, 2010).

There is however in this thesis process no found studies on how the project management structure impacts the employee engagement within the context of project-oriented organisations. To emphasise this study's value, a clear relationship amongst the above literature shows a significant reason that several aspects of project management create more engaged employees, which could lead to higher success probability. Lastly, the construct of employee engagement and its driving factors will always have value and be relevant to keep exploring. This is because of its wide lack in academic study and that there is yet today no common ground on its definition or how it is operationalized. Because of this lack and unclarity, the further study of employee engagement and its drivers is suggested to be undertaken in any way to contribute (Bethencourt, 2012). Otherwise, the engagement concept risks passing away shortly (Markos & Sridevi, 2010). Especially there is a need to further understand the human issues in project management between employees and managers within project-based work (Bowen, 2016). The question rising is then how a project management structure, which relates directly to managements performance, the environment and communication can influence the engagement amongst employees.

1.3. Purpose and Aim

This thesis aims to investigate within a project-oriented organization how the project management structure can have an impact on the project teams' engagement. It focuses on one type of project management structure 'project structure' and links it to employee engagement theories to investigate a

connection. To explain again, project management is a significant and much-needed business tool for organizations to implement in their projects for strategic advantage. As shown in previous studies, project management influences the level of engagement amongst project participants, which would contribute to higher project success probabilities.

However, engagement is a variously defined concept with no straight operationalization and has not yet been paired with the literature of project management structures. Thus, the study conducted in this thesis aims to add new knowledge to project-based engagement and the human issues of project management. This thesis can be of greater value by rather contributing a narrowed amount of knowledge to the wider understanding of project-based engagement and how it can relate to project management structures. Therefore, this study will only focus on one type of project management structure. Furthermore, to research this area, possibilities will open up for a greater understanding of workplace engagement, in the specific context of high technology project-oriented organisations implementing the project structure. Conclusively this hopes to add a better guide for project-based engagement and probabilities to perform better and succeed well in projects.

1.4. Research Question

How can a project structure have an impact on project team members' engagement within a project-oriented organisation?

2. Literature Review

In this chapter, the literature for the studied concepts will be presented. Thereby, it will review the literature and how it relates to this study.

2.1. Project Management

Project management exists mainly as a tool which organizations use to create a given guideline on how to achieve different objectives within a company, and also to plan out new initiatives (Knutson & Bitz, 1991). The concept has been promoted as a fundamental essential for all types of organizations. Its purpose is to help organize and plan out all types of ongoing activity in the organisation, where each of these activities is defined as a project (Munns & Bjeirmi, 1996). It is further explained that all types of projects are crucial factors which affect the business and its customer. This means that projects are a key factor for not only the development of the businesses but also for the markets, it affects the relationship between customers and the organizations, and also the new opportunity which may be created for different industries to grow within (Knutson & Bitz, 1991).

There are multiple ways of looking at the concept of project management. Parimalam and Mahadevan (2012) state that project management is a tool that is used within projects to strengthen managers leadership. While Munns and Bjeirmi (1996) argue that the concept is used to control all of the internal and external factors of a project, such as scheduling, budgeting and service control. This shows that the project management concept is being adopted differently depending on what type of project a company have (Munns & Bjeirmi, 1996). Thus, a clearer picture of the project management further influence on the aspects of a project is an interesting area to study. Parimalam and Mahadevan (2012) moreover mention how project management affects employees on a greater emotional level. Stating that besides leading a project, project management also is about leading your employees towards what is called “success”. Employees who are generally happier at their workplace and are engaged in their work, show that they are contributing more effectively towards a project. It is as well more likely that the project

will accomplish the objectives set out (Parimalam & Mahadevan, 2012). However, it may also be difficult for a company to achieve its objectives depending on the project (Lechler & Dvir, 2010).

Contradicting the positive implementation of project management structures, it has previously also been shown that it doesn't exist much specific and significant amount of evidence to support the statement that project management structure has a direct effect on project success. The reason for this is that companies have not been able to conceptualize their project management structure in advance (Lechler & Dvir, 2010). Moreover, it is thought that employee engagement is an in-between factor that creates a relationship from project management to project success. Employee engagement would act like an own variable that is dependent on project management and that consequently affects the project success (Munns & Bjeirmi, 1996.; Parimalam & Mahadevan, 2012).

Lastly, Arto and Wikström (2005) argue that the project management structure is a contributing factor to the strategic concept of management. It helps to observe if multiple ongoing projects could be handled at once by adopting the right structure and achieve a more expected outcome. There are three different project management structures which an organization can apply to their projects (Alsené, 1999) For this thesis, the study will only investigate the relationships of the project structure.

2.1.1. Project Structure

The nature of a project structure as previously mentioned is the opposite of the functional structure. The project structure's construction is formed through a decentralized perspective, where the project managers together with team leaders distribute the decision-making power equally. They have ultimate authority over the decision-making regarding aspects such as budgeting, scheduling the project, and also dividing up the teams for a specific project. This structure is a well-suited structure when complicated and time-consuming projects are actively ongoing within an organization. A project structure is completely autonomous considering day-to-day tasks where it can be seen that some employees are released from their regular duties, on a full-time or a part-time basis, to work on a project. They then

become responsible under a project manager assigned to the project who himself/herself reports to a senior manager. Normally employees in this structure are assigned to the projects for a certain amount of time and often have a multidisciplinary job approach (Alséne, 1999).

A disadvantage with this structure is that team members time is consumed on a high level where they are dedicated towards one project at the time. However, the advantages are that project managers often maintain certain team members within the same teams to make sure that the group dynamics within a specific team is relatively high. Purpose of doing this is to maintain a good dynamism between the team members, so that collaboration and group work will be more efficient, and productivity is increased (Alséne, 1999.; The Editorial Team, 2019.; Cardinal, & Marle, 2006).

Managers and team leaders will further be able to analyze the different objectives of each project and determine together what should there be a focus on, so that the goal and purpose of each project will be achieved (Alséne, 1999: The Editorial Team, 2019). On the other hand, there will always be speculations regarding the secureness of implementing a specific structure to a company. What risks are there and what benefits are there. Alséne (1999) argues that the project structure will also benefit the human resource department (HR). Since there will be more candidates being involved in the decision-making process and contributing to reaching the project's objective.

Since there also will be more candidates involved within the managerial aspect, it will also result in more opinions that must be considered, which is looked at as a time craving factor, where they will lose time on projects (Alséne, 1999). Cardinal and Marle (2006) mention similar ideas as Alséne (1999) that the more project managers are involved, there will be more analytical assets available for the project, to make sure that the customers get satisfied. There is despite this a mentioned downside to this structure by Cardinal and Marle (2006). Which is that many of these project divisions will be dependent on each other, so if an error erupts in one division, this will slow down the productivity in the other one as well. These risks will be lower if there is a hierarchical decision-making power distributed instead, however,

the results will probably not be the same (Alséne, 1999.; Cardinal, & Marle, 2006). Lastly, a very positive aspect of a project structure is that there is more room for upper management to provide support for the projects and project teams systematically and formally. Employees will also have greater opportunity to participate importantly in the design and implementation of new changes in the organisation. All parties will be concerned and taken into account for always the best optimal solutions because of the interdepartmental character of projects (Alsené, 1999).

2.2. Employee Engagement

The phenomenon of engagement has for a longer time gained extensive attention because of its positive and practical use for practitioners and managers (Hale, 2016.; Griffin, 2015). The word engagement has been explained differently by many individual researchers, all however with some similarities (Markos & Sridevi, 2010). An engaged employee as a practical explanation is characterized as when they are in a state of giving 100% or more to their work (Byrne, 2014). It has also previously been translated as a verb signifying a type of behaviour and enhanced performance, and as well as a concept for employees' energy, involvement and efficiency within their work (Byrne, 2014.; Bethencourt, 2012.; Saks, 2006).

To further clarify engagement, it reflects a clear two-way relationship between the employee and the superiors. This two-way relationship is described by the effort of the exchange that is needed. Employees need to feel valued by their managers and that they have the employees best interest in mind. The same condition for this relationship is demanded by the employees, that they keep a positive attitude towards the organization and its value. It is very important that the employee is aware of the business context and work coherently as a team with their co-workers to benefit the organization. When these two contenders have a mutual exchange of effort it will nurture engagement which is a beneficial factor for organizational performance (Markos & Sridevi, 2010). This agrees with the explanation of Taneja, Sewell and Odom (2015), and Khan (1990) which suggests that engagement is to harness the employee

with their work role. This means that this employee is aware of the expectations with their work role and has a strong relationship with their co-workers and managers.

The more the employee is aligned with their work role, the more motivated they are and will strive to perform excellently in their tasks, which should root in willingness to help the organization's success (Taneja et al., 2015). For instance, this is further supported by Hale (2016) which emphasized that the subordinates perceived working relationship with superiors is the greatest predictor of engagement. To further emphasise the importance of managing a healthy perceived relationship from the subordinate with their superior, the manager as mentioned by Parimalam and Mahadevan (2012) influence the subordinates on an emotional level.

Notably, there are however differences in the view of engagement that exist throughout studies. Although several explanations on the engagement's antecedents, drivers and conceptualization exist, there is not much common ground on the concept and not one explanation is accepted as a general answer (Markos & Sridevi, 2010.; Saks, 2006.; Bethencourt, 2012). As Griffin (2015) and Saks and Gruman (2014) mention, most studies have focused upon engagements determinants within the work/task context and availability of job resources, with less attention on how the managers/leaders influence the group context.

The Theory used in those studies has then been focusing on the job demand-resource (JD-R) model. Job resources will relate to the demands of a job (Bakker, Demerouti, Hakanen & Xanthopoulou, 2007) or more mentioned as work/task context in this study. There is an important condition that employees of a project team are provided with the right amount of resources, such as the flow of information from management, support in work, better processes and technical resources, together with an appreciation for their investment of effort. That said, it is much related to Khan (1990) explaining that when the task performance made by an employee include rewarding interactions it brings meaningfulness, one of the conditions for engagement. The key to this is communicated appreciation that promotes the employee's

dignity, self-appreciation and worthwhileness. Matthews et al. (2018) further carried on to support Khan's work by mentioning that when there are feedback and recognition the engagement of the employees is supported. More specifically the positive opinions of colleagues also support one's ongoing investment of energy. Therefore job resources are crucial for the employees' development and to achieve goals which would engage them more, so that one is challenged but not exhausted from the physical and psychological investment (Bakker et al., 2007.; Demerouti et al., 2001).

