Agile Teams: Experienced Work Characteristics and Their Effects on Employees' Perceived Job Performance and Happiness at Work

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A mixed methods study regarding agile team designs, experienced work characteristics and the relationships between experienced work characteristics and employees' perceived job performance and happiness at work within Rabobank.

Title:	Agile Teams: Experienced Work Characteristics and Their Effects on Employees' Perceived Job Performance and Happiness at Work
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Preface

Geachte lezer,

Welkom bij mijn masterthesis voor de master *Strategisch Human Resource Management*. Voor mijn thesis ben ik de wereld ingedoken van agile teams en heb ik onderzocht welke werkkenmerken medewerkers ervaren als ze in een agile team werken en hoe dat vervolgens gerelateerd is aan hun gepercipieerde job performance en happiness at work.

Mijn persoonlijke doel voor deze thesis was om mezelf uit te dagen. Om dit te bereiken heb ik mijn thesis volledig in het Engels geschreven en zowel kwalitatief als kwantitatief onderzoek toegepast. Menig medestudent, vrienden en mijn ouders hebben me voor gek verklaard, maar ik sta nog steeds achter mijn keuze. Niet alleen vond ik het een goede voorbereiding op een toekomstige PhD, ook was ik nieuwsgierig naar de beruchte 'mixed methods'. Het was niet altijd even leuk of makkelijk, maar het is gelukt en ik ben zeer tevreden met het eindresultaat. Wel heb ik geleerd dat het onderwerp van je onderzoek bepalend kan zijn voor je motivatie. Dit zal ik zeker meenemen in mijn zoektocht naar een geschikte promotieplek.

Graag wil ik een aantal mensen bedanken. Allereerst mijn begeleidster, Dr. Jasmijn van Harten. Het was dankzij haar eerlijke en concrete feedback dat ik in staat was om mijn stuk - en mijzelf als onderzoeker - te verbeteren. Ik vind het belangrijk om eerst te kijken hoever ik zelf kom voordat ik om hulp vraag. Jasmijn heeft me die vrijheid gegeven, maar stond ook altijd voor me klaar als ik er zelf niet uitkwam of op de verkeerde manier te werk was gegaan. Daar heb ik veel aan gehad en ook veel van geleerd. Ook wil ik Dr. Rick Borst bedanken voor het meedenken met mijn onderzoeksvoorstel. Verder wil ik Nastasja van Beekhuizen van de Rabobank bedanken. Zij heeft meerdere deuren binnen Rabobank voor mij geopend waardoor ik in staat was mijn onderzoek uit te voeren én zelfs uit te breiden naar een tweede afdeling. Als laatste wil ik graag mijn mede-mastergenootje - en goede vriendin - Amber bedanken, die ik regelmatig heb belaagd met mijn vragen over SPSS.

Veel leesplezier!

Thirsa van Dorp

Utrecht, 10 december 2019

Abstract

Purpose - Dutch banks like Rabobank are increasingly implementing agile team designs in response to the digitalisation of society and the evolving needs of customers. However, not much is known about the effects of agile teams within the context of Rabobank or other large organisations. That is, agile team designs are not yet evidence-based for large-scaled organisations. There are research gaps regarding how employees experience their work characteristics when working in agile teams and what impact these experienced characteristics have on their perceived job performance and happiness at work. Therefore, the purpose of this study is to provide insight into how employees perceive agile team designs by focusing on the work characteristics they experience when working in agile teams and determine how the experienced work characteristics are related to their perceived job performance and happiness at work.

Methodology - The research design of this study concerns a cross-sectional case study. In addition, mixed methods were applied. The first study (qualitative) had a explanatory and development purpose regarding the second study (quantitative). The qualitative and quantitative study were conducted within two departments of Rabobank that have recently undergone - or are currently undergoing - an agile transformation. Together, the departments consisted of 170 individuals that were working in agile teams. First, 8 interviews were conducted with employees from both departments and different agile teams. Next, a questionnaire was designed and distributed. 62 employees completed the questionnaire.

Findings - The results of study 1 and 2 showed that employees experienced too little decision-making autonomy, a low task significance and a lack of feedback from others. Even though employees had mixed perceptions regarding the experienced work characteristics, all significant relationships between, on the one hand, work characteristics and, on the other, variables of job performance and happiness at work were positive in nature. The number of significant relationships however depended on whether single or multiple work characteristics were included in the regression analyses. Nevertheless, based on the regression analyses with multiple work characteristics, three significant relationships were found: decision-making autonomy related positively to work engagement, work methods autonomy positively related to OCBo and, finally, feedback from others was found to also positively relate to work engagement. It should however be said though that the sample size was probably not large enough to test models with multiple antecedents at once. Therefore, these results should not be lead to the conclusion the other work characteristics are unimportant. Rather, the conclusion should be interpreted as job autonomy and feedback from others seeming to have a large and positive impact on job performance and happiness at work.

Originality - This article is of value because it focuses on individuals rather than teams, looks beyond job characteristics and applies mixed methods.

Keywords: agile, agile teams, the way of working in agile teams, job performance, happiness at work, work design, work characteristics, mixed methods, Dutch banking sector

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1. Introduction

"Banking on Agility: Have you got it right?", headlines a blog on Wipro (2018). The blog discusses the future of banking and argues that the current systems of banks are not equipped to manage the rapidly changing business requirements while also preserving process agility (Ramakrishna, 2018). Therefore, it has been said that the future success of banking will depend on implementing *agile practices* (Beaubien, 2018; Curphey, 2018).

'Agility' refers to being flexible and skilful. Agile methodologies, such as *Agile Scrum*, provide the tools needed for an organisation to pursue its vision while constantly adjusting their strategy to trends and developments in society. It can be characterised as having a flexible strategy with short term goals, a strong customer focus, short projects of about two weeks and small teams (Scrum Company, 2019). Agile Scrum has become a true icon among agile methodologies and has therefore been 'copied' by numerous of Dutch banks including Rabobank (Agile Scrum Group, 2019; van Bree, 2019).

The new, agile bank enables banks to keep up with current society, which is becoming rapidly more digital, and being capable of meeting the evolving needs and expectations of customers (Beaubien, 2018; Leyva & Kumar, 2014). After all, if *Amazon* can deliver products within a matter of hours, why would Rabobank not be able to replace a credit or debit card within a similar timeframe, for example? Based on these developments, it is often stated that the emergence of the 'agile bank' is a result of growing competition from retail and technology giants such as *Apple* and *Google* (Curphey, 2018).

1.1 Purpose and research question

At the moment, an agile way of working is being pursued within Rabobank. Various agile practices are being implemented at a large scale, including agile teams (Kramers, 2017). However, agile team designs were originally meant for small project teams, not large organisations. As a result, the effects of such team designs cannot be well predicted (Dikert et al., 2016). Therefore, there are research gaps as to how employees experience their work characteristics when working in agile teams and what impact these experienced characteristics have on their perceived job performance and happiness at work.

First of all, agile team designs at a large scale are not yet evidence-based, wherefore it is difficult to anticipate how employees will respond to this way of working (Dikert et al., 2016). In order to determine individuals' perceptions and experiences, work characteristics

are often used (Humphrey et al., 2007). Previous research has already determined the experienced characteristics up to a certain extend. As such, working in agile teams is often associated with autonomy, task identity and task significance (Moe et al., 2008; Tripp & Riemenschneider, 2014). However, these studies only considered job characteristics, thereby neglecting the social and contextual dimensions of work. Therefore, the effects of agile team designs on employees' experienced work characteristics, consisting of motivational, social and contextual characteristics, is limited and needs more attention (Tripp et al., 2016). In addition, the effects of agile team designs depend on both the scale at which they are implemented as well as the context in which they are introduced (Dikert et al., 2016). As previous studies do not consider the context of Rabobank nor the Dutch banking sector (Moe et al., 2008; Tripp & Riemenschneider, 2014), the already established characteristics cannot be applied to this context.

Moreover, happiness at work (i.e., well-being) is becoming increasingly important within both practice and research (Fisher, 2010; Wright, 2003). Recent studies have however determined that employee well-being is not a priority within agile team designs as its main focus is to enhance team performance and efficiency. Therefore, research regarding the relationships of agile team designs with the well-being or happiness of individuals is scarce (Laanti, 2013; Syed-Abdullah et al., 2006). Nevertheless, it is important to establish such effects for several reasons: 1) the contributions of individuals matter for the overall performance of a team (Kozlowski & Bell, 2013; Boehm & Turner, 2005) and 2) happy workers are productive workers (Wright & Cropanzano, 2007).

Therefore, the general purpose of this study is to provide insight into how employees at Rabobank experience the agile team designs and determine the extent to which this impacts their perceived job performance and happiness at work. The general purpose can been translated into two specific research aims. First, this study aims to examine how employees perceive the way of working in agile teams by focusing on the work characteristics they are experiencing. Second, this study aims to establish how the experienced work characteristics relate to employees' perceived job performance and happiness at work. The research aims result in the following two research questions:

RQ1: "*How do employees perceive agile team designs and which work characteristics do they experience when working in agile teams?*"

RQ2: "*How do employees' perceptions regarding the experienced work characteristics relate to their perceived job performance and happiness at work?*"

The first research question will be answered in study 1, which is qualitative in nature, and the second research question will be answered in study 2, which is quantitative in nature. Both studies are cross-sectional case studies and were conducted within Rabobank. Rabobank is an interesting case as it is one of the largest banks in the Netherlands that has multiple locations throughout the land. For the last year or so, Rabobank has been implementing agile practices in order to facilitate an agile way of working within the organisation. However, the various locations and departments transition independently from one another, resulting in inconsistent progress between them. Two departments were included in this study, consisting of department A and department B. Both departments are located at headquarters in Utrecht. At the moment, department *A* has about 6 agile teams consisting of 50 individuals. They perform HR-related work. Department *B*, on the other hand, already has 12 agile teams consisting of 140 individuals. This department performs work that is concerned with the accumulation of assets and capital. The agile teams that were studied have been implemented at various moments in time. They are modelled after the so-called Spotify model (Van Bree, 2019). This model is a form of Agile Scrum but uses a different terminology. For instance, agile teams are called *squads* and departments are called *tribes* (Agile Scrum Group, 2019). This specific terminology may occur throughout study 1 and study 2.