Griffin's (2015) findings coherently with other studies show also that the individual behaviour and organizational-citizenship behaviour (OCB) is affected by collective behaviour, explaining the collective norm/mood of engagement. The explanation is that the influence of normative behaviour is as strongest when there is a high similarity in workgroups (Griffin, 2015.; Ehrhart, 2004). Thereby, the collective aspect of engagement is to be considered when studying engagement, especially in the project-team context.

Several theories have been proposed and captured interest in the field to explain engagement (Saks & Gruman, 2014), but many refer back to Khan's work (Matthews et al., 2018). The foundation of employee engagement was through Khan's (1990) conceptualization of the employee engagement framework. The field-study of Khan (1990) identified the psychological conditions to which an employee is more engaged or disengaged at work. According to Khan's study, three main psychological conditions exist for engagement- psychological meaningfulness, psychological safety, and lastly psychological availability. This thesis will focus on the two first. Khan's (1990) observation of the workplace behaviours for engagement showed that people assess these three conditions within themselves to engage in their work, in which if these conditions were fulfilled, they become engaged.

Today a more recent and simple adoption from Khan (1990) and other following his work is the qualitative study by Matthews et al. (2018), focusing on the human factors and project challenges that influence the engagement within a project-based organization. Going back to the collective aspect of

employee engagement. An important aspect of group dynamics in regards of engagement mentioned by Matthew et al. (2018) is that team members should have a light environment where they can share jokes, as well have better formal communication so ideas are shared and feedback is given. Further Matthews et al. (2108) emphasise that a strong antecedent of engagement is when a team can communicate, have great collaboration and most importantly work towards the same goal.

In Khan's (1990) conceptualization first psychological condition is meaningfulness, where factors such as the tasks, role, and work characteristics influence the engagement. Much like Matthews et al. (2018) study, it is then found that a more challenging/complex project and some sort of time pressure or deadline enhances the willingness to perform and you can retrieve valued learning. The project becomes a task that is more intriguing and engaging which also gives a greater sense of accomplishment and recognition at the end. This Khan (1990) explains is the meaningfulness, it's the return on investment of one self's physical, cognitive energy in the form of appreciation and feeling of contribution to the organizations' success.

As presented before, there is a clear two-way communication and relationship between subordinates and superiors to evolve the engagement levels, which nurtures better project outcomes and organizational success (Markos & Sridevi, 2010.; Taneja et al., 2015.; Hale, 2016). Thereby as derived from both Khan (1990) and Matthews et al. (2018) there is a major reflection on the influences from managers on engagement. Where it relates to Khan's (1990) second condition 'psychological safety', where the importance of interpersonal relationships, group dynamics, management style, and process and organizational norms is shown. Engagement levels of the employees are affected by how supportive the environment is of failure and trials. When the employees feel as if they can share ideas without fear and can obtain positive constructive feedback they engage more in their work. Further, this relates to the mentoring and career development that is given through constructive feedback and supportive environment which has a positive influence on engagement (Khan, 1990.; Matthews et al., 2018). One of the most influencing factors and conditions from Khan's (1990) and Matthews et al. (2018) studies

relating to the project management structure is provisions of autonomy, management style, and processes. These influencing factors and conditions emphasize that employees feel that when a certain free lay in how to undertake their responsibilities and tasks is better. If the superior or manager is very reluctant on giving up control it is deemed as not trusting the employees, or if they change and alternate the employees' work afterwards they will feel not safe to invest themselves in their work (Khan, 1990.; Matthews et al., 2018). The drivers of engagement are further explained through three different theories of measurement in the next chapter.

3. Theoretical Framework

In this chapter, the chosen theories implemented in this study will be shortly presented and their relevance for this study to build a conceptual model. In the conceptual model, it will visualise the connection between independent variables and the dependent followed by the hypotheses devised.

3.1. Leader-Member Exchange Theory

The leader-member exchange theory (LMX) conceptualizes that when leaders and the followers (employees) can develop a mature relationship it leads to an effective leadership process. This process indicates that there are benefits to reap from the mature relationship (Graen & Uhl-Bien, 1995). The theory of LMX also means to explain a dyadic relationship directly between leader and member. Moreover, it has through past studies been implemented in working relations between supervisor and employees that have shown that if there exists a positive mature relationship as suggested by LMX it leads to increased employee satisfaction and job commitment (Book, Gatling & Kim, 2019.; Graen & Uhl-Bien, 1995).

The recommended measures applied in the LMX (LMX-7) is: (1) Do you know where you stand with your leader .. do you usually know how satisfied your leader is with what you do (2) How well does your leader understand your job problems and needs (3) How well does your leader recognize your potential (4) Regardless of how much formal authority he/she has built into his/her position, what are the chances that your leader would use his/her power to help you solve problems in your work? (5) Again, regardless of the amount of formal authority your leader has, what are the chances that he/she would “bail you out,” at his/her expense (6) have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so (7) How would you characterize your working relationship with your leader. These items have been merged and adapted for this thesis questionnaire and are suggested to be measured by a continuous scale as a 5-point item (Graen & Uhl-bien, 1995). Methodology chapter will further elaborate.

3.2. Job-Demand Resource Theory

The Job-demand resource (JD-R) model exists to formally specify the two specific sets of working conditions that may produce employee well-being. The model presents the first working condition to be job demands, which represents the strains that job characteristics can evoke. This can result in exceeding the employee's adaptive capability, where they eventually get over exhausted and cannot recover from the high requirements (Bakker et al., 2007). When referring to job demand the more specific explanation is the physical, social and organizational aspects within the job context that demands both physical and psychological effort. these efforts come with costs and these costs can eventually when job demands get too exceeded turn into stress and burnout (Bakker et al., 2007.; Demerouti et al., 2001).

The second working condition has to do with how well and much the job offers resources to individual employees and the job's physical, psychological, social or organizational aspects. As argued in the studies of Bakker et al. (2007) and Demerouti et al. (2001) it shows that the extent of offered job resources can deflect and reduce the physical and psychological stress that comes with high job demands. Job resources are additionally a necessary factor for achieving work goals, stimulate personal growth, and enhance employees learning and development. All drivers of engagement (Matthews et al., 2018). There are two significant assumptions mentioned that need to be considered. That job demands, in the long run, leads to exhaustion, negative consequences for the organisation and impaired role-performance. Secondly, job resources lead to engagement, dedication and extra-role performance. Conclusively, the JD-R explains that job resources are needed if not suggested to reduce the impact of the job demands and stop risks of burnout amongst employees (Bakker et al., 2007.; Demerouti et al., 2001.; Bakker, Demerouti, & Schaufeli, 2003). According to Bakker et al. (2007), there are six job resources to balance the job demands in their study which are the most important motivators for engagement and commitment: (1) job control (2) supervisor support (3) information (4) organizational climate (5) innovativeness (6) appreciation. Methodology chapter will further elaborate.

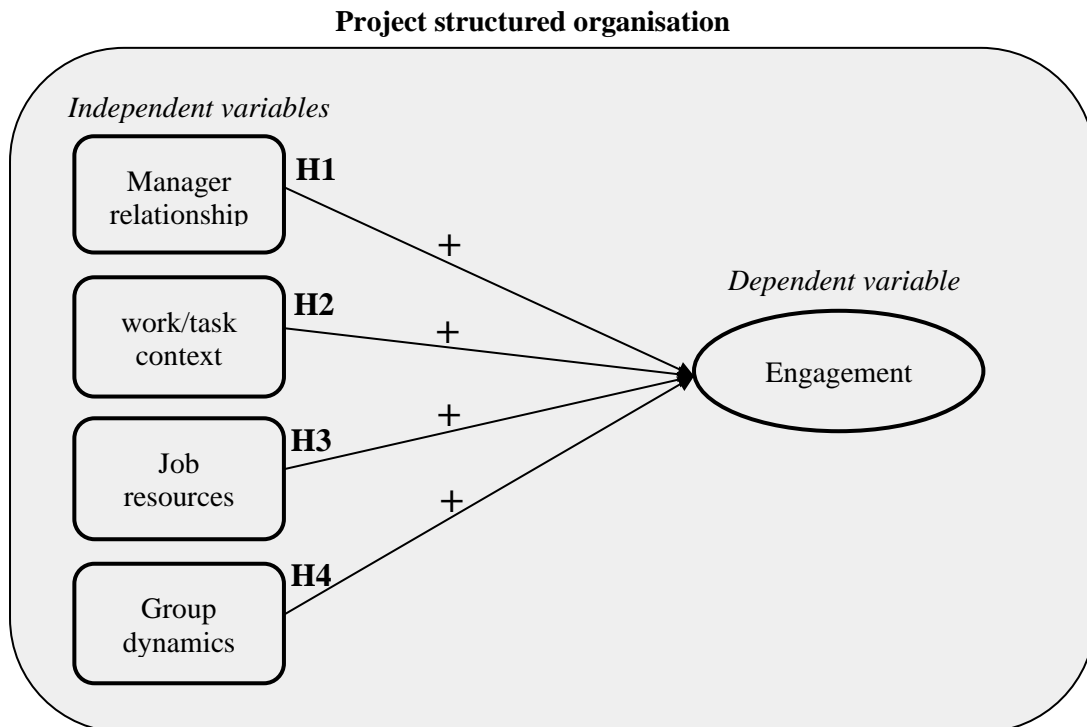
3.3. Utrecht Work Engagement Scale Theory

In contemporary applied psychology the construct of work engagement is a very active research area and Utrecht work engagement scale have been used widely in many previous studies to measure engagement within various work contexts (Mills, Culbertson & Fullagar, 2012). Thereby the UWES has been developed as a measurement tool to assesses a person's general work engagement. The general work engagement is through the UWES measured as a multidimensional construct by three sub-scales (Bakker & Schaufeli, 2004). The first factor and scale of engagement is *vigour*. This demonstrates in a person as the opposite pole of exhaustion and reflects high energy levels, resilience, the motivation to invest effort and less chance of fatigue in the face of challenges (Schaufeli, Salanova, Gonáles-Romá & Bakker, 2002). Bakker et al. (2007) further explained those with vigour as a person with stamina, zest and high energy. Which is the opposite of those with low vigour that shows less energy and stamina in consideration of work. The second subscale *dedication* is the opposite pole of cynicism. It is characterized by a person's sense of significance and pride in their work where one is particularly strongly involved. It can be further be seen in people that identify with their work experience meaningfulness at their job and are enthusiastic to the challenges (Schaufeli et al., 2002.; Bakker et al., 2007). Third and the last subscale is *absorption*, different from the other two subscales the construct of absorption is an important aspect of engagement but not either a direct opposite of reduced efficiency. It is characterized by concentration and immersion in one's work (a state of complete focus and a clear mind). A person with high absorption score shows them being positively preoccupied with their work and would easily get carried away at work, in contrast to one with a low score which would have problems with being immersed with their work (Schaufeli et al., 2002.; Bakker et al., 2007). Methodology chapter will further elaborate.

3.4. Conceptual Model

In the figure below the conceptual model for this thesis is visualized. The model is constructed to summarise the literature review and problem definition researched. As demonstrated in the model, four

measured independent variables are functioning as drivers for the measured dependent variable 'engagement'. This conceptual model will help the reader visualise the problem and how the connection between variables/constructs is drawn.



Model 1: Conceptual model of influence between independent variables and the dependent (by authors).

The conceptual framework above visualizes that a project structure possibly influences an employee's engagement. Four independent variables are implemented as they are drivers of the dependent variable 'engagement'. It is important to note that this relationship studied is only applicable in the context of a project-oriented organisation that makes use of a project structure as its project management structure. Hence, this model aims to show how the investigation of when the project-oriented organisation implements a project structure, how it influences the four engagement drivers and the general level of engagement of the employees.

In conclusion, project management is in certain an important driver for engagement. The project management as well affects four different aspects of a project, which all acts as drivers of engagement. This thesis will thereby investigate how under a project structure it can influence manager relationships, work/task context, job resources and group dynamics. Which also, in turn, investigates if these relationships influence the general work engagement of the project teams.

3.5. Hypotheses Formulation

3.5.1. Manager Relationship

Engagement reflects a clear two-way relationship between employee and employer, which relies on mutual exchange of effort and value of each other. This relationship means that the employees' feel they are valued by their managers and that they have the employees' best interest in mind (Markos & Sridevi, 2010). Which shows that manager relationship is a foundation for engagement. Hale (2016) explained that the subordinates perceived relationship with their manager is as well the greatest predictor of engagement. As explained by Khan (1990) there are psychological conditions for engagement where one of them is psychological safety. The psychological safety is nurtured through autonomy in work, recognition and a safe environment provided by the superiors. The managers must provide an environment supportive of trial and failure, sharing of ideas and constructive feedback for employees to feel safe and valued. It is as well shown that when managers give more autonomy to the employees work it shows trust and recognition, which nurtures engagement (Matthews et al., 2018). Therefore, from the above-mentioned literature, it leads to the first devised hypothesis.

H 1: Manager relationship (MR) has a significant positive influence on employee engagement within a project structure.

3.5.2. Work/Task Context

A project structure provides a work environment where normally employees are assigned to a project for only a certain time and not in one project area constantly. This also means that with a project structure

there is often a multidisciplinary job approach. Furthermore, with this structure, it tends to be that employees time is consumed highly as they often are dedicated to one project at the time (Alséne, 1999). This could be challenging in a good way for an employee. As Khan (1990) explain one condition for engagement is psychological meaningfulness. This specifies that the task role and work characteristics are influencers of engagement. In other words, a more challenging and complex project with some time pressure enhances the willingness to perform as well as provide a greater sense of accomplishment. Additionally, this would lead to greater learning and development of capabilities (Matthew et al., 2018). Lastly, a project structure is more likely to give greater opportunity for employees to participate in organisational changes and taken into consideration (Alséne, 1999). As of this, the second hypothesis is devised.

H 2: Work/task context (WC) has a significant positive influence on employee engagement within a project structure.

3.5.3. Job Resources

It is suggested that with a project structure it results in upper management being increasingly able to provide more formal and systematic support to a project, further, will the employees have more influence in any new changes of the organisation (Alsené, 1999). As mentioned before, extended support of resources such as appreciation, technical resources and better processes also help reduce physical and psychological stress caused by job demands. The job resources then stimulate development, learning and help employees to achieve goals so they feel more engaged and not exhausted (Bakker et al., 2007.; Demerouti et al., 2001). Just as mentioned by Khan (1990) about the importance of communicated appreciation to promote dignity and self-appreciation, all leading to more worthwhileness. This also Matthews et al. (2018) further emphasised as the positive feedback and recognition of colleagues, which supports an ongoing investment of energy and engagement. Together, the aforementioned literature leads to the third devised hypothesis.

H 3: Job resource availability (JR) has a significant positive influence on employee engagement within a project structure.

3.5.4. Group Dynamics

When an organisation take on a project structure it often tends to be that project managers intentionally maintain certain team-members in the same teams or same future projects. This is so that it can increase group dynamics since they place employees with good teamwork together in hope of more efficient collaboration and productivity (Alséne, 1999: TheEditorialTeam, 2019: Cardinal, & Marle, 2006). This relates to Griffin (2015) and Ehrhart (2004) who explain that individual behaviour and organizational-citizenship behaviour (OCB) is affected by collective behaviour. Therefore, the individual engagement of one employee is influenced by their colleagues' engagement, as a collective group. In terms of engagement, there is an importance that co-workers are aware of the business context and work coherently as a team. Because of that mutual exchange, it nurtures a greater engagement and the organisation's performance (Markos & Sridevi, 2010). As explained by Taneja, Sewell and Odom (2015), and Khan (1990) engagement is to harness the employees with their role and create strong relationships with co-workers. Moreover, group dynamics as a driver for engagement requires that there is an open and light environment with jokes as much as good formal communication. In this kind of environment ideas and feedback can be shared. As most emphasised is that greater team communication, collaboration and team-members working towards the same goals strongly increase engagement (Matthew et al., 2018) As of this the last and fourth hypothesis is devised.

H 4: Group dynamics (GD) has a significant positive influence on employee engagement within a project structure.

4. Methodology

In the following chapter research method and approach is introduced, operationalisation of the study is explained, and methodological critique is presented. Further, it will formally explain measurements, scaling and construction of given data collection.

4.1. Empirical Design

This thesis adopts a quantitative research method with a deductive theory approach, whereby theory is elaborated which devices hypotheses for the research. After the hypotheses have been devised the theory will be altered throughout an extended examination. Additionally, as primary data is collected to test hypotheses and have been interpreted and analysed, the hypotheses will either be confirmed or rejected (Bryman & Bell, 2011). The quantitative method is a research approach through numerical data collection to investigate a relationship between theory and research. The research conduct is represented by a set of variables and concepts that will be measured with collected primary data (Bryman & Bell, 2011). Furthermore, the nature of this thesis revolves heavily around the concepts of project management structure and employee engagement. Similarly, to this thesis study, the work of Funminiye (2018), which investigated the impact of organisational structure on employee engagement, as well adopted a quantitative approach through self-administered questionnaires. For this reason, with confidence, the chosen research approach is suitable for this study context.

Reason for this approach is that it will be easier to distinguish people in categories with a quantitative research approach. It is as well usually harder to define and detect clear variation in levels of concepts and latent variable constructs such as engagement and satisfaction when not adopting a quantitative approach. More reason to adopt the quantitative approach is that through numerical measurement it provides a more accurate estimate of the degree of relationship between the studied variables and concepts (Bryman & Bell, 2011). Example of this is detecting a clear variation in engagement and satisfaction, something that is of great essence for the results of this study.

4.2. Data Collection

The collection of primary data for this thesis is retrieved through a self-completion questionnaire in the form of an online survey provided by Google Forms. The self-completion questionnaire is devised for each respondent to individually reply, where questions will emphasize on their standpoint on a project structure's impact on independent variables. The self-completion questionnaire will further focus to answer a general representation of the individual's scale of engagement.

The main advantage considered for this approach is that self-completion questionnaires tend to be more convenient for respondents and quicker to administrate. Additionally, the lack of absence of an interviewer reduced the risk of affecting answers based upon biases (Bryman & Bell, 2001). However, some disadvantages still exist. Since the questionnaire is self-administered online at home or where the respondent chooses to proceed, there is no present administrator that can help the respondent with difficulties to answer a certain question (Bryman & Bell, 2011). Because of this, the structure is developed to be as easy as possible to follow and questions as easy as possible to answer. Thereby the self-completion questionnaire structure divided into sections where each question has clear indications of belonging. Lastly, the amount of questions is reduced as much possible to reduce respondent fatigue and tiredness to respond.

On April 15th, 2020 a phone call was held with one of the team leaders from a project-oriented organisation to inform about the study and arrive at a consensus of the appropriate distribution of the self-completion questionnaire to the employees. In the process, the survey had to be sent to the organisation for a quality examination so that no questions could be deemed as inappropriate and leading according to regulations of confidential information. This is due to high-security policies within the organisation. Once an approval confirmation was received from management the surveys were distributed through a private group on the social media platform 'Facebook' for employees and team-leaders in various project divisions in the case company. After primary data is successfully retrieved, it is coded and computed into the IBM SPSS statistics program for the statistical tests.

4.3. Company Context

The chosen studied project-oriented organization is an advanced technology/engineering organisation, working towards a sustainable market within technology and innovation. They currently operate within several market areas that serve both the private and public sector. The organization in question was particularly chosen because of already established relationships with one project leader from the organization. It served a great opportunity since this already established contact would give this thesis an advantage in the probability to conduct data collection on employees. Further, it is more convenient and timesaving to proceed with the organization studied in this thesis.

The organization studied is found in most light to implement a 'project structure' as a project management structure collectively for all on-going projects. Importance in identifying project structure was key so that the study of this thesis is narrowed enough to be generalised and possible to conduct within the time-limit.

4.4. Survey Design

The design of the self-completion questionnaire is with close-ended questions. This leaves the respondents with clearer questions easier to answer. It may even look more appealing to answer close-ended questions through a self-completion questionnaire rather than an interview (Bryman, Bell 2011).