The formulated research aims are relevant to study from a societal, practical and theoretical point of view, which will be clarified in the following paragraphs.

1.2 Societal relevance

This study is societally relevant because of two reasons. First, Rabobank is an important financial institution that has both a national and international significance. Its main function is to facilitate the allocation and deployment of economic resources within an uncertain environment and to play the role of intermediary that facilitates the flow of economic resources (Rogers, 2007). If Rabobank does not to comply with the new agile bank, its function as financial institution could become outdated. This would mean that the bank may grow incapable of providing the products and services that society requires, and lose

thousands of clients (NRC, 2017). Because of Rabobank's national and international significance, this could negatively affect the economic prosperity of the Netherlands. Some even claim it may result in economic instability and increase the possibility of a new financial crisis (Frederik, 2015). Therefore, in order to preserve happy customers and economic prosperity, Rabobank may be forced to transform to an agile way of working (NRC, 2017). By conducting this study, it will be elucidated whether employees feel that the newly implemented agile team designs will indeed provide the necessary tools to manage the rapidly changing business requirements while also being capable of meeting society's demands.

In addition, this study is societally relevant because it focuses on the well-being of individuals. Employee well-being, or happiness at work, is becoming increasingly important. Employees have indicated to experience a lot of stress because they feel pressured into working fast and efficient while having little autonomy, high task demands and also maintaining a social life. As a result, an increasing number of employees are experiencing burnout symptoms (NOS, 2019). At the moment, this concerns 1,3 million employees in the Netherlands. Within the financial sector, 17,2% of the employees experienced such symptoms in 2018. In 2017, this was 16,2%, meaning it has increased (TNO & CBS, 2018). Practitioners argue that agile team designs will enhance performance and customer satisfaction, as well as improve employee well-being. That is, working in agile teams is said to increase employee well-being and happiness because the human aspect is being recognised. As such, it is said to decrease workload (Agile Scrum Group, 2019). By conducting this study, it will be elucidated whether employees feel that the newly implemented agile teams will indeed decrease workload and make them feel happier at work, thereby enhancing their well-being.

1.3 Practical relevance

As mentioned before, Rabobank is complying with recent developments in banking as it is busy implementing an agile way of working. However, the implementation of agile team designs has proven to be quite a challenge because Rabobank does not implement evidence-based agile practices. Instead, the bank has copied the structure and design of their agile teams from other Dutch banks like ING and from the so-called *Spotify model* (Agile Scrum Group, 2019). The Spotify model is however based on Spotify, an organisation that in no way resembles a financial bank. On top of that, ING and Rabobank, although both Dutch banks, differ from one another in norms, values and organisational culture (Kramers, 2017; Van Bree, 2019). As a result, the transition to agile teams could have unintended outcomes. By conducting this study, it will be elucidated how employees perceive the way of working in

agile teams as well as what the effects of the experienced work characteristics are on employees' perceived job performance and happiness at work. It provides HR-managers at Rabobank with information they can use to make alterations in the work characteristics if needed. For instance, the results may show that autonomy and feedback both have positive and strong effects on employee performance and well-being. Managers can use these insights to alter the work and tasks of employees, thereby improving how employees perceive their own job performance and happiness at work.

1.4 Theoretical relevance

This study contributes to existing literature in three ways: it focuses on individuals rather than teams, looks beyond job characteristics and applies mixed methods.

First, this study conducts research at person-level rather than at team-level. Existing research has mostly been conducted at team-level because the implementation of agile practices is mainly about the design and effectiveness of teams (Moe et al., 2008, 2010). Therefore, developments and effects at person-level have been rarely examined. For instance, when considering the concept of job performance, studies have solely focused on the performance of agile teams as whole rather than the individual performances of members (Fatema & Sakib, 2017; Gustavsson, 2018). In turn, when considering happiness at work, there are little to no studies that examine the effects of agile team designs on employees' happiness at work or well-being (Laanti, 2013). At best, some have researched job satisfaction with agile team designs as its antecedent (Tripp et al., 2016). Therefore, the relationships of agile team designs with employees' perceived job performance and happiness at work need to be further deduced. It is important to do so, because the performance and happiness of individuals will reflect at multiple levels within an organisation, including at team-level (Cockburn & Highsmith, 2001; Kozlowski & Bell, 2013).

Second, this study moves beyond the job characteristics of JCT (Hackman and Oldham, 1975), as it also considers the social and contextual characteristics of work. Currently, the relationships between job characteristics and teams have already been established. For instance, it has been determined that employees associate the way of working in agile teams with high levels of job autonomy, task identity, task significance and skill variety (Cockburn & Highsmith, 2001; Hoda, 2011; Moe et al., 2010; Tripp et al., 2016). However, it has not yet been established which social and contextual characteristics employees experience when working in agile teams. Therefore, moving beyond JCT is crucial. Not just regarding agile teams, but regarding work design in general. That is, scholars

have indicated that recent research on work design has not paid enough attention to the social and contextual dimensions of work (Oldham & Hackman, 2010; Oldham & Fried, 2016).

Finally, rather than only conducting interviews or distributing a questionnaire, this study combines both research methods. Studies that have applied mixed methods are scarce within both HRM-research (Boselie et al., 2005) and research on agile team designs (Dybå & Dingsøyr, 2008). It is however often preferred to combine qualitative and quantitative research methods because it provides results that both contain statistical relationships and a certain depth that can help explain the statistics (Bainbridge & Lee, 2014). Existing studies regarding agile teams that have applied mixed methods (Melnik & Maurer, 2006; Stettina et al., 2012), have not yet applied it to agile teams within the banking sector, nor have they determined the experienced work characteristics and their relationships to employees' perceived job performance and happiness at work.

1.5 Structure

First, a general literature review of the key concepts is presented, which will also illustrate the overall conceptual model. Second, the general research design is explained and argued. Next, study 1, the qualitative part, and study 2, the quantitative part, are presented. Each study has its own literature review, methodological chapter and results chapter. The results of the two separate studies will be combined and discussed in the final chapter. This final chapter will also include the conclusion, limits, suggestions for future research and implications for both theory and practice.

2. Theoretical Framework

In the following chapter, the key concepts of this study are elucidated. First, job performance and happiness at work, the dependent variables, are conceptualised and defined. Second, the independent variable, agile team designs, is elaborated upon. Next, work design theory is deduced. Finally, the conceptual model will be presented and briefly explained.

2.1 Job performance

Job performance can be defined as "the total expected value to the organisation of the discrete behavioural episodes that an individual carries out over a standard period of time" (Viswesvaran, 2001, p. 111). In addition, it is also defined as 'the aggregated value of a set

behaviours that employees contribute to organisational goals, both directly and indirectly' (Borman & Motowidlo, 1997). Both definitions are based on several ideas. The first idea consists of job performance being a property of behaviours and therefore representing behavioural outcomes. Secondly, the property of behaviours occur over a span of time and, thirdly, represent the expected value to an organisation. Therefore, job performance will be defined as the sets of behaviours as carried out by individuals over a span of time and the extent to which these behaviours contribute to or detract from organisational or team effectiveness (Motowidlo, 2003).

However, behaviour performance consists out of multiple dimensions, wherefore job performance is often argued to be an aggregated property of multiple behaviours (Viswesvaran, 2001). The multiple behaviours consist of both direct behaviours and indirect behaviour, as argued by Borman and Motowidlo (1997). Direct behaviours refer to the performance of tasks, whereas indirect behaviours refers to carrying out activities or tasks that were not required but still add value to the organisational performance. The concept of job performance will therefore be further conceptualised as consisting of *task performance* (also referred to as in-role behaviours) and *contextual performance* (also referred to as extra-role behaviours) (Williams & Anders, 1991). It is important to distinguish 'in-role' and 'extra-role' behaviours from one another, because they are determined by different antecedents (Borman & Motowidlo, 1997).

2.1.1 Task performance

Task performance has various definitions. On the one hand, task performance is often defined as 'employee behaviour which contributes to the performance of the organisation' (Borman & Motowidlo, 1997). On the other hand, task performance is defined as consisting of 'behaviours which are part of one's job and recognized by the organisation's formal reward system' (Zhao et al., 2007). In turn, in-role behaviours are defined as 'performance on required duties and responsibilities' and concerns behaviours as determined by one's job description (Sparrowe et al., 2001). Therefore, the definition of Zhao and others (2007) will be used to define task performance as it also includes the definition of in-role behaviours.

2.1.2 Contextual performance

Contextual performance can be defined as 'behaviours that are not determined by an employee's job description and instead are considered discretionary and beneficial' (Organ, 1988; Zhao et al., 2007). It consists of behaviours that contribute to the psychological and

social core of an organisation and are considered to be a multidimensional latent construct (Borman & Motowidlo, 1997; Organ, 1988). Because the extra-role behaviours are not explicitly required by the job, there are no formal sanctions if employees choose not to engage in them. It does however represent the behavioural response of an employee to the employment relationship (Zhao et al., 2007). Contextual performance is otherwise known as *organisational citizenship behaviour* (OCB). OCB has been determined as consisting of five dimensions: altruism, courtesy, conscientiousness, sportsmanship and civic virtue. *Altruism* refers to helping a colleague with their tasks, *courtesy* to constructive gestures that will help prevent problems for colleagues, *conscientiousness* to carrying out one's task beyond the required minimum, *sportsmanship* to refraining from complaining about work-related matters and, lastly, *civic virtue* refers to participating in the governance of an organisation (Organ, 1988). However, the dimensions of this five-dimension model have quite a lot of overlap, as has been determined by various studies (Coleman & Borman, 2000; Podsakoff, et al., 2000). Therefore, a new model was conducted that divides OCB into two dimensions, consisting of *OCBi* and *OCBo* (Williams & Anderson, 1991). OCBi refers to extra-role behaviours directed towards individuals, whereas OCBo refers to extra-role behaviours that benefit the organisation. OCBi behaviours are about altruism towards colleagues, such as helping those who have been absent due to illness. OCBo behaviours, on the other hand, include behaviours such as keeping the workspace tidy and being willing to work longer hours (Organ, 1988; Williams & Anderson, 1991). The dimensions of altruism and courtesy were designated as OCBi, whereas conscientiousness, sportsmanship and civic virtue were designated as OCBo. Therefore, contextual performance will be defined as behaviours that are not included in an employee's job description, and will be conceptualised as consisting of OCBi and OCBo.