The questions are based on a Likert-scale. Likert-scale shows from a relatively low number such as 0 or 1 to a relatively medium or high number, such as 5 or 10, to show what type of relationship an individual has to a specific variable (Albaum, 1997). By having a Likert-scale the respondents will not have to develop their answers and will not take as much time as it would if the respondents would have to write down their answers (Bryman & Bell 2011). By using a Likert-scale the answer can much easier be categorized if the respondent disagrees or agrees to a question and on a very specific scale. It allows clear guides for data interpretation of how positive or negative the relationship between variables is.

For formalities and ease, the respondent to fully understand each section in the questionnaire is provided with a short guideline and explanation on how to interpret the question and how to answer. The respondent in the questionnaire will be given a statement e.g. *“When all project management divisions are dependent on each other and managers/leaders & employees work closely together....”*. Which in short summarizes a project structure for each section of questions. There are 4 sections of which is measuring the independent variables. These sections are provided with the description of a project structure and then followed by 3-4 items (questions) built as a follow-up sentence as an outcome of statement e.g. *“There is a safer environment where managers/leaders are more open to my ideas and understand my problems and needs, while there is an increased openness about satisfaction with my work”*. Where respondent then on a Likert-scale chooses the best response. Last and fifth section will fully adopt the UWES-9 as general measurement scale for the individual respondents' engagement. See full questionnaire design at appendix.

4.5. Measures

Following the literature review and theoretical framework, the measurements of this study have been appropriately chosen. Mainly the focus of variables has followed the studies of Khan (1990), Matthews et al. (2018), Bakker et al. (2007) and Book et al. (2019). For section one to four of the questionnaire which will measure the relationship between project structure and drivers of engagement four concepts as independent variables have been adapted from literature and introduced below in table 1.

Table 1: Research constructs and their definitions

Construct	Conceptual Definition	Operational Definition
Perceived Management Relationship (MR)	The degree to which a subordinate perceives the quality of relationship with the superior managers, and to what degree the environment is supportive, trusting, and	A construct capturing the extent of management's relationship with its subordinate, and how employees perceive the environment will support it.

	accomplishment is recognized (Khan, 1990.; Matthews et al., 2018.; Book et al., 2019).	
Work/Task Context (WC)	The degree to which a subordinate perceives the work to be challenging enough for a great sense of accomplishment while it develops their knowledge and capabilities. Additionally, if the respondents feel like they can shape their environment and have a meaningful work position (Khan, 1990.; Matthews et al., 2018).	A construct capturing the extent of how difficult work may be at certain times, and by achieving it, the subordinates will feel more valuable and accomplished. By performing and completing tasks will additionally give them the freedom to change and adjust their work environment.
Group Dynamics (GD)	The degree to which subordinate perceives the communicative environment to have a healthy, formal, and informal interaction. As well as the degree of trust, collaboration, recognition and chartered status are valued (Matthews et al., 2018.; Bakker et al., 2007).	A construct capturing the extent of having a healthy communicative environment, where different divisions may communicate through not only formal interaction but also informal one, and hopefully strengthen their relationship, by building a bond of trust.
Job Resources Availability (JR)	The degree to which subordinate perceives the flow of information to be good enough, so that everyone may have access to it. Where manager/leaders are adopting changes and improvements to the work process, to achieve goals and objectives easier and where employees will feel appreciated (Khan, 1990.; Matthews et al., 2018.;	A construct capturing the extent of the availability of managers and leader's supportive role. Feeling that they are contributing with enough resources, such as information and better processes. Also showing appreciation towards subordinates investment of energy.

	Bakker et al., 2007.; Demerouti et al., 2001).	
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There are clear similarities between studies (see chapter 2) that emphasise on the managerial influence on employee/work engagement. Therefore, the first independent variable ‘manager relationship’ was adapted from Khan (1990) and Matthews et al. (2018). Additionally, from other studies such as Book et al. (2019), a commonly implemented model for measuring the employees' perceived manager relationship is through the leader-member exchange (LMX-7) questionnaire model. From this, four items of measurement were adapted that represents manager relationship; (1) Safe Environment (2) Offering Support (3) Recognition and (4) Autonomy. The second independent variable which is adapted from Matthews et al. (2017) and Khan (1990) is ‘work/task context’. For this variable three items are measured; (1) Challenge & Accomplishment (2) Learning, and (3) Role characteristics. Third independent variable ‘job resource availability’ is adapted from Bakker et al. (2007) where the job-demand resource model is used to adapt 4 items of measurement; (1) Job control (2) Information (3) Innovativeness. and (4) Appreciation. Last independent variable ‘group dynamics’ was adapted from both Matthews et al. (2017) and Khan (1990) as well, with three items; (1) Group Norms (2) Interactions, and (3) Valued chartered status.

All of the above items presented in table 2 below, is formulated into questions in the form of sentences following a statement. these sentences are adapted from the literature referenced in table 2. The questions will be measured by Likert-scale through a 3-4-item, 5-point semantic differential scale anchored by (1) strongly disagree (5) strongly agree. Except for the independent variable ‘job resource availability’ which is measured by 4-item, 5-point semantic differential scale anchored by: (1) hardly ever (5) very often, as suggested by Bakker et al. (2007). Through this measurement, the data can be analysed to reveal how the project team member in a self-reflective scenario perceives the project structure to influence the drivers of engagement. Thus, it is possible to analyse if the project structure influences the 4 independent variables that are drivers of engagement.

Table 2: Measurement and scaling of constructs

Construct/Variable	Type of scale and its construction	Items used	Adapted from
Management Relationship (MR)	4-item, 5-point semantic differential scale anchored by (1) strongly disagree (5) strongly Agree	MR1_ Safe Environment MR2_ Offering Support MR3_ Recognition MR4_ Autonomy	(Khan, 1990.; Matthews et al., 2018.; Book et al. 2019)
Work/Task Context (WC)	3-item, 5-point semantic differential scale anchored by (1) strongly disagree (5) strongly Agree	WC1_ Challenge & Accomplishment WC2_ Learning WC3_ Role characteristic	(Khan, 1990.; Matthews et al., 2018)
Group Dynamics (GD)	3-item, 5-point semantic differential scale anchored by (1) strongly disagree (5) strongly Agree	GD1_ Group Norms GD2_ Interactions GD3_ Valued chartered status	(Khan, 1990.; Matthews et al., 2018)
Job Resource Availability (JR)	4-item, 5-point semantic differential scale anchored by (1) hardly ever (5) very often	JR1_ Job control JR2_ Information JR3_ Innovativeness JR4_ Appreciation	(Khan, 1990.; Matthews et al., 2018.; Bakker et al., 2007.; Demerouti et al., 2001)

Furthermore, a shortened 3-items per variable survey from Utrecht work engagement scale (UWES-9) is adopted to measure the participants level of engagement. The original UWES included 24 items and later reformed to 17 items.

The UWES model assesses the subjects work engagement by a hypothesized three-factor structure by (1) *vigour* that refers to high energy, willingness to invest effort, persistence to difficulties and not easily

fatigued, (2) *dedication* that refers to a self-sense of significance from work, enthusiasm, proudness over one’s job and stamina as far concerned with work, (3) *absorption* that refers to the total happiness and immersion with one’s work and not easily detaching from it so that times passes (Bakker et al., 2007). For the convenience of this survey and keeping participation time-limited to a lower standard, the shorter UWES version was adopted. This version went through an iterative process ensuring the most characteristic items of highest values. In this version, which is fully adopted, each sub-scale is measured by 3-items each as represented in table 4 below.

Table 3: Measurement and scaling of UWES

Subscale	Type of scale and construction	Items used	Adopted from
Vigour (VI)	3-item, 7-point semantic differential scale anchored by (0) Never (6) Always	VI01_ “at my work I feel bursting with energy” VI02_ ” at my job, I feel strong and vigorous” VI03_ When I get up in the morning, I feel like going to work”	Bakker et al. (2007)
Dedication (DE)	3-item, 7-point semantic differential scale anchored by (0) Never (6) Always	DE02_ ” I am enthusiastic about my job” DE04_ I am proud of the work that I do” DE03_ ” My job inspires me”	Bakker et al. (2007)
Absorption (AB)	3-item, 7-point semantic differential scale anchored by: (0) Never (6) Always	AB04_ “I am Immersed in my work” AB05_ I get carried away when I’m working” AB03_ “I feel happy when I am working intensely”	Bakker et al. (2007)

For the establishment of statistical norms for the UWES-9, five categories will be used: ‘very low’, ‘low’, ‘average’, ‘high’, and ‘very high’. See appendix:

4.6. Sample

To represent the population of project team employees within a project-oriented organisation, the authors chose to collect data from multiple team members within the investigated organization. The organization has multiple divisions with multiple ongoing projects that work on a global scale. It was decided that this would be a good fit as respondents work consists of working within projects and multiple teams, meaning that they should have a good amount of knowledge within project-based organizations. Additionally, this will allow retrieved data to represent not just the perception of one type of project team but several ones within several divisions.

4.6.1. Sample Size

In regards to sample size, it is hard and near impossible for this thesis to collect a sufficiently large sample size that can generalize employees of global project-oriented organisations. As a rule of thumb for sufficiently large sample size, it would be considered to at least have 3 respondents per questionnaire item, as suggested by the thesis supervisor. This would imply that for this study to have a sufficient sample size it would demand ($3 \times 25 = 75$). Meaning that the threshold for a sufficient amount of respondents is 75.

4.7. Statistical Analyses

4.7.1. Cronbach's Alpha

The reliability of research concerns if the measurements studied and primary data is dependable and consistent (Bryman & Bell, 2011). With a quantitative research method, there will always be a higher risk of reliability towards the data than a qualitative approach. Since quantitative approaches are conducted through forms and questionnaires, one will never truly know how a respondent will interpret questionnaire questions. Misinterpreted questions may lead to less reliable answers for hypothesis testing (Bryman & Bell, 2011.; Heale & Twycross, 2015).

To make sure there is the reliability of scales a statistical test needs to be conducted. Cronbach's Alpha is one of the measurements most widely used in organizational science to report the reliability of a sum of the sample value (Bonett & Wright, 2015). Cronbach alpha measures the internal consistency of a sum of measurements representing each variable. This shows if the measurements are parallel with equal variances and covariances, measuring the internal consistency of reliability. In other words, it measures if the different items in the questionnaire consistently reflect the measured variable/construct (Bonett & Wright, 2015.; Heale & Twycross, 2015.; Bryman & Bell, 2011). The test will show a Cronbach's Alpha denoted (α) between 0.00 to 1.00. A Cronbach's Alpha (α) of 0.70 and above is good internal consistency, $\alpha > 0.80$ is very good, $\alpha > 0.90$ is excellent, and $\alpha < 0.70$ is acceptable (Bland & Altman, 1997.; Tavakol & Dennick, 2011).

4.7.2. Pearson Correlation Matrix

The study will use this bivariate analysis to measure the strength of association between two variables and the direction of the relationship. Pearson correlation is a common test which is used to measure if two different variables have any relationship or if they are dependent on each other. The Pearson correlation is the basis of the multiple regression and thus also will give a good preliminary indication of the relationship between independent variables and the dependent variable (Benesty, Chen & Huang, 2008). To further clarify, a correlation will be measured between each of the four independent variables and with the dependent variable 'engagement' measured through UWES that has 5 possible levels of the outcome. In terms of the strength of a relationship, the value of the correlation coefficient varies between +1 and -1. A value of ± 1 indicates a perfect degree of association between the two variables. As the correlation coefficient value goes towards 0, the relationship between the two variables will be weaker (Bujang & Baharum, 2017). The Pearson correlation matrix is the chosen correlation tool as it is a better fit for this research using interval/ratio data coding (Wiedermann & Hagmann, 2016).

4.7.3. Multiple Regression Analysis

To explore the predictive ability of the independent variables on the continuous dependent variable 'engagement', a full summary of multiple linear regression analysis is needed. In the standard multiple linear regression analysis, all independent variables are simultaneously entered into the equation and evaluated for its predictive power on the dependent variable (Pallant, 2011). Through the statistical test, an R-square value is given, indicating how much of the variance in the dependent variable is explained by the independent variable conclusively. An adjusted R-square value is as well provided for a better estimate when the smaller sample size is present and normal R-square would be an optimistic overestimation. Furthermore, values such as unstandardized beta are provided which will be analysed to see if the independent variables have a unique contribution to the dependent variable. All accompanied with values to indicate the significance of relationships as an indication to either confirm or reject hypotheses (Field, 2013.; Pallant, 2011.; Pallant, 2013.; IBM knowledge Center, 2019).

4.7.4. Hierarchical Regression Analysis

This test is used to see if each of this research's independent variable explains statistically significant variance in the dependent variable 'engagement' after accounting for all of the other independent variables. Through this test, several regression models are built by sequentially adding one extra independent variable to each previous regression model. First regression models will include the control questions and one independent variable. By adding another independent in the next model, it is of interest to determine if by doing this there is a significant improvement in R-square and the standardized beta value. This would indicate if one regression model or the final one explains engagement (independent variable) beyond the previous model with less independent variables. Same values as previous regression analysis will be reported, with however an R-square change to indicate how much the variance alters when adding more variables to the regression (Kim, 2016).

4.7.5. Test for Multicollinearity

Measured variables sometimes run the potential risk of overfitting. If a higher number of independent variables are used it could start to create more relationships between also the independent variables instead of only to the dependent. This then leads to a risk for multicollinearity. When multicollinearity results, it is that two independent variables have a high correlation, making it difficult to determine the sole effect of each independent variable to the dependent variable. This is because if two independent variables correlate, they can intervene with each other's influence on the dependent variable. Leading to there will be risks of the regression coefficients to become more insignificant, due to the magnitude of standard errors (Pallant, 2013.; Friendly & Kwan, 2009)

The first test of collinearity is by checking intercorrelation between independent variables. This is done by making sure that no independent variable correlates too high with another. One should consider to not include two independent variables with a bivariate correlation of 0.7 or more. If all variables correlation stays below 0.7 then all can be retained (Pallant, 2011). The second test is a 'collinearity diagnostics' performed directly in SPSS. Reason for this test is that it can pick up collinearity problems that a Pearson correlation matrix might not detect. In this diagnostic two variables are presented. The tolerance value and variance inflation factor (VIF). If tolerance denoted (t) is smaller than 0.10 and VIF value above 10, it indicates multicollinearity (Pallant, 2011).

4.8. Methodological Criticism

There is a passive interaction, thus the authors never meet with the subject and proceed data collection through, in this case, a questionnaire. The advantages are that one can retrieve a larger sample population through a small number of research variables. The research can tend to be more controlled when adapting the quantitative method rather than qualitative. Since there are certain measured variables and closed-ended questions to restrict the study within its frame (Sogunro, 2002). Even though there is a significant amount of advantages by taking a quantitative approach, there are also disadvantages of using this methodological approach. The quantitative approach serves the purpose to

collect numerical data to analyse and describe and answer a hypothesis or a research question (Carr, 1994).

Björklund & Paulsson (2014) mentions that even if the quantitative approach is a very reliable approach to take, it is also limited. They mention that there will be some variables that will be difficult to get answered, variables that may only be answered through a qualitative approach, which is more convenient if the authors are conducting interviews. That will help them to find a more in-depth answer to their research question, if the author is looking into “why” factor-related question research (Bryman & Bell, 2011; Björklund & Paulsson, 2014). Although the qualitative approach relies on many communicational factors that may interfere with the responses. The quantitative approach has a much lower risk for that type of event to occur (Bryman & Bell, 2011).

4.9. Quality Criteria

There are certain criteria of quality to follow for a conducted quantitative study, these are the reliability of scales and construct validity (Bryman & Bell, 2011). Which are assessed from primary data in bellow subchapters.

4.9.1. Reliability of scales

Table 4: Reliability coefficient of each construct in this study

Construct	Cronbach's Alpha	Cronbach's Alpha based on standardised items	Nr. of items	Nr. of items removed
Manager relationship	,572	,582	4	0
Work/task context	,689	,690	3	0
Group dynamics	,735	,761	3	0
Job resource availability	,603	,658	4	0
Utrecht work's engagement scale (UWES-9)	,773	,760	9	0

This research report for the sum of items of 'manager relationship' a Cronbach's Alpha of $\alpha=0.572$. The Cronbach's Alpha is a bit under the threshold but still, an acceptable value and inter-item correlations value ranged between 0.175 - 0.295. The variable will therefore not be abandoned. Low internal consistency would explain that items are merged and adapted from LMX-7 and there is a rather not wide amount of sample size to perfectly estimate the internal consistency. The sum of items for 'work/task context' has a Cronbach's Alpha of $\alpha=0.689$. This shows very acceptable internal consistency since its value is significantly close to 0.7. The 'group dynamics' shows a Cronbach's Alpha value of $\alpha=0.735$, indicating a relatively good consistency of variable items. A Cronbach's Alpha value of $\alpha=0.603$ was given for 'job resource availability' variable. This is also a very acceptable value. A variable's Cronbachs Alpha value is dependent on the number of items, fewer items usually result in lower Cronbachs Alpha value (Tavakol & Dennick, 2011). The 'Utrecht work engagement scale' variable showed a decently high value of Cronbach's Alpha at $\alpha=0.773$. Meaning that the general measure of engagement is internally consistent. Similarly, as estimates by Bakker et al. (2007) that all three scales of UWES should in all cases equal or exceed a Cronbach's Alpha of $\alpha=0.70$.

4.9.2. Construct Validity

Within research studies to maintain validity, there is a given demand that the measured indicators or concepts, in this thesis used as independent variables, is devised to measure the concepts studied. Construct validity refers to how the survey questions and measured indicators of the social scientific concept. In this thesis the social scientific concepts are engagement and additionally also are the independent variables social scientifically related when measured how they are influenced by the project structure (Bryman & Bell, 2011).

4.9.3. Multicollinearity

Below in table 5, the Pearson Correlations is presented between the different independent variables.

Table 5: Pearson's correlation matrix

Constructs	MR	WC	GD	JR	UWES-9
MR	1				
WC	-,092	1			
GD	,225	-,167	1		
JR	,276*	-,098	,402**	1	
UWES-9	,567**	,262*	,299*	,370**	1

*p < 0.05 **p < 0.01 ***p < 0.001

Bujang & Baharum, (2017) recommend that if two independent variables should result to correlate 0.7 or higher, one should consider discluding one of the variables. As shown above, in the Pearson Correlation table all intercorrelations are significantly below 0.7 and therefore is retained.

By measuring multicollinearity, one should look at the variance inflation factor (VIF), which is the inverse of the tolerance value. A concern of multicollinearity is thereby detected if the tolerance value should fall be below 0.10 or the VIF exceed 10 (Pallant, 2013.; Pallant,2011). By looking at table 6, it

can be seen that all independent variables have high tolerance values and VIF far below 10, thereby showing no risk for multicollinearity.

Table 6: Collinearity statistics

Constructs	Tolerance	VIF
Manager relationship (MR)	,906	1,104
Work/task context (WC)	,968	1,033
Group dynamics (GD)	,809	1,235
Job resources (JR)	,801	1,248

5. Empirical findings

In this Chapter, all primary data retrieved will be presented. It will start to disclose what findings can be seen from the statistical analysis that was tested on IBM SPSS software.

5.1. Descriptive Statistics

Below in table 7, the basic features of data are presented. The purpose of presenting a descriptive statistics table is to show a summary of all the basic summary data. Especially if there is a large amount of data, it will then be easier to analyse it by presenting such a table.

Table 7: Descriptive statistics & Pearson's correlation

Constructs	Mean	Std. Deviation	MR	WC	GD	JR	UWES-9
MR	3,7992	,37865	1				
WC	4,0601	,48499	-,092	1			
GD	4,2459	,45907	,225	-,167	1		
JR	3,8449	,41373	,276*	-,098	,402**	1	
UWES-9	3,4954	,38893	,567**	,262*	,299*	,370**	1

*p < 0.05 **p < 0.01 ***p < 0.001

As presented above the calculated mean in independent variables for manager relationship (MR) shows ($\mu=3.7992$) which indicates that the average tendency of respondents is that they perceived the items of (MR) to lean more towards agreeable with the statement of a project structure and some neutral. As for the standard deviation, the value of ($\sigma=0.36865$) shows there is a rather low variation between the average mean of respondents. Job resources (JR) similarly to manager relationship (MR) had a bit lower calculated mean of ($\mu=3.8449$). This as well indicating that the average tendency in respondents was to more likely agree and some neutral about the influence from the statements on the independent variable (JR). With a standard deviation of ($\sigma=0.41373$), showing low variance.