In conclusion, the variable of job performance will be defined as consisting of task performance and contextual performance. Contextual performance includes both OCBi and OCBo. By doing so, this study will follow the framework as determined by Williams and Anderson (1991) and Lee and Allen (2002), who all argue that distinctions need to made between task performance, OCBi and OCBo.

2.2 Happiness at work

For the past decade, scholars have increasingly focused on positive psychology within organisational behaviour and HRM (Fisher, 2010; Van de Voorde et al., 2012), thereby expanding upon the previously dominant models that fixate on stress, depression and burn-out (Wright, 2003). Work, when considered through a positive psychology lens, could lead to employees being more engaged, satisfied and committed, as well as having more pleasurable and meaningful work lives (Money et al., 2008).

Within the social sciences, happiness is commonly conceptualised in the sense of well-being, as this is said to be the core of positive organisational behaviour (Seligman, 1999; Van de Voorde et al., 2012). Although not recognised by early research, positive organisational behaviour constructs often belong to a larger family of 'happiness-related constructs' that share several common causes and consequences. Accordingly, a number of organisational behaviour constructs appear to overlap with the concept of happiness at work. For example, happiness at work concerns job satisfaction, but also relates to work engagement (Van de Voorde et al., 2012). Despite the fact that *happiness at work* is not a term that has been used until recently within academic research, scholars have thoroughly studied constructs that overlap with it. Fisher (2010) therefore conceptualises happiness at work as "an umbrella concept that includes a large number of constructs" (Fisher, 2010, p. 403).

2.2.1 Happiness

'Happiness' has a rather ambiguous terminology as it is used interchangeably with well-being (Delle Fave et al., 2011). Some refer to happiness as *psychological well-being* (Wright & Cropanzano, 2007), whereas others refer to it as *subjective well-being* (Zelenski et al., 2008). Subjective well-being (SWB), a hedonic approach, conceptualises happiness as positive emotions and life satisfaction. Happiness is achieved through maximising pleasure (i.e., positive emotions) and minimising pain (i.e., negative emotions). That is, if an individual is feeling a lot of positive emotions and little negative emotions, he or she is considered 'happy' according to this approach. Psychological well-being (PWB), an eudaimonic approach, uses a definition of happiness that comprehends self-actualisation, virtue, personal growth and meaning. According to this approach, happiness is achieved by living a fulfilling and meaningful life. That is, if an individual has found a purpose in life and is living accordingly with one's virtue, he or she is considered 'happy' according to this approach. SWB is focused on short-term happiness, whereas PWB focusses on long-term happiness. Therefore,

subjective happiness often refers to a state or feeling while psychological happiness is seen as more of a process. Even though a distinction is being made between short-term happiness and long-term happiness, they often coexist as individuals can pursue happiness via both approaches at the same time (Delle Fave et al., 2011; Ryan & Deci, 2001).

2.2.2 At work

In line with happiness, happiness at work is said to refer to subjective experiences (Van de Voorde et al., 2012), and implies high levels of pleasure (Bakker & Daniels, 2012).

Generally speaking, happiness depends on environmental circumstances, the stable tendencies of a person and, most importantly, the fit between the two. The concept of happiness at work is said to be a bit more complicated. Three foci are suggested for happiness at work; the work itself (i.e., affective implications and feelings at work), the job (e.g., evaluative judgements of salary, supervision and career opportunities) and the organisation as a whole (i.e., feelings of belonging) (Fisher, 2010).

Happiness at work varies in level, stability over time and content. First, the happiness-related constructs differ in level. The various levels consist of transient level, person level and unit level (Fisher, 2010). The *transient level* focuses on the short-lived emotions and moods which individuals may experience as a result of work events. It consists of affective experiences, otherwise known as transient states or momentarily moods, that are measured for each respondent individually and determine variations at a within-person level. The *person level* refers to happiness-related constructs which measure the variation at between-person level. They represent relatively stable attributes and highly stable individual dispositions that characterise and differentiate employees from one another. This can be used to determine why some employees are happier than others. As a result, person-level constructs are often the main focus of both organisational and academic research (Van de Voorde et al., 2012). Happiness-related constructs defined and measured at person level consist of work engagement, job satisfaction and affective organisational commitment. Lastly, the *unit level* refers to happiness constructs of groups, work units or organisations as a whole. All measures of constructs at this level are based on the reports of individual members. Hence, happiness at work is a somewhat abstract concept that includes a number of constructs ranging from transient moods and emotions within a person, to stable attitudes and highly stable individual dispositions between persons, to accumulated attitudes within a group (Fisher, 2010).

Secondly, similar to happiness, happiness at work diverges in its duration and stability over time. For instance, happiness-related constructs at within-person level are expected to

shift over short periods of time because moods and emotions are conceptualised as short-lived reactions to events which are relevant to personal well-being (Lazarus, 1991). Happiness-related constructs at person-level and unit-level are assumed to be more stable over time, as a person's 'typical mood' at work should diverge less over time than a person's 'momentary mood'. A momentary mood may be influenced by an event or series of events, whereas a typical mood appears to mostly dependent on personality and genetics. For example, recent research suggests that the stability in job satisfaction, a happiness-related construct, may be accounted for by genes and personality traits (Judge et al., 2008). Several happiness-related constructs such as job satisfaction and work engagement occur at all three levels (transient, person and unit), but vary in stability over time between the levels. Therefore, it is crucial to consider the level of happiness at work when conceptualising or measuring it (Fisher, 2010).

The concept of happiness at work will be operationalised at person-level, as the main focus of this study is to compare the differences in happiness at work between multiple individuals. However, there are different ways in which it can be conceptualised. First of all, it can be conceptualised as consisting of satisfaction and commitment (van de Voorde et al., 2012). In turn, the three dimensions as composed by Fisher (2010) include work engagement, job satisfaction and affective organisational commitment. The dimensions of Fisher (2010) will be used as they also include engagement, which the former does not.

First of all, *work engagement* refers to the work itself. When engaging, employees express themselves physically, cognitively, emotionally and mentally during their performance (Kahn, 1990). Engaged employees are energetic and enthusiastic about their work and immerse in it to such an extent that time seems to passing quickly while working (Bakker et al., 2008). It is a a highly energising, motivating and stimulating well-being state which can be defined as 'the behaviour by which people give themselves to their work' (Kahn, 1990) or, more specifically, 'a special feeling of energy and motivation related to the capacity to feel thrilled, vibrant, excited or passionate at work' (Warr & Inceoglu, 2012). Therefore, work engagement is used to measure enthusiasm, passion and thrill at work and the positive states that relate to vigour and dedication. Hence, it measures the influence of the work itself on employees' happiness at work.

Second, the concept of *job satisfaction* can be defined as 'a positive emotional state resulting from job experiences or the appraisal of one's job' (Locke, 1976). It measures job characteristics and aims to evaluate the job conditions through the judgements and perceptions of employees. More specifically, job satisfaction evaluates individuals' attitudes towards for instance their salary and career opportunities, which makes it a passive and

reactive concept that shows and measures whether employees achieve what they want in terms of working conditions. Hence, it measures the effects of job characteristics and contextual features on employees' happiness at work.

Lastly, the organisation as a whole and its impact on happiness at work, is measured through *affective organisational commitment*. Organisational commitment is defined as 'employees' interest and connection with an organisation' (Meyer & Allen, 1997). It consists of three elements: affective, continuance and normative commitment. Affective commitment refers to involvement in, attachment to and identification with the organisation. The concept of affective organisational commitment measures the affection of employees and their feelings of responsibility towards their organisation, and monetary evaluation of belonging to the organisation. Meyer, Stanley, Herscovitch and Topolnytsky (2002) stated that affective commitment is strongly related to important organisational variables, such as job performance. Hence, it considers the affective feelings of employees towards their work and organisation.

2.3 Agile team designs

Agile practices are defined as "human-centric bodies of practices and guidelines for building software in unpredictable, highly-volatile environments" (Melnik & Maurer, 2006, p. 2). It emerged in the late 1990s and originates from software engineering (Larman and Basili, 2003). The traditional perspective on software development promotes a plan-driven approach using a standardized, controllable and predictable engineering process. The new, agile approach challenges this traditional view by promoting uniqueness, ambiguity, complexity and change. The goal of optimization is being replaced by flexibility and responsiveness. (Nerur & Balijepally, 2007). Key in agile team designs is *The Agile Manifesto*. Its principles include fast, consistent and continuous delivery of products while responding to changing requirements, encouraging effective communication within and between motivated teams and providing the support they need to get the job done (Highsmith & Fowler, 2001). The term 'agile' was adopted as an umbrella term for agile methodologies such as Scrum and XP (Dybâ & Dingsoyr, 2008; Hoda et al., 2010).