The two highest means amongst the independent variables were group dynamics with a mean of ($\mu=4.2459$) and standard deviation of ($\sigma=0.45907$), and Work/task context with a mean of ($\mu=4.0601$) and a standard deviation of ($\sigma=0.48499$). Thus, showing both independent variables to have an average tendency of at least agreeing, some strongly agreeing with the influence of project structure, and a low variance between respondents. As for Utrecht work engagement scale (UWES-9), the mean is calculated at $\mu=3.4954$ and the standard deviation at $\sigma=0.38893$, showing low variance in respondents answers.

From table 7 above it can be derived from the Pearson correlation matrix that the strongest correlation is that of management relationship with a very significant positive correlation to the engagement scale of ($r=0.567$ and $p < 0.001$). Secondly, job resource showed a very significant positive correlation of ($r=0.370$ and $p < 0.01$). Work/task context and Group dynamics showed a lesser, but still significant and positive correlation of WC ($r=0.262$ and $p < 0.05$) and GD ($r=0.299$ and $p < 0.05$). These values together show a preliminary positive indication for multiple regression analysis.

5.2. Multiple Regression Analysis

As presented in the standard multiple regression table below an adjusted R-Square is presented with ($R^2=0.468$). In this case, that means that 46,8% of the variance in engagement is explained by the combination of independent variables. The F-ratio and sig. denoted (p) measures the statistical significance of predictive capability. In this case, there is a significant finding for predictive capability as the ($p < 0.001$).

Table 8: Model measures

Model	R	R square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	,710 ^a	,504	,468	,28362	14,207	,000 ^b

a. Predictors (Constant), Manager relationship, Work/task Context, Job resource availability
b. Dependent Variable: Utrecht work engagement scale UWES-9

In table 9 the summary of the multiple regression is presented, where the unstandardized beta coefficient (B) will indicate the strongest unique contribution by the independent variable when the variance by other independent variables is controlled for. In table 9 it can then be seen that the highest contribution by unstandardized beta is for manager relationship (B=0.522). Although all of the independent variables have a unique contribution.

Table 9: Summary of multiple regression

Construct	B	SE B	beta	p	sr	sr²
Manager relationship	,522	,102	,509	,000	,566	,484
Work/task context	,285	,077	,355	,000	,444	,350
Group dynamics	,139	,089	,166	,123	,205	,147
Job resource availability	,186	,099	,198	,065	,244	,177

5.3. Hierarchical Regression Analysis

In table 10 below it demonstrates a hierarchical regression model. The first model denoted as ‘regression 1’ includes control variables and one independent variable, sequentially adding another independent variable for each regression model. Three out of four independent variables had a significant regression. The strongest unstandardized beta value regards manager relationship MR (0,499), predicting that for a 1-point increase in (MR), the engagement ‘mean’ score will increase by (0.522) holding that all other independent variables are fixed. Furthermore, group dynamics (GD) showed an insignificant low positive effect on engagement.

Table 10: Hierarchical regression analysis of predictors of engagement

<i>Predicting variables</i>	<i>Regression 1</i>	<i>Regression 2</i>	<i>Regression3</i>	<i>Regression 4</i>
Control variables				
Age	0,036	0,008	0,143	0,011
Job position time	-0,256	-0,266	-0,250	-0,145
Independent variables				
Job resources (JR)	0,409*	0,333*	0,309*	0,217*
Group dynamics		0,217	0,239	0,179
Work/task context			0,315*	0,316**
Manager relationship				0,498***
R ²	0,190	0,228	0,305	0,520
R ² change	0,190	0,038	0,077	0,215

*p<0.05; **p<0.01; ***p<0.001

5.4. Results

5.4.1. H1: Manager relationship (MR) has a significant positive influence on employee engagement within a project structure

It was found that manager relationship has a significant correlation with engagement, with a high positive relationship of ($r= 0.567$ and $p<0,01$). The arithmetic mean showed a value of ($\mu=3.7992$) which indicated that the average tendency of respondents is that they perceive project structures influence on manager relationship to lean more towards agreeable but yet neutral (see table 7). This means that an employee with increased perceived manager relationship is more likely to also be more engaged than the ones that perceive the manager relationship to decrease. By judging the unstandardized beta (B), manager relationship had the strongest unique contribution explaining engagement with the value of ($B=0.522$) in the multiple regression analysis (see table 9).

When comparing to a hierarchical regression, when added to the last regression it had a slightly lower unique contribution with an unstandardized beta of ($B=0.498$ and $p<0.001$), showing highest possible significance (see table 10). Thereby it is concluded managers relationship can be interpreted as having a statistically significant high positive effect on engagement. Furthermore, the hierarchical regression shows an R-square of ($R^2 = 0.520$), meaning that 52% of the variance in engagement is explained by the perceived independent variables when MR is included. The R-square change related to this model

indicates as well that if MR is left out of the regression model the overall predictive capability in the variance of engagement goes down by 21,5%, accounted by manager relationship. In conclusion, it is shown that manager relationship has a much significantly positive influence on engagement, which is in accordance with the first hypothesis that states: Manager relationship (MR) have a significant positive influence on employee engagement within a project structure. Therefore H1 will be confirmed.

5.4.2. H2: Work/task context (WC) has a significant positive on employee engagement within a project structure

For the independent variable of work/task context, it shows a positive but moderate correlation with ($r=0.262$ and $p<0.05$). This is interpreted to some degree that employees that perceive a positive increase in work/task context are more likely to be more engaged. The mean value was ($\mu=4.0601$) which shows that the average tendency is to perceive project structures influence on work/task context to be at least agreeable to strongly agreeable. From the multiple linear regression, it can also be derived that the unstandardized beta coefficient ($B=0.285$) was the second-highest unique contributor for engagement. It remained second highest unique contributor in the hierarchical regression analysis, where it started with ($B=0.315$ and $p<0.05$) and decreased in contribution but increased in significance to ($B=0.316$ and $p<0,01$). Lastly, it increased the variance in engagement with 7,7% when added to the regression, leading to an R-square of ($R^2=0,305$). Overall, this means that it is a moderate positive correlation with engagement, and therefore H2 is confirmed.

5.4.3. H3: Job resource availability (JR) has a significant positive influence on employee engagement within a project structure

As can be interpreted in the Pearson correlation table, job resources correlated engagement with ($r=0,370$ and $p<0,01$). This is a moderate-high positive relationship of statistical significance. Which would imply that employee perceiving job resources to increase with a project structure also is more likely to be more engaged. However, as the mean of job resources ($\mu=3,8449$) similarly to managers relationship showed that they are neutral on the influence of project structure on job resources, but more

leaning towards agreeing. It is more likely that with a larger sample size it would indicate an agreed influence. The standardised beta-coefficient in the multiple linear regression for job resource ($B=0,186$) indicates it being the next lowest effect of the independent variables. This means that it has a very little unique contribution to engagement. A very unexpected outcome from the hierarchical regression analysis shows that as alone predictor of engagement it had a much higher and significant unique contribution with ($B=0,409$ and $p < 0,05$) and would account for 19% variance in engagement when increased with 1. However, with the rest of the respective predictors, the contribution dropped to ($B=0,217$ and $p < 0,05$), at least showing a statistical significance. Thereby H3 will be confirmed.

5.4.4. H4: Group dynamics (GD) has a significant positive influence on employee engagement within a project structure

For Pearson's correlation table group dynamics with engagement showed to be statistically significant with a positive relationship with ($r=0,299$ and $p < 0,05$). Additionally, the mean was ($\mu=4,2459$). As of this, it implies that respondents agree with that there is a higher group dynamic with a project structure and employees that perceives an increase in group dynamics likely are more engaged. Contrary to this assumption the multiple linear regression analysis showed the lowest unstandardized beta-coefficient with ($B=0,139$), showing no statistically significant unique contribution to engagement. Further displayed in hierarchical regression this contribution started at ($B=0,217$) increasing the predictive capability of variance with 3,8% and in regression model 2 decreasing to ($B=0,179$) with no significance. As of this, there can be no evidence of any statistically significant positive influence on engagement from group dynamics. Leading to contradict the last and fourth hypothesis. Thereby, H4 is not supported and group dynamics with project structure is not significantly influencing engagement.

6. Discussion

This chapter will discuss and evaluate the findings from the previous chapter. How it shall be analysed and what can be shown from it.

6.1. Engagement

This study set out to investigate how a project-oriented organisation with a project structure influences the project team's employee engagement. Through discussion, it will be disclosed how high the engagement is within such an organisation and how the project structure influence manager relationship, work/task context, group dynamics and job resources as drivers of engagement. From the analysis of retrieved primary data, it was found that from the 61 respondents from various project divisions and teams. This is 14 respondents under the anticipated and sufficient threshold, which would mean the data is not as generalizable. In the light of this, it is however deemed that with the nature of this study being a bachelor thesis it is a good respondent rate and still valid. The mean engagement score was within the 72-percentile scale which qualifies an average engagement close to the edge of high engagement according to UWES qualification scale (see appendix). Because of the close score to a high engagement ($75 < \text{score} < 95$) it is considered that the employees of the project-oriented organisation have an average-high level of engagement.

Although even if it is found an average-high level of engagement, the independent variables have a different level of contribution between them. Looking at the analyzed data in the multiple regression table and hierarchical analysis (see chapter 5), it is be found that manager relationship (MR) is the largest contributor to work engagement. After MR it is job-resource availability (JR) who acted as the second strongest contributor towards engagement, and finally work/ task context (WC) as the third strongest. From the analytical data presented in the multiple linear regression and hierarchical table, no significant positive relationship is found between group dynamics (GD) and employee engagement. The values indicate a slight positive relation, however, these values do not show any reliable strength

or significance towards the dependent variable. Therefore, it is concluded that GD does not show a positive relation toward engagement.

Through the values and data both presented and analysed, it is concluded that three out of four hypotheses are confirmed, and it can be shown that project structure does have a positive influence on employee engagement.

6.2. Manager Relationship (H1)

Manager relationship is the strongest predictor of engagement. From the results, it can be implied that the factors of a healthy manager relationship (safe environment, offering support, recognition, autonomy) are clear attributes that are associated with the increase of engagement. This is something strongly agreeing to the previous work by Khan (1990) and Matthews et al. (2018). They found that when employees feel as if they can share ideas without fear, obtain positive constructive feedback through mentoring and career development they engage more in their work. Although there is not a 'very' strong arithmetic mean ($\mu=3.7992$) for the items of MR, it is considered more close to a positive influence from project structure to manager relationship.

However, this deviance of a lower mean than expected could be because found in the primary data the only mean per questionnaire item below 4 (agree) was 'offering support'. That item seems to cause a more neutral stand amongst respondents, where the problem could be recognized in the question *"Managers/leaders are more likely to offer their support and use their power/authority to help solve my problems in my work and would bail me out at their expense"*. Respondents are maybe conflicted as to where they want to say that managers are more likely to offer their support but not to the extent of bailing them out of problems on their expense. Thus, creating the potential of being a very deviant or unreliable value lowering the manager relationships full potential. On another note, the other items whose mean have all been above 4 (agree) showing that respondents perceive manager relationship is increased in a project structure.

The data analysis further tells that there is, in this case, more recognition and trust from managers, as well as a safer environment. This can be related to Alsené's (1999) description that a project structure is completely autonomous considering day-to-day tasks where it been seen some employees are released from their regular duties, on a full-time or a part-time basis, to work on another project. This would be an indication of trust in the employees and letting them work independently. Which can then be seen to be the case in the organisation studied for this thesis. Khan (1990) explained this as the Psychological Safety, which is a critical antecedent to engagement and is nurtured by autonomy in work, recognition and a safe environment. Which in this case is seen amongst respondents and is heightened with a project structure.

As seen from the two above confirmed aspects, it also confirms with the theory of Markos & Sridevi (2010). They explain that engagement reflects a clear two-way relationship between the employees' and their superiors. It means that employees feel valued by their manager and would then also show more engagement and align with the organisations best interest. This can be seen in this case, as the project structure seems to make the managers show more appreciation for employees and support them. As the employees' engagement then also increases. Moreover, since the results showed ($B=0.498$ and $p<0.001$) for the variable and it stands for 21,5% of the variance in engagement it was indeed the greatest predictor of engagement. This is fully supported by and agrees with Hale (2016) which emphasized that the subordinates perceived working relationship with superiors is the greatest predictor of engagement.

6.3. Work/Task Context (H2)

Based on the findings from primary data using statistical tests such as Pearson's correlation and the two different regression analyses, all showed a moderate positive significant influence leading to confirmation of H2. Engagement is described to be a product of a more challenging/complex projects with some time pressure or deadline which enhances the willingness to perform. It is also important that

there is valued learning and development of capabilities. This also leads to that an employee is more engaged since the work gives a greater sense of accomplishment and recognition at the end. Those characteristics are the meaningfulness of a job and return on investment of one self's physical, cognitive and emotional energy in the form of also appreciation and feeling of contribution to the organizations' success (Matthews et al., 2018.; Khan, 1990). This theory conforms with the results of this thesis as all statistical tests were significantly positive and H2 is confirmed.

The respondents' average score and the variable mean for work/task context were above 4. Showing that with a project structure the work becomes more challenging and rewarding, while there is more consistent learning and employees feel their contribution is important. Surprisingly, Alsené (1999) argued that a project structures disadvantage is that team members time is consumed on a much higher level where the team members are dedicated towards one project at the time. This is not confirmed with the results as respondents have instead agreed with that the project structure challenges them and therefore keeps them engaged and get a greater sense of accomplishment. Which would agree with Matthews et al. (2018) that time pressure increases make the employees engaged, thus showing a positive outcome.

As of this, it could be explained by the fact that in a project structure employees are normally assigned to a project for only a certain time and could in future work in a different project area. Meaning that the job approach tends to be very multidisciplinary (Alsené, 1999). When comparing the data results it would then confirm with this and show that the work and task become more challenging and the nature of the job rather develops their capabilities and increases their engagement. Lastly, as Khan (1990) explains that a part of engagement requires that the employee feel as they can contribute to the organisation. This additionally explains why H2 is confirmed, as Alsené (1999) mentions that in project structure there is a greater opportunity for employees to participate in organisational changes and have their thoughts taken into consideration. Which has shown to be true in this thesis.

In the light of all the findings, it is further confirmed that work/task context shows a much significant unique positive contribution on engagement with ($B=0,316$ and $p < 0,01$) and increased variance in engagement with 7,7% in the hierarchical regression analysis.

6.4. Job Resources (H3)

The positive relationship between job resources and engagement gives a very interesting insight as the results were often drastically changed and showed peculiar values. Job resources scored in the standard multiple linear regression analysis an unstandardized beta with ($B=0,186$). This means that there was a very little unique contribution to engagement and not being too significant. On a turning point, very unexpectedly the hierarchical regression analysis shows that as alone predictor of engagement it had a much higher and significant unique contribution with ($B=0,409$ and $p < 0,05$) and account for 19% variance in engagement. However, when paired in the regression with the other independent variables the contribution dropped to ($B=0,217$ and $p < 0,05$), at least showing a positive statistical significance. Thereby the third hypothesis is confirmed.

This would imply that job resources are a greater contributor to engagement alone. The explanation could then be as Bakker et al. (2007) and Demerouti et al. (2001) both emphasized. That the extent of offered job resources deflects and reduce the physical, psychological stress that comes with high job demands. Job resources are additionally a necessary factor for achieving work goals, stimulate personal growth, and enhance employees learning and development. So the variable alone would have a higher contribution since there are no job demands considered in the regression causing any physical and psychological exhaustion. As then more variables such as work/task context are added the effect of job resources goes considerably down as it then evens out the job demands included in other variables. Results of the hierarchical regression would then agree with Bakker et al. (2007) and Demerouti et al. (2001).

The project structures influence on job resources showed a mean score of ($\mu=3,8449$) which shows a lot of neutral standpoint from respondent but leaning very close to average answer being that they agree. As of this it optimistically considered that people agree that job resources increase with a project structure. Additionally, this then also agrees with Alsené (1999) that a project structure allows more room for upper management to provide support to projects and their teams while also give a greater opportunity to participate in the design and implementation of changes within the organisation. Why the respondents do not agree more with these influences, could be that a great majority of respondents only been within their job position 1-3 years. Where yet there have been many opportunities to experience and see evidence of these positive influences mentioned by Alsené (1999).

Neither the less, there is a significant positive relationship that confirms with the fourth hypotheses. As agreed with Khan (1990) who explains the importance of rewarding interactions for the employees' meaningfulness. A communicated appreciation and resources will lead to employees feeling more self-appreciated and their work worthwhile, and thus more engaged. It is also then as mentioned before agreed with Bakker et al. (2007) and Demerouti et al. (2001) that better processes at work, technical resources and support stimulates their development. This keeping them engaged and not exhausted. As Matthews et al. (2018) emphasised, positive opinions of colleagues and recognition supports engagement but also the ongoing investment of energy. Which explains, in this case, the increased engagement as the four variable items measured positively related to project structure all would increase meaningfulness and deflect stress. Overall it is clear that project structure does influence job resources more positively and that employees that retrieve increased job resources of physical and psychological type are more engaged than those with less.

6.5. Group Dynamics (H4)

The results from the two-regression analysis found that group dynamics (GD) is not significantly related to engagement. The descriptive statistics, however, indicated that group dynamics are influenced

positively by the project structure. Considering both findings it was not enough to confirm with H4 since it would require it to be both an influence from project structure on group dynamics while simultaneously showing a significant positive relationship with engagement. Alséne (1999), The Editorial Team (2019) and Cardinal and Marle (2006) argues one advantage with a project structure is that managers will try to maintain certain employees within the same teams or in future projects to create a better group environment and dynamism. The purpose of this is to increase the quality of collaboration and group work, so project efficiency and productivity are increased. Results show that this is true, and respondents of this study agree that the informal and formal interaction is better where there are greater trust and collaboration. Meaning that a project structure does increase the group dynamics.

Surprisingly, group dynamics was not significantly related to engagement. This creates a dilemma as Markos & Sridevi argued that with a coherently working team and mutual exchange of effort will nurture engagement. It is shown to be in this case a greater team-work and mutual exchange, however, there is not any significant increase in engagement. Additionally, there should be a shown increase in engagement as both Taneja, Sewell and Odom (2015), and Khan (1990) explain that engagement is to create strong relationships amongst co-workers and harness them in their roles. Just as Matthews et al. (2018) mention that greater team communication and collaboration, while everyone workings towards the same goal strongly increase engagement. However, this is not shown in this case.

Group dynamics is an important driver of engagement (Matthews et al., 2018) and as mentioned by Griffin (2015) and Ehrhart (2004) the individual behaviour and organizational-citizenship behaviour (OCB) is affected by the collective behaviour. Meaning that the individual's engagement is affected by a collective engagement and OCB. This should be confirmed in this study, as the engagement was high amongst respondents and most commonly, they agreed that group dynamics is positively influenced by a project structure. Yet, there is no positive relationship with engagement or significant contribution. Considering the results there is no certain explanation of how group dynamics is not a significant predictor of engagement and therefore H4 not supported.

7. Conclusion

This chapter will present the conclusion of findings and results for this thesis study, together with what limitations have been seen throughout the process and suggestions for future research.

This thesis carried out to investigate a project-oriented organisation implementing the project structure and link it to employee engagement theories to investigate a relationship. As of this, it elicited the research question:

How can a project structure have an impact on project team members' engagement within a project-oriented organisation?

The thesis further discloses how project management and more specifically a project structure influences the employees' engagement within project teams. This has been successful and provided insight into the drivers and engagement itself and how they are influenced by a project structure in a global project-oriented organisation. As mentioned, there is a widespread lack of clarity in academic study and common ground on the operationalisation and definition of engagement (Bethencourt, 2012.; Markos & Sridevi, 2010). More importantly, there is a need to further understand the human issues in project management within project-oriented work (Bowen, 2016). Thereby, this thesis study adds value and a narrow understanding that little by little clarifies how one kind of project management structure influences human issues in project management through the construct of engagement.