A common definition of a team is 'a small number of people with complementary skills who are committed to a common purpose, a set of performance goals and approach for which they hold themselves mutually accountable' (Katzenback & Smith, 1993). Traditional software teams consist of self-managing professionals with high individual autonomy and low team autonomy. Agile software teams, however, require both a high level of individual

autonomy and team autonomy, because the agile way of working relies on teamwork rather than individual role assignments (Moet et al., 2008). The teams tend to have a smaller team scope and a specific focus in order to pursue quality and craftsmanship rather than quantity. Every process is selected, adapted and tailored to the unique strengths of an individual on a particular agile team. By doing so, focus is applied to the work processes (Tripp & Riemenschneider, 2014). Compared to traditional teams, leadership is shared within agile teams. Managers are less defining and instead focus on providing feedback and subtle direction (Whitworth & Biddle, 2007). Therefore, managers are often replaced with another role, such as product owner. Agile teams consist of various roles, including agile coaches, scrum masters and product owners (Whitworth & Biddle, 2007). The additional roles feature as mentor, coordinator, translator, promoter and terminator (Hoda, 2011). Each of the roles has its own function, but they are all meant to support and stimulate the team. An agile coach is concerned with the team members and their collaboration, whereas a scrum masters watches over the implementation and adaptation of agile practices and a product owner monitors customers' needs and the products that the team produces (Hoda, 2011). Furthermore, what makes agile teams different is their redundancy. Redundancy in team members and team scope (Tripp & Riemenschneider, 2014; Whitworth & Biddle, 2007), but also in functions. Team members acquire multiple skills so they are able to perform tasks and jobs of other members in order to substitute them if needed. This adaptation of multiple skills is said to be essential for creating flexibility within an agile team. However, redundancy in functions is difficult when it involves highly specialised skills (Moe et al., 2008; Nerur & Balijepally, 2007).

Agile teams differ from one another because agile methodologies, such as Scrum, do not provide guidelines as to how the practices should be implemented or executed. Therefore, scholars often refer to agile team designs rather than agile team design, as there is not typically one agile team design (Moe et al., 2008). Nevertheless, there are several similarities between agile teams. For instance, they appear to be multidisciplinary (Drury-Grogan, 2014). This implies that the agile teams consist of members that originate from various disciplines, such as marketing, data analysis and IT. Furthermore, each team seems to consist of several roles, consisting of a *leader* (e.g., product owner and team lead.), *workers* (e.g., developer, analyst and tester) and *consultant* (e.g., agile coach, facilitator and scrum master) (Melnik & Maurer, 2006). In addition, even though there are many various methods that agile teams can use, the most frequently used are the *sprint planning*, *stand-up* and *retrospective*. A sprint planning is a meeting at the start of each sprint, during which an agile team collectively

defines and plans the tasks for the upcoming sprint and discusses points of attention. A stand-up is a short meeting that occurs daily, during which team members briefly outline their plans, personal accomplishments and potential impediments. As this meeting is daily, it is often seen as a short discussion of the circumstances that lasts about 15 minutes. Finally, a retrospective is a meeting that is held after each sprint, during which team members reflect on what went well, what did not and what should be improved for the next sprint. Each sprint is said to last about two weeks (Drury-Grogan, 2014; McHugh et al., 2011).

Agile teams are more in control of their actions, wherefore it is up to the team members to 'manage' or 'organise' themselves and their behaviour in order to get the work done. Some refer to agile teams as being 'self-managing' (McHugh et al., 2011; Moet al., 2010), whereas others refer to them as being 'self-organising' (Cockburn & Highsmith, 2001; Hoda et al., 2010). Even though the terms are often used interchangeably (Parker et al., 2015; Moet et al., 2008, 2010), the definitions differ slightly. Self-managing teams (SMTs) are defined as "groups of interdependent employees that have the collective authority and responsibility to manage and perform relatively whole tasks" (De Jong & De Ruyter, 2004, p. 578). Self-organising teams, on the other hand, are described as 'teams of employees who perform related or interdependent jobs and who are given significant authority and responsibility for several work aspects, such as planning, scheduling, assigning tasks and making decisions' (Guzzo & Dickson, 1996). Self-organising teams have significant authority for several work aspects, whereas self-managing teams have collective autonomy. Most self-organising teams are still 'managed' up to a certain point. That is, a leader within the team, such as a product owner, still decides what work and which tasks get priority and will be performed by the team (Moet et al., 2008; Hoda et al., 2010). Therefore, agile teams will be defined as self-organising teams composed of "individuals that manage their own workload, shift work among themselves based on need and best fit, and participate in team decision making" (Highsmith, 2004), as this definition best describes that way of working in agile teams and is commonly used by others. That is, most scientists refer to agile teams as being self-organising rather than self-managing. (Cockburn & Highsmith, 2001; Hoda et al., 2010, 2011; Nerur & Balijepally, 2007).

2.4 Work design theory

Over the past decades, few topics have attracted as much attention in the organizational sciences as 'work design'. At its most primal level, work design is associated with work itself and the tasks and activities that individuals complete on a daily basis. As such, work design

refers to the actual structure of a job and the properties of tasks performed by individuals in order to generate work products (Grant & Parker, 2009; Oldham & Fried, 2016).

The concept of work design has a long and rich history. Writings on the topic first emerged around the 20th century, when it was argued that employee efficiency at work would be much improved if jobs were to be standardized and simplified to the greatest possible extent (Taylor, 1911). Job standardisation was encouraged as it would enable employees to devote their attention to fewer tasks, thereby enhancing their job-related skills.

However, research has shown that many employees did not care for the standardized and simplified jobs. They started to show counterproductive behaviours such as tardiness (Walker & Guest, 1952). In an effort to deal with these counterproductive behaviours, many scholars developed new approaches to work design that would allow employees to achieve high levels of performance without having to incur the costs of simplified work. *Job enrichment* became a popular topic (Oldham & Fried, 2016).

2.4.1 Job characteristics theory

Noteworthy is the *Job Characteristics Theory* (JCT) (Hackman & Oldham, 1975), which focuses on five core job characteristics that are expected to achieve job enrichment: autonomy, skill variety, task identity, task significance and job-based feedback. *Autonomy* refers to the freedom an individual has in carrying out the work, *skill variety* refers to the extent to which an individual must use various skills in order to perform his or her job, *task identity* is the extent to which an individual can complete a whole task or piece of work, *task significance* is the extent to which a job has a substantial impact on others' lives and *job-based feedback* refers to the extent to which a job imparts information about the performance of an individual.

The task characteristics of JCT are primarily concerned with the range and nature of tasks that are performed. It is argued that the five core characteristics, if present within a job design, will result in job enrichment as they provide greater opportunity for personal achievement and development. High levels of the characteristics will increase positive behavioural (e.g., job performance) and attitudinal (e.g., job satisfaction) outcomes and decrease negative outcomes. This is said to be achieved via three critical psychological states: experienced meaningfulness, experienced responsibility and knowledge of results. First, skill variety, task significance and task identity are expected to enhance employees' experienced meaningfulness. Autonomy is said to magnify employees' experienced responsibility for work outcomes. Finally, job-based feedback is said to provide employees with direct

knowledge of the results. Together, the three psychological states mediate the relationships between the core characteristics and employees' outcomes. In addition, employees are predicted to respond more positively to the core characteristics if they have job-relevant knowledge and skills and have a high 'growth need strength' (GNS). GNS refers to the extent to which an individual feels the need for personal accomplishment, growth and development. These conditions are said to moderate the effects of the five characteristic on outcomes (Hackman & Oldham, 1976, 1980).

2.4.2 Sociotechnical systems

Another important work design theory is the *sociotechnical systems* (STS) *approach*. In contrast to the Job Characteristics Model, this approach has implications for the design of teamwork rather than individual jobs. More specifically, it has implications for the work design of autonomous work groups. The theory proposes that social and technical subsystems in organisations should be designed in such a way that optimization of the two can be achieved (Parker & Turner, 2002). Key principles of sociotechnical systems theory include that work methods should be minimally specified, variances in work processes should be handled at the source by employees and the roles of a team should be multi-functional and multi-skilled. These principles result in the design of an autonomous team in which multi-skilled team members decide on their work methods, manage the day-to-day problems and have access to and authority over the needed resources (Cherns, 1976). By doing so, employees are said to experience higher levels of 'enriched' work and perform better because of the increased authority and responsibility. This approach also assumes improved performance of autonomous groups as a result of their flexibility and efficiency. However, its implications for individual performance are unclear as the theory is most applicable at group level. Therefore, studies that have researched the relationships between sociotechnical systems work designs and outcomes, have often focused on outcomes that are broader than individual performance such as team performance, productivity and effectiveness (Cohen et al., 1996; Parker & Turner, 2002).

In summary, both major work design theories propose that work enrichment will lead to enhanced performance. Even so, the theories vary in the extent to which they focus on individual performance. Sociotechnical systems theory may seem applicable to agile teams (Whitworth & Biddle, 2007), it is not very accurate for measuring individual performance because of its unclear implications at individual-level (Parker & Turner, 2002). The purpose

of this study is to examine the relationships at individual-level rather than at group-level or team-level. Therefore, work design theory will be operationalised according to the Job Characteristics Theory. However, a broadened version of Hackman and Oldham's (1975) operationalisation will be applied, as is explained in the next paragraphs.

2.4.3 Extending JCT

Dozens of studies have provided support for the propositions of Job Characteristics Theory (JCT) (Oldham & Hackman, 2010). As such, there is a strong support for the expected positive relationships between the core characteristics and attitudinal outcomes like job satisfaction and commitment. In turn, the strength of the relationships between the characteristics and behavioural outcomes, such as performance and attendance, is modest (Oldham & Hackman, 2010). For instance, Fried and Ferris (1987) found that the core characteristics relate strongly to job satisfaction, and weakly to job performance. In addition, results provide strong support for 'experienced meaningfulness' as mediator, but weak support for 'experienced responsibility' and 'knowledge of results'. Mixed support was found for the proposed moderators (Hackman & Oldham, 1976, 1980; Humphrey et al., 2007; Oldham & Fried, 2016). Even though the model has certain advantages, such as providing guidance to those who wish to redesign work in order to improve employee outcomes, it has also been criticised for its narrow focus in terms of identified characteristics, predicted behavioural outcomes and for providing inconsistent evidence (Parker et al., 2001).