In a broader perspective, this thesis as intended to investigate shows an overall significant positive relationship between a project structure and engagement. As the findings of the data analysis retrieved from the questionnaire indicate in all aspects that in terms of a project structure it positively influences all independent variables. To further explain, as mentioned by Alséne et al. (1999) the project structure is well suited when an organisation have multiple complex and time-consuming projects simultaneously ongoing. This seems to be true as the investigated organisation is of that nature. As further seen a project structure then helps to strengthen the two-way relationship between employees and managers, through support, recognition, a safe environment and autonomy.

It secondly shows that not only the manager relationship is better, but also the aspects brought up in the job-demand resource theory. The nature of the work will tend to be more challenging and pressured, which engages the employees and make them feel a greater sense of accomplishment. Moreover, as there is more opportunity for employees to contribute to the organisation it increases their engagement and sense of psychological meaningfulness. Together with the increased chance of resources and both physical and psychological support, it diminishes the negative aspects of a demanding job to instead give a return on investment of their energy. This keeping them engaged and not exhausted.

However, group dynamics shows to be positively influenced by a project structure did not indicate that it significantly increases the employees' engagement, even considering the collective behaviour and OCB. There is still a positive aspect as the project structure enhances both formal and informal communication, collaboration, appreciation and like-minded mentality towards goals. This thesis in a broader aspect then shows that a more complex and possibly larger project-oriented organisation would only gain positive outcomes from implementing a project structure as in this thesis all drivers of engagement were positively influenced and in all increased the general work engagement measured by LMX-7.

To conclude thesis only succeeded to confirm three out of four devised hypotheses. The most significant finding is the positive relationship between manager relationship and engagement, strongly agreeing with previous literature of Khan (1990) and Matthews et al. (2018). The other two variables found to have a significant relationship to engagement were job-resource availability and work/ task context. The relationships were not as strong and significant as the one of manager relationship. Still, it also agrees with Bakker et al. (2007), Demerouti et al. (2001), Khan (1990) and Matthews et al. (2018). Unexpectedly and as not hypothesised for is that group dynamics had no significant relationship towards engagement. This goes against some of the main literature by Kahn (1990) and Matthews et al. (2018). However, the result has shown all variables are influenced by the project structure and engagement indicates to increase in its whole. In its wholeness, this thesis answers the research question that was

set out to investigate and contributes further to the literature on project-based engagement and the human issues within project management.

7.1. Limitations

The research has its shortcomings that can influence data analysis and the results of this thesis. It is common within any research to consider whether one's study can be generalized beyond the confines of the particular context. Since this thesis primary data have been retrieved through a self-completion questionnaire it is yielded to apply to other studies of the same context. Furthermore, the sample population is only from one project-oriented organisation from several divisions and project teams. This makes data widespread enough to generalize within the context of a whole project-oriented organisation. However, since only one organisation has been investigated because of limited time and resources it is undeniably considered if it can represent a general picture of all project-oriented organisations with a project structure. Which would compromise the generalisation of this study.

In terms of sample size, it was recognized that with the restricted time frame, resources, and scope of this study it is concerned if the sample size is feasible enough for a reliable result. Following a rule of thumb for the amount of item included in the questionnaire, the feasible sample size is at least 75 respondents. It is thereby recognized that this study falls short under the threshold for a feasible sample size. There were higher expectations for a higher number of participants. As of this, it was originally anticipated to formally distribute the questionnaire directly to a considerable number of employees within some core project divisions. Instead, the questionnaire was distributed in a private workgroup on the social platform 'Facebook' where at least 150 members are currently active. It is a great wide representation of sample population, yet not many replied to the personal request by a team leader of answering the questionnaire. This could be as some may not be as active on the social media group and not consider answering the questionnaire as an obligation.

This thesis is as well affected by external factors. While conducting the study, a global pandemic erupted. At this time authors were constricted to physically participate together in the operationalisation of the study and retrieve educational resources. Additionally, there is very limited communication with organisations, and many could not spare human-resources time to partake in this study. Lastly, a very time-consuming stage was the analytical process. The authors of this thesis are not used workers of the statistical program IBM SPSS, therefore an extensive amount of time was delegated to learn to operate the system.

7.2. Future Research

This study examined 61 employees from a global project-oriented organisation with a ‘project structure’ as the project management structure in the context of multi-divisional high technology design organisation. As of this, there are 3 recommendations for future research.

It would be recommended to further expand and add knowledge to the human issues of project management and engagement within project-oriented work. This would be done by conduct research on organisations implementing either a ‘functional’ or ‘matrix’ project management structure to compare findings and the relationship they have to the engagement work of (Matthews et al. (2018)). The second suggestion for future research is to instead conduct research using a qualitative research method. This is important so that studies can deeper disclose the predictors of engagement that are influenced within a ‘project’ project management structure. This could answer why the hypothesis for group dynamics was not confirmed. Through this method, it could additionally broaden the perspective by examining the project managers as well.

Third and last recommendation is for the possibility of a longitudinal study of project teams within a global project-oriented organisation. A longitudinal study could provide a more comprehensive and deeper perspective that would see how the human-factors and issues with project management develop over time and influence engagement when a project structure is in place. As this study only investigated

an organisation in a short set period and many respondents had just 1-3 years of experience within their job position it possibly could be that it doesn't show a full effect of a 'project' project management structure.

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Appendix

Self-completion questionnaire

1. Age (20-29, 30-39, 40+)
2. How long have you been working within this job position? (1-3 years, 4-6 years, 7+ years)

Section 1: Manager relationship

Statement: *When there are multiple managers/leaders with equally distributed decision-making power over project budgeting, scheduling, and formation of teams. Also, all project management divisions are dependent on each other and managers/leaders and employees work closely together. There is additionally Several unique projects at the same time, altering day-to-day tasks over time, and main objectives are decided together by the project managers, which also decides where to focus on a specific goal.*

3. **(Safe environment)**

There is a safer environment where managers/leaders are more open to my ideas and understand my problems and needs, while there is an increased openness about satisfaction with my work.

(Strongly Disagree 1 – Strongly Agree 5)

4. **(Offering support)**

Managers/leaders are more likely to offer their support and use their power/authority to help solve my problems in my work and would bail me out at their expense.

(Strongly Disagree 1 – Strongly Agree 5)

5. **(Recognition)**

Managers/leaders increasingly recognize my potential and accomplishments.

(Strongly Disagree 1 – Strongly Agree 5)

6. **(Autonomy)**

I more often trust and support managers/leaders decisions when they are not present, and they give me more freedom on how to carry out my work responsibilities.

(Strongly Disagree 1 – Strongly Agree 5)

Section 2: Work/ task context

Statement: *When there are multiple managers/leaders with equally distributed decision-making power over project budgeting, scheduling, and formation of teams. Also, all project management divisions are*

dependent on each other and managers/leaders and employees work closely together. There is additionally Several unique projects at the same time, altering day-to-day tasks over time, and main objectives are decided together by the project managers, which also decides where to focus on a specific goal.

7. **(Challenge & accomplishment)**

The work tends to be more challenging and is more intense, so it keeps me fully engaged and gives me a greater sense of accomplishment.

(Strongly Disagree 1 – Strongly Agree 5)

8. **(Learning)**

The work always develops my capabilities and I constantly learn new things.

(Strongly Disagree 1 – Strongly Agree 5)

9. **(Role characteristics)**

The work provides an increased sense of meaningfulness and I can shape the external environment more, while feeling that my contribution is important.

(Strongly Disagree 1 – Strongly Agree 5)

Section 3: Group Dynamics

Statement: *When there are multiple managers/leaders with equally distributed decision-making power over project budgeting, scheduling, and formation of teams. Also, all project management divisions are dependent on each other and managers/leaders and employees work closely together. There is additionally Several unique projects at the same time, altering day-to-day tasks over time, and main objectives are decided together by the project managers, which also decides where to focus on a specific goal.*

10. **(Group norms)**

There is more positive communication with jokes and constructive feedback. All members of the project-team trust each other more and have greater collaboration to achieve shared objectives.

(Strongly Disagree 1 – Strongly Agree 5)

11. **(Interactions)**

There are both healthier formal and informal interactions between the team members.

(Strongly Disagree 1 – Strongly Agree 5)

12. **(Valued chartered status)**

There is greater valued respect of status between members and everyone recognizes an individual's breadth of knowledge and experience.

(Strongly Disagree 1 – Strongly Agree 5)

Section 4: Job Resource Availability

Statement: *When there are multiple managers/leaders with equally distributed decision-making power over project budgeting, scheduling, and formation of teams. Also, all project management divisions are dependent on each other and managers/leaders and employees work closely together. There is additionally Several unique projects at the same time, altering day-to-day tasks over time, and main objectives are decided together by the project managers, which also decides where to focus on a specific goal*

13. **(Job control)**

There are more opportunities to influence my work and things that concern me at work.
(hardly ever 1 - very often 5)

14. **(Information)**

There is a greater flow of information between management and personnel at the workplace.
(hardly ever 1 - very often 5)

15. **(Innovativeness)**

More regularly is there made improvements in our work and processes.
(hardly ever 1 - very often 5)

16. **(Appreciation)**

My colleagues within the project-team are more likely to appreciate my work.
(hardly ever 1 - very often 5)

Section 5: Engagement

1. **(Vigour)**

At my work I feel bursting with energy.
(Never 0 – Always 6)

2. **(Vigour)**

There is a greater flow of information between management and personnel at the workplace.
(Never 0 – Always 6)

3. **(Vigour)**

When I get up in the morning, I feel like going to work.
(Never 0 – Always 6)

4. **(Dedication)**
I am enthusiastic about my job.
(Never 0 – Always 6)

5. **(Dedication)**
I am proud of the work that I do.
(Never 0 – Always 6)

6. **(Dedication)**
My job inspires me.
(Never 0 – Always 6)

7. **(Absorption)**
I am immersed in my work.
(Never 0 – Always 6)

8. **(Absorption)**
I get carried away when I'm working.
(Never 0 – Always 6)

9. **(Absorption)**
I feel happy when I am working intensely.
(Never 0 – Always 6)

Norm scores for UWES-9

Qualification	Lower limit		Upper limit
'Very high'	95 e percentile	$\leq \text{Score}$	
'High'	75 e percentile	$\leq \text{Score} <$	95 e percentile
'Average'	25 e percentile	$\leq \text{Score} <$	75 e percentile
'Low'	5e percentile	$\leq \text{Score} <$	25 e percentile
'Very low'		$\text{Score} \leq$	5e percentile