The mixed results obtained in testing JCT have stimulated interest for further enhancement of our understanding of work design. Many scholars continue to examine how work design can be used to enhance employee outcomes. Some of the newer studies have attempted to refine and extend JCT, others have focused on developing entirely new perspectives and ideas. As a result, scholars are proposing various alternatives for the relationship between job characteristics and employee outcomes, for instance alternative characteristics (Oldham & Fried, 2016).

2.4.3.1 Alternatives characteristics

It has been acknowledged that the five core characteristics of JCT may not capture all the dimensions that shape employees' responses to work design, wherefore scholars have attempted to find alternative characteristics (Oldham & Fried, 2016). First of all, scholars acknowledge that autonomy is not the one-dimensional construct JCT implies. According to recent research, it can be divided into work scheduling autonomy, decision-making autonomy

and work methods autonomy (Morgeson & Humphrey, 2006). *Work scheduling autonomy* is the extent of freedom that individuals have to control the scheduling and timing of work. *Decision-making autonomy* refers to the freedom individuals have to make decisions. Finally, *work methods autonomy* is the extent of freedom that individuals have to control the methods and procedures that are utilised. All three variations may be similar to the construct of autonomy, but their impacts differ in magnitude (Humphrey et al., 2007).

In addition, scholars include *task variety* as an important motivational characteristic (Morgeson & Humphrey, 2006). Task variety refers to the extent to which an individual performs different tasks at his or job. It is seen as conceptually similar to the characteristics of autonomy, task identity, task significance and job-based feedback, in that all characteristics are concerned with how the work is performed and how specific tasks compose a job. Therefore, task variety was added to the list of motivational characteristics. Some claim that task variety is more compatible to the other task characteristics than skill variety, as the variety in skills focuses on the knowledge and skills that are necessary in order to complete the work rather than the specific tasks (Morgeson & Humphrey, 2006). However, skill variety was not just left out. A new categorisation of task characteristics was conducted that are similar to skill variety, the *knowledge characteristics* (Humphrey et al., 2007).

In contrast to task-focused motivational characteristics, knowledge characteristics focus on motivating employees via knowledge demands. They are not concerned with the nature of work or tasks that are performed, but instead focus upon the knowledge, skills and abilities that are needed to complete the work. The characteristics consist of information processing, job complexity, specialisation, problem solving and, of course, skill variety. First, *information processing* is the amount of information that employees need to process.. Another aspect is *job complexity*, which refers to the extent to which a job is multifaceted and difficult. *Specialisation* represents the depth of knowledge and skills necessary to complete the work. *Problem solving* is the extent to which a job requires the production of unique ideas and solutions. *Skill variety* has already been elaborated upon. Together, the five are expected to impact work outcomes. Previous research has already established that higher levels of knowledge characteristics can intrinsically motivate employees and promote positive attitudinal outcomes such as job satisfaction (Deci & Ryan, 2000), as well as enhance work efficiency and thus performance (Morgeson & Campion, 2003). However, high knowledge demands are sometimes associated with a decreased well-being. For instance, complex jobs with high levels of information processing can lead to increased feelings of stress and work overload (Morgeson & Humphrey, 2006). The knowledge characteristics are therefore seen as

work components that can promote job satisfaction, motivation and efficiency, but may also lead to decreased well-being. Even so, the motivational characteristics no longer consist of solely task characteristics (i.e., JCT) as recent scholars in work design argue it encompasses both task and knowledge characteristics (Humphrey et al., 2007).

In addition to motivational characteristics, the social aspects of work have also been found to be important components (Parker et al., 2001). This claim is mainly based on our continuously changing society. Jobs, roles and tasks are more socially embedded than ever before, thereby increasing interdependence and interactions among individuals such as colleagues and service recipients (Grant & Parker, 2009). As a result, the social environment of work is being recognised (Morgeson & Humphrey, 2006). The social characteristics therefore reflect the interpersonal and social aspects of work and show that work is dependent of and performed within a broader social environment. They consist of interdependence, social support, interaction outside the organisation and feedback from others. First, *interdependence* refers to the extent to which one's job is contingent on others' work. In addition to interdependencies, *social support* is also an important characteristic, as it describes the extent to which a job provides opportunities for advice and assistance from managers or colleagues, as well as opportunities for friendships on the job. *Interaction outside the organisation* is the extent to which a job requires interaction with people (e.g., customers) external to the organisation. Finally, *feedback from others* is the extent to which other organisational members, such as colleagues, provide each other with information about one's performance. This type of feedback is not provided by work itself, as is the case for job-based feedback. The social characteristics and their effects have not been studied as much as the motivational characteristics (Morgeson & Humphrey, 2006). However, studies have already found several effects. That is, the social work environment is an important determinant for employees' well-being and their perceptions of meaningful work (Wrześniewski et al., 2003). As such, social characteristics, especially social support, can reduce stress and overload because they function as a buffer for negative job events (Karasek, 1979). They can also increase intrinsic motivation and prosocial behaviours (Grant & Parker, 2009), as well as promote positive moods and feelings of security (Ryan & Deci, 2001). Therefore, high levels of social characteristics can increase employee well-being. The social aspects of work are also said to increase performance, as interactions and feedback from others enhance role clarity and provide an overview of what is expected of employees, how each employee is doing and what they are working on. In addition, they can also enhance performance because social

exchanges allow employees to learn from each other (Humphrey et al., 2007; Morgeson & Humphrey, 2006).

Third and finally, the work environment was considered within work design theories. Work context characteristics reflect the context within which the work is performed. Up until recently, this dimension of work has been ignored in the field of I/O psychology and management (Morgeson & Campion, 2003). It has been said to consist of physical demands, work conditions and ergonomics. First, the *physical demands* refer to the amount of physical activity or effort that a job requires. *Work conditions* reflect certain aspects of the work environment, such as noise, temperature and hazards (Campion & McClelland, 1991). Finally, *ergonomics* is the extent to which work provides or permits appropriate postures and movement. The three characteristics reflect the extent to which a job is design in terms of biological concerns. If physical demands increase and ergonomics decrease, for example, employees may become physically uncomfortable. This could hurt their job satisfaction and productivity and may increase turnover (Humphrey et al., 2007).

Thus, work design as described by recent theorists consists of motivational characteristics (i.e., task characteristics and knowledge characteristics), social characteristics and contextual characteristics. Motivational characteristics focus on individual job aspects, social characteristics are concerned with interactional aspects and work context characteristics address contextual aspects Humphrey et al., 2007). All characteristics have been found to impact various employee outcomes. However, research has shown that dimensions such as social relationships and work environment tend to explain the variance in performance and well-being beyond that explained by the set of motivational characteristics. Therefore, it has been said that social and contextual characteristics might be of greater importance when determining the reactions of employees to work design (Oldham & Hackman, 2010).

2.4.4 From job design to work design

Recent theorists in job design theory have attempted to extend and adapt the range of evolving job characteristics and recognise the role of social and contextual factors. This extension, or enrichment, of existing theories has become necessary in order to accurately describe and assess the impact of the current changes in work content and work design (Morgeson & Humphrey, 2008). Scholars have acknowledged that employee outcomes are not solely determined by job characteristics, but also by social and contextual characteristics. Consequently, the concept of job design has been extend to the concept of work design (Oldham & Hackman, 2010). The work characteristics will therefore be operationalised as

consisting out of motivational characteristics, social characteristics and contextual characteristics within this study. By doing so, an extended operationalisation of JCT will be applied that is more recent and largely accurate (Humphrey et al., 2007; Morgeson & Humphrey, 2006).

2.5 Conceptual model

Below, the overall conceptual model for this study is visualised. In short, it will be elucidated how agile team designs relates to employees' perceived job performance and happiness at work, via the work characteristics that employees experience when working in agile teams. However, as introduced before, this conceptual model will be split into two. First of all, it will be discovered which work characteristics employees experience while working according to agile team designs. This will be done in the first, qualitative study. The specific expectations can be found in the literature review of study 1 (see chapter 4.1.2). Secondly, it will be determined how the experienced work characteristics relate to employees' perceived job performance and happiness at work. Again, specific hypotheses for these relationships can be found in the literature review of study 2 (see chapter 5.1.2). Even though the expectations and hypotheses will be further illustrated in the literature reviews of study 1 and 2, it is - generally speaking - expected that agile team designs will positively relate to the perceived job performance and happiness at work of employees as they are likely to experience high levels of autonomy, which has been found to positively affect employee outcomes (Moe et al., 2008; Morgeson & Humphrey, 2006). This expectation is based on the conceptualisations of this study's key concepts.

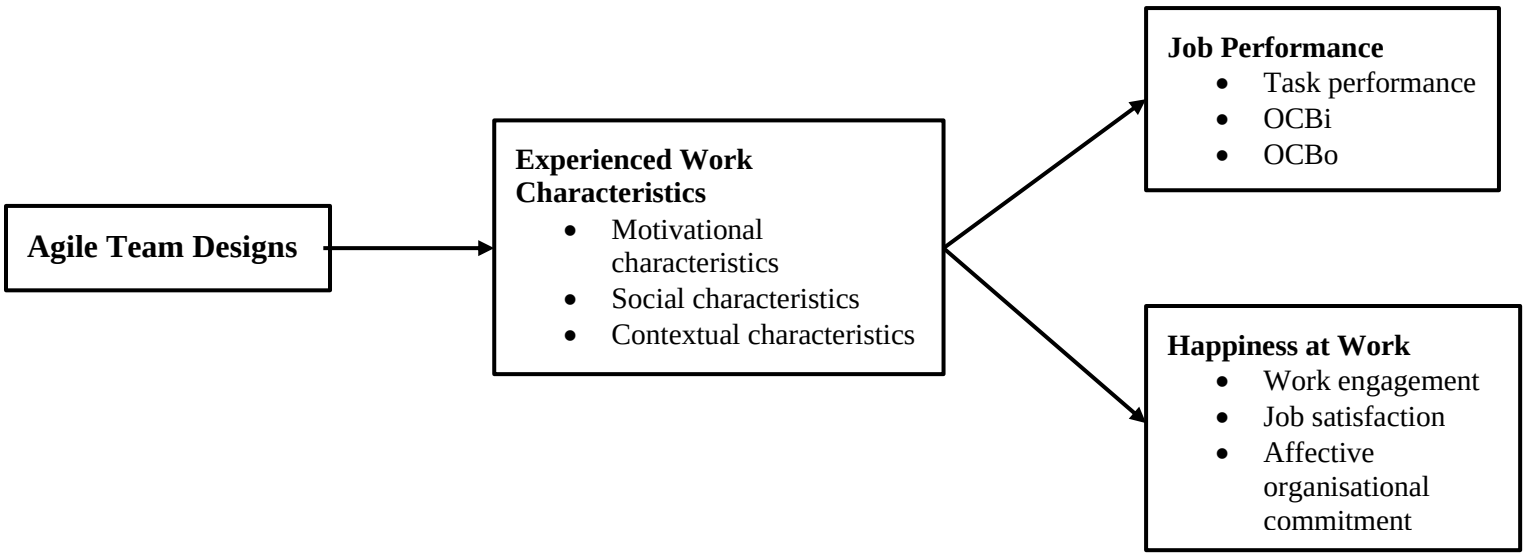


Fig. 1: Conceptual model.

3. Research Methodology

The following chapter describes the general research design used in this study that is subsequently divided into study 1 and study 2. The applied methodology, operationalisation of key concepts, collecting of data and analytical procedures are specified for both studies separately. The methodology of study 1 can be found in chapter 4.2 and of study 2 in chapter 5.2.

3.1 Research design

As mentioned before, mixed methods were applied. There are various approaches to applying mixed methods research within HRM research, depending on the timing and weighting of each method. The mixed methods in this study have an *explanatory* and *development* purpose (Bainbridge & Lee, 2014; Creswell & Clark, 2007).

First of all, the results of study 1 are meant to further explain the results of study 2 and help interpret them (Creswell & Clark, 2007). In addition, they have a development purpose. This implies that the results of the first study are to inform the construction of the second study (Bainbridge & Lee, 2014). In this study, the interviews of study 1 will provide insight into which work characteristics will be included in study 2 and tested in relationship to employees' perceived job performance and happiness at work. The qualitative study will thus

both support the development and explanation of the quantitative study. Especially the development purpose is important because the already established experienced work characteristics of agile team designs cannot be applied to the context of Rabobank, as the effects of agile teams are different for each context (Dikert et al., 2016).

Study 1 is a qualitative study. Its purpose is to elucidate how employees are perceiving agile team designs and which work characteristics they experience while working in agile teams. Both the purpose and associated research question are descriptive in nature. Even though both qualitative and quantitative methods can be used to answer descriptive research questions, the purpose of this specific study is to explore the phenom of agile team designs and better understand how it is experienced by employees. Therefore, the research method of interviewing was applied (Meadows, 2003). This is further explained in chapter 4.2.

Study 2 is a quantitative study. Its purpose is to determine how the experienced work characteristics, as established in study 1, are related to employees' perceived job performance and happiness at work. As the purpose and research question of study 2 are relational in nature, the quantitative research method of a questionnaire was used. After all, relational research questions can only be answered using quantitative research methods (Meadows, 2003). This is further explained in chapter 5.2.

Finally, this study was conducted at one organisation, Rabobank, at a single moment in time. This means that the research design concerns a cross-sectional case study.

4. Study 1 (Qualitative)

Study 1 concerns the qualitative part of this research. The purpose of this study is to describe how employees perceive agile team designs and provide insight into which work characteristics they experience while working in agile teams. By doing so, the most important work characteristics and experiences will be identified that will develop study 2 as well as help explain the results of study 2. This chapter first provides a literature review including expectations. Second, the used methods for this study are discussed, consisting of research design, case selection, data collection and data analyses. Next, the results are presented, followed by a summary of the results. Study 1 will close with a short elaboration on which variables will be included in study 2.

4.1 Literature review

In this section, expectations are developed regarding how employees will perceive agile team designs and which work characteristics they will experience while working in agile teams. The expectations are based on existing studies. It should be noted that some expectations are based on chapter 2.3, in which the concept of agile team designs is discussed. It was not again included in this section in order to prevent repetition of similar information.

4.1.1 Agile team designs and work characteristics

It has been proposed that agile team designs are redesigning work according to the characteristics of JCT (Hackman & Oldham, 1976) that are argued to increase employee outcomes and lead to enriched work (Chavan et al., 2012; Tripp & Riemenschneider, 2014). This proposition is in line with other studies who describe the way of working in agile teams as exhibiting autonomy, skill variety, task identity, task significance and feedback (Hoda et al., 2011; Moe et al., 2008).

First and foremost, self-organisation is seen as a vital characteristic of agile teams as the teams are often compared to autonomous, self-organising, self-managing and self-regulated teams Cockburn & Highsmith, 2001; Hoda et al., 2011; Parker et al., 2015). Agile teams are said to differ from traditional teams because they are empowered and have more authority and responsibility. Therefore, working in agile teams is mainly associated with autonomy (Moe et al., 2010). The teams are planning their own work, make important decisions and choose the work methods. However, it is of importance that agile teams experience ‘real’ autonomy and not ‘symbolic’ autonomy. Real autonomy means that the

teams can make decisions that affect managerial decisions. It is required in order to achieve the benefits of self-regulation (Moe et al., 2008). Therefore, autonomy is the first work characteristic that the way of working in agile teams is often associated with and employees are likely to experience.

Moreover, it has been stated that jobs and tasks within agile teams are designed based on specific skills of employees. That is, the processes are moulded to specific people and teams by focusing upon the skills and talents of individuals (Cockburn & Highsmith, 2001). By doing so, individuals perform work that they highly identify with as it is based on their specialisations. In addition, agile methodologies provide a certain categorisation that helps reduce information and prioritise tasks (Tripp et al., 2016). This makes it easier for team members to focus and identify with their work. Identification within agile teams is therefore often stronger than within non-agile teams (Whitworth, 2008). Task identity thus makes for a second characteristic that employees experience when working in agile teams.

As mentioned before, the way of working in agile teams is often associated with autonomy. Because agile teams are empowered, they tend to exhibit more authority and responsibility (Moe et al. 2008, 2010), which makes for a greater sense of ownership (Hoda et al., 2011). Team members have more contact with their clients, receive direct feedback and, most importantly, better understand their work and its impact. As a result, team members experience higher levels of perceived value and meaningfulness, which makes that they tend to feel as if their work is important and their tasks are more significant (Tripp & Riemenschneider, 2014). Task significance is therefore a third characteristic.

Another important aspect of working in agile teams is cross-functionality, which implies that team members acquire multiple skills so they are able to perform tasks of other members in order to substitute them if needed. Cross-functionality is an important aspect of agile teams because it creates flexibility and adaptability (Moet et al., 2008; Nerur & Balijepally, 2007). Therefore, it is described by some as a key element of agile teams (Cockburn & Highsmith, 2001; Hoda et al., 2011). As team members from agile teams acquire various skills, their skill set grows. Skill variety makes for a fourth work characteristic.

Lastly, it was found that communication and feedback are key elements to agile processes. Especially feedback from others is important, because it provides individuals and teams with information about what works and what needs improvements. It also contributes to their behaviour adaptation and learning processes (Chavan et al., 2012). This does not only concern feedback between an agile team and its customers (Hoda et al., 2011), but also among

team members. If customers are not involved, or team members refrain from exchanging feedback, it could damage the performance of an agile team. The various meetings of agile teams, such as the daily meetings and retrospectives, are meant to encourage the exchange of feedback (McHugh et al., 2011). However, it was found that these meetings should focus on the team and team processes rather than individual tasks. If individual goals are discussed instead of team goals, exchanging feedback can be delayed by team members not listening (Moe et al., 2010). In addition, a lack of trust among team members could reduce the exchange of feedback and information (McHugh et al., 2011). Therefore, feedback is a fifth characteristic that employees experience when working in agile teams.

4.1.2 Expectations study 1

The transition to agile teams involves a new way of working. This new way of working includes different work methods and new dynamics between team members (Whitworth & Biddle, 2007). As briefly mentioned in the conceptualisation of agile team designs (chapter 2.3), agile teams often have a small team scope that is based on the specialisation of the team. The members tend to perform work that is adapted to their specific talents and skills (Cockburn & Highsmith, 2001; Tripp & Riemenschneider, 2014). Therefore, the first expectation consists of employees experiencing specialisation within their everyday work when working in agile teams.

Agile team designs are often implemented in order to switch from a plan-driven approach to an incremental and iterative approach. The teams promote flexibility and responsiveness, as has been discussed in chapter 2.3 (Nerur & Balijepally, 2007). The principles of agile teams include fast, consistent and continuous delivery of products while responding to changing business requirements (Highsmith & Fowler, 2001). Therefore, it is expected that employees will think agile team designs were implemented in order to increase process agility and speed. This represents the second expectation of study 2.

Moreover, agile teams are often associated with autonomous and empowered teams that self-regulate their behaviour. They are said to plan their own work, make decisions and determine the work methods (Hoda et al., 2011; Moe et al., 2010). Therefore, experiences of work scheduling autonomy, decision-making autonomy and work methods autonomy are expected. Moreover, as agile teams exhibit autonomy, it has been said that team members will have more authority and responsibility (Moe et al., 2008). Team members experience a greater sense of ownership as well as more perceived meaningfulness, which makes employees better understand the value of their work (Hoda et al., 2011; Huck-Fries et al.,

2019). Therefore, it is expected that employees will experience task significance. Furthermore, agile methodologies introduce a certain categorisation that reduces information and helps team members prioritise tasks (Tripp et al., 2016). This makes it easier for individuals from agile teams to identify with their tasks, wherefore task identity is expected to be experienced by employees. Next, the teams are said to exhibit cross-functionality, which implies that team members acquire multiple skills in order to substitute others if needed and perform their tasks (Nerur & Balijepally, 2007). Therefore, it is expected that team members will experience a variety in skills. Finally, the exchange of feedback has been found to be crucial when working in agile teams (Chavan et al., 2012). Team members from agile teams are more dependent on both customer input and assessments within the teams (Hoda et al., 2011). The expectation is therefore that individuals will experience of feedback from others. In short, it is expected that employees will experience *work scheduling autonomy*, *decision-making autonomy*, *work methods autonomy*, *task identity*, *task significance*, *skill variety* and *feedback from others* after having transitioned to an agile team. This makes for a third expectation.

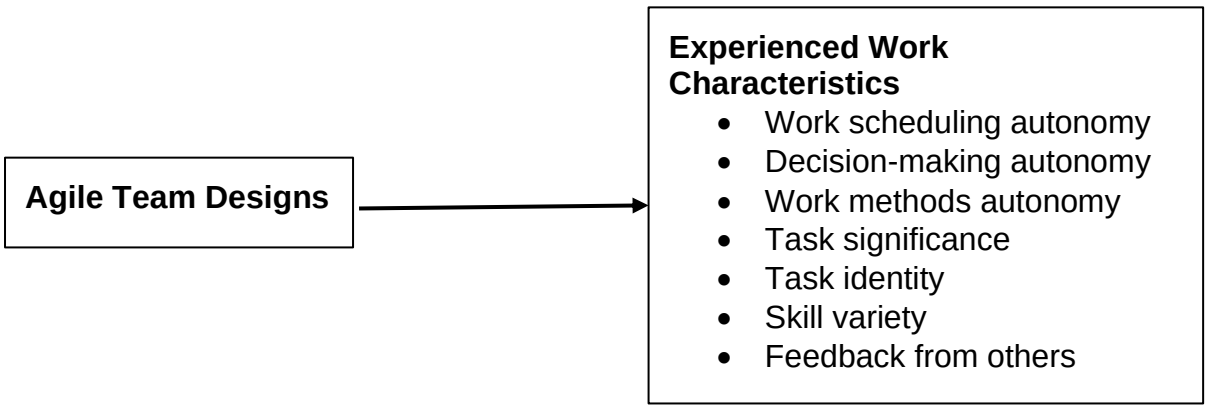


Fig. 2: Research model study 1.

4.2 Methods Study 1

The following chapter presents the methodology that was used in study 1. First, the research design and case selection are presented. Next, the data collection and data analysis are discussed.

4.2.1 Research design

Study 1 was performed using the qualitative research method of interviewing. This was the appropriate method for the first research question because its purpose is to describe how

employees are perceiving agile team design and provide insight into which work characteristics they are experiencing while working in agile teams (Meadows, 2003). Semi-structured interviews were used as they offered employees the opportunity to speak freely about their experiences with agile team designs and express their emotions and thoughts during the conversation. At the same time, the researcher was still able to direct the interview and navigate the conversation back to experienced work characteristics and agile team designs if needed (Alvesson & Sköldberg, 2000). The interviews were conducted once within a specific organisation. This means that study 1 concerns a cross-sectional case study.

4.2.2 Case Selection

The interviewees consisted of 8 individuals that had been selected carefully in order to create a sample that would meet the diverse backgrounds of employees. As such, it was made sure they differed in age, gender, job, job tenure, tenure at the organisation and experience with working in an agile team. For instance, business analysts, product owners and developers were interviewed. The interviewees were selected from various agile teams of both department A and B. 3 interviewees were chosen from department A and 5 were chosen from department B, as the latter consisted of more individuals that were working in agile teams.

Tabel 1: *Characteristics of interviewees*

Gender	Male	Female			
N	4	4			
Age (years)	20-30	31-40	41-50	51-60	61-70
N	0	2	3	3	0
Tenure at Rabobank (years)	>1	1-5	6-10	11-15	16-20
N	1	1	1	2	3
Tenure at agile team (months)	>3	3-6	7-9	10-12	13-15
N	0	2	4	2	0

4.2.3 Data Collection

The interviews were scheduled by the managers. Prior to the actual interview, interviewees were informed about the goal of the interview, its structure and duration. Anonymity was guaranteed as well as the opportunity to take back any statements they felt were not appropriate to include in the analysis. In addition, all interviewees were asked permission to record the conversation. All agreed. The 8 interviews were conducted from the 23th of May till the 3th of June at Rabobank. The conversations lasted between 28 and 72 minutes and were conducted in Dutch.

When conducting semi-structured interviews, a topic-list is often used (Alvesson & Sköldberg, 2000). The topics for the interviews were derived from the theoretical concepts as well as corresponding literature. For instance, the topic of *happiness at work* was divided into the sub-topics of work engagement, job satisfaction and affective organisational commitment, based on Fisher's (2010) definition for happiness at work at person-level. The other topics consisted of *the way of working in agile teams, experienced work characteristics* and *job performance*. Follow-up questions were asked when deemed relevant. In case of interviewees deviating from the topic, specific questions were asked or remarks were made in order to return to the original topic. In addition, the list of work characteristics (Morgeson & Humphrey, 2006) was presented if the interviewees could not think of any characteristics or had trouble defining their experienced work characteristics.

First of all, the way of working in agile teams was discussed. The interviewees were asked to define working in agile teams and to explain why they would define it like that. Second, they were asked to elaborate on why they thought the agile team designs had been implemented within Rabobank. Next, in order to deduce how exactly the interviewees were perceiving agile team designs, it was questioned which work characteristics they were experiencing while working in agile teams and how that impacted that everyday work. In order to get accurate answers, work characteristic' changes and associations were also discussed. That is, it helped interviewees to formulate their experiences by comparing current perceptions and associations of characteristics with those of before the agile teams. For example, it was asked which changes the interviewees experienced in their everyday work and how that affected their perceptions of the work characteristics. In addition, as mentioned before, the list of work characteristics as determined by Morgeson and Humphrey (2006) was presented if needed. Next, the topics of job performance and happiness at work were discussed. By discussing these topics, the results study 1 would be more capable of explaining the results of study 2. In order to discuss job performance, open questions were asked about

interviewees' perceived task performance and organisational citizenship behaviour. Happiness at work was discussed using open questions about interviewees' perceived work engagement, job satisfaction and affective commitment. Follow-up questions were asked about what the organisation could do in order to improve employees' perceptions of job performance and happiness at work. All topics were discussed using open questions. However, closed, summarising questions were also used from time to time in order to check if all was understood correctly. Afterwards, the interview recordings were transcribed verbatim. One of the transcripts misses a few paragraphs due to a malfunctioned recording. The topic-list including sample questions has been enclosed in the appendix.

4.2.4 Data Analysis

The analysis was performed at various levels: within each case and across all cases. Several steps were taken in order to accurately analyse the qualitative data. For instance, the transcripts were analysed using *constant comparison method* (Glaser, 1992). This method implies that codes are repeatedly compared to one another in order to find recurring themes. First, the transcripts were read, memos were written and interesting and relevant quotes were highlighted. Second, the data was coded by segmenting and labelling text. In others word, *open coding* was used. Open coding entails that every relevant or remarkable piece of text gets a code (Creswell, 2013). Next, *axial coding* was applied. Axial coding implies that all codes are organised and, if possible, merged together in order to reduce the overall number of codes. This is otherwise known as creating categories (Glaser, 1992). The purpose of axial coding is to create a clear, well-arranged list of core codes (Creswell, 2013). In addition, *selective coding* was applied. This entails the exclusion of codes that do not relate substantially to a core code or category (Glaser, 1992). During coding, theoretical concepts such as job performance were sought-after. This means that in addition to inductive codes, there were also several deductive codes. Two out of eight transcripts were set aside during the process of coding and served as a check to test the formulated, comprehensive set of codes. Hence, they were verified using *intercoder agreement* (Alvesson & Sköldberg, 2000). Consequently, some of the codes were reformulated. The final set of core codes was used to determine and describe the results and answer the first research question. The program of NVivo was used to perform the analyses. An overview of all codes (i.e., code tree) has been included in the appendix.

4.3 Results study 1

This chapter presents the results of study 1. First, it will be elucidated how the interviewees defined the way of working in agile teams and why they thought agile team designs had been implemented. Next, interviewees' associations and experiences regarding their work characteristics are illustrated, followed by the factors that appeared to have an impact on these experiences and associations. Lastly, interviewees' perceived job performance and happiness at work in agile teams are revealed. The chapter closes with a short summary of results.

4.3.1 The way of working in agile teams

Interviewees were first asked to define the way of working in agile teams. The answers were divers, but three definitions were mentioned repeatedly: having focus, working in short cycles and having a dedicated team. The most used definition was 'having focus'. When asking what it entailed, interviewees described it as having a smaller team scope, specialise, setting priorities and reflecting on what the team is doing and what that will bring them.

> "*It's about realising what is important to do, taking time to focus on that and setting priorities* […] *Thus, it's about concretising what we're doing and what it will bring us*." (Department B, respondent R)

When asked why having focus is important for working in agile teams, interviewees replied that it helped them to better understand their place within Rabobank and their contribution to the overall process.

> "*Working agile gives much more insight into what is really important, what do we really have to work on, where are we of added value? How?* […] *You are just a radar in a large company, a small radar in a bigger picture, this helps to have focus and to discover where you fit within this large machine.*" (Department A, respondent N)

Moreover, the way of working in agile teams was described as working in short cycles, which were defined as 'sprints' consisting of two weeks or so. Having more focus as a team was often associated with the short cycles. In addition, they were said to increase the pace at which the team members work.

"*The sprints definitely allow us to increase our speed. After every 2 to 3 weeks, we start working on a new project, so to speak, so you can't get stuck on a specific task or keep overthinking it. You have to move on* [...] *I think this also allows us to work more focused, because every sprint we focus on one of two specific products or projects.*" (Department B, respondent K)

Finally, the agile way of working was also defined as having in a dedicated team. A dedicated team was said to entail that the team members are both dedicated to the team's purpose as well as to each other. Team members thus put the team's needs before their own.

"*This also means that you have to address each other about the fact that everyone has to do their bit and that you must all work together and therefore expect benevolence. Jump in when necessary. Don't just say: 'No, that's your job, bye.' That just doesn't work, and then it won't work at all*." (Department A, respondent N)

When asked why Rabobank had implemented agile team designs, various answers were given. Increasing speed, transparency, alignment within work processes and a greater customer focus are just a few of the answers that were given. One interviewee said that the agile practices were only implemented because other Dutch banks are doing it and Rabobank wants to follow the current trends.

"*Do you want me to be honest? I believe they have done it because it is 'trendy' and others are doing it. That's my opinion.*" (Department A, respondent M)

4.3.2 Work characteristics

Many work characteristics were discussed during the interviews. Some were discussed more often and more thoroughly than others.

Autonomy

Generally speaking, interviewees experienced a lot of autonomy. They appreciated it and also deemed it necessary in order to perform well as an agile team. However, they perceived the various aspects of autonomy differently. For instance, work-scheduling autonomy was perceived to be present within the everyday work, which interviewees were happy about, but many also experienced a lack of decision-making autonomy.

"*I like the freedom we have in planning our work, but I still miss the freedom and authority to really make decisions as a team*." (Department B, respondent R)

In turn, work methods autonomy was argued to have increased, but interviewees were not happy about that. They said that it left them too many different options in how to execute the work, which often had confusion or dissension as a result. Some pointed out that management needed to draw up a stricter policy.

"*There is just not enough clarity because we have no policy.* [...] *The work methods have increased a bit too much. It should be less. Take for example documentation: we have multiple teams that are all occupied with selling new products and they document that. But, if I compare the documentation of the teams, they are completely different! I can't work like that! If I need specific information from those documents, it sometimes takes a lot of time to find it.. If it's there at all."* (Department B, respondent K)

Task significance

As a result of transitioning to agile teams, some interviewees experienced a low or decreased task significance. Various reasons were found. As such, as mentioned before, employees now have to do additional administrative tasks that they perceived as less significant. In addition, many were not challenged anymore by their everyday work. Moreover, some interviewees used to have a rather autonomous or significant jobs. Now, they felt less important.

"*I used to lead an entire project.* [...] *Now you are just part of a team, which can handle much less than I can produce, so to speak*." (Department B, respondent C)

In addition, the type of work that a team performed, or the products they produced, also appeared to be of influence. It seemed that employees who got to design and produce a 'whole' product, from front to end, were more positive about their task significance than those who produced part of a whole product.

"*I'm part of a 'thinking team' and well, we don't actually do anything. Normally, you have a squad that can deliver an entire product and that's absolutely not the case right now.* [...] *We only deliver bite-sized chunks that are ready to go*." (Department B, respondent W)

Task variety

The variety in tasks had increased according to the interviewees. However, not all were positive about the task variations. Some of the new tasks felt less important or even insignificant. Some did not mind it, while others found it a complete waste of time and energy. Especially the operational and administrative tasks were sometimes labeled 'frustrating'.

" *I'm working on may different things, so it's sufficient.* [...] *But, also many operational things that make you think; 'This is frustrating'.*" (Department B, respondent R)

Skill variety

Variety in skills appeared to be a characteristic that should have been present according to interviewees, especially considering the fact that agile team members should be able to substitute one another in case of for example illness. Several employees however indicated that skill variety was rather low within their agile teams. One interviewee explained that this was caused by people often going to the same persons with particular questions or tasks.

"*You often go to the same people with particular questions, and I believe that to be healthy. However, it's also a problem for your organisation if that particular person gets sick or something.* [...] *And, of course, it limits the opportunities to exchange skills or learn new ones.*" (Department B, respondent W)

Feedback from others

As mentioned before, working in an agile team entailed working in a dedicated team. Many interviewees had pointed out that they valued feedback from others and also needed it in order to improve themselves and the team. Some said that the constant feedback 'loops' enhanced their motivation and happiness because the performance and meaningfulness of their work became visible. Especially taking time to acknowledge and celebrate certain successes was considered valuable. The so-called retrospectives, in which the latest sprint is evaluated, as well as individual and team performance, were found to be valuable. Nevertheless, others also pointed out that despite its relevance and importance, the feedback loops were not what they are supposed to be. In other words, according to the interviewees, feedback from others

needed to be improved. They acknowledged that this could be related to the mindset of employees as well as to the organisational culture.

"*It's mainly about attitude and behaviour, people have to dare to confront each other about their responsibilities. Being able to give direct feedback.* [...] *People find that very difficult. It's however very important, something that really has to do with attitude and behaviour. And culture.*" (Department B, respondent R)

Interdependence

Even though several interviewees recognised the interdependence between team members, they did not necessary associate it with working in agile teams.

"*Interdependence... you know, it hasn't really changed in my eyes. We might be a bit more conscious about it, but it's not like we didn't have it before..*" (Department A, respondent N)

Specialisation

The work characteristic of specialisation was mentioned by interviewees, but less as a characteristic of their work and more as a characteristics of their team scope or team design in general. Many also argued that they found 'focus' more fitting and more appropriate than 'specialisation'.

"*I don't see it as a specialisation, but as having focus. That you don't do twenty things at the same time, but only five. I see specialisation as acquiring more knowledge about one thing… That's not what we are doing to be honest.*"
(Department B, respondent C)

Job-based feedback, task identity and problem solving

The characteristics of job-based feedback, task identity and problem solving were discussed, but not as much as the other variables. In addition, they were often discussed in the form of interviewees not knowing their meaning, not recognising it within their everyday work or not associating it with working in agile teams.

4.3.3 Impacting factors

Various factors were found that impacted interviewees' perceptions regarding agile team designs and their experienced work characteristics. They consist of team tenure, team maturity and team design. Team design refers to the assigned team roles and number of team members.

Team tenure

First of all, it was found that team tenure influenced employees' perceptions regarding their agile team and experienced work characteristics. Interviewees indicated that it takes time before a team can successfully work together. Long-serving agile teams would be more positive according to them.

"*You need time as a team to get used to each other and this way of working. It's just a matter of experiencing and learning*." (Department B, respondent S)

Team maturity

Moreover, the maturity of an agile team - and its team members - also appeared to be important for how they worked together and for how they perceived their agile team designs and work characteristics. More mature teams were said to be more successful.

"*It also has to do with team maturity. Based on that, you can really tell how a team works together and whether they're able to interact with each other as adults or if someone is still pointing fingers and saying; 'you have to do this or that and you're going to do it like that'*". (Department B, respondent C)

Team design

Finally, the interviewees argued that different team designs were being used within the departments. They did experience some improvements regarding the alignment of team designs, but also acknowledged that many differences remained. For instance, the number of team members differed per team, as well as the assigned roles. Some teams did not have an agile coach or scrum master, whereas other teams had both. The different designs confused the interviewees and they were certain that the diversity in team roles and number of team members affected their perceptions regarding agile team designs and experienced work characteristics.

"*There are thousands of ways to work agile and to design agile teams. In my eyes, what we have done is a big mess. I like this way of working, but it's not necessarily Agile Scrum what we do.*" (Department B, respondent W)

"*You noticed that every team had a different layout, and that we thus didn't follow the guide, not according to the real process* [...] *Role assignments, number of members, it's being more aligned now. So that's good I guess, but still, it's confusing sometimes.*" (Department B, respondent R)

4.3.4 Perceived job performance and happiness at work

In general, the interviewees were positive about agile team designs. Many said that working in agile teams did indeed improve their perceptions of the overall job performance and happiness at work. Having focus, setting priorities, working in short cycles and being able to keep to a strict planning were named as main reasons.

"*So indeed, the cutting up over time, setting priorities. It makes it very clear that; 'okay, you are dealing with this.'* [...] *I very much enjoy this way of working because you are so busy with so many things and it kind of clears my head if we organisanise it this way….*" (Department B, respondent S)

Nevertheless, several interviewees also pointed out negative aspects of agile team designs that affected their perceived job performance and happiness at work, consisting of having less challenging work, losing touch with others teams,needing a different mindset and working in an unfit environment.

Less challenging work

First of all, many argued that besides their regular work, they now also had to attend to less interesting, simple administrative or operational tasks. Some did not mind, but others found it a waste of their time and energy. Moreover, several interviewees disliked the smaller team scope because it took away a lot of challenges and complexities that they used to enjoy.

"*What I enjoyed about the old way of working was that I worked much broader. Now, by making everything smaller, I just miss…* [...] *You have to be careful that you still have work*

that challenges you. I am not a specialist. I have a lot of knowledge, but you shouldn't put me on details all the time, it doesn't make me happy." (Department B, respondent C)

The interviewees therefore indicated that their work had become much simpler. As a result, some took on extra tasks from other teams and colleagues in order to create more challenges within their everyday work as well as gain more satisfaction. However, the interviewees that did this experienced a lack of time to help others because they had to focus on the scope and priorities of their own team.

"*Because we have a greater focus and set priorities, I feel like I can no longer help others… We often have to say something like 'at the moment we are busy with this task or product, we can't help you' and 'sorry, we have other priorities'*." (Department A, respondent M)

Losing touch with other teams

The observation of having less time and attention for others seemed to continue in the everyday work processes. That is, many felt that because of the dedicated teams, they were becoming less and less involved with other teams. Interviewees would describe the agile teams as something similar to isolated islands. They argued that this would not only hurt the social relationships between employees within a tribe, but could also possibly affect their performances.

"*We have lost each other completely. I sometimes see colleagues that I used to see a lot… They are now in their squad and you just don't see them anymore. It's a risk you know, apart from the social aspect… But it's a risk, that you are now more isolated. […] It's very fun and helpful to sometimes be able to spar with people who roughly do the same work you do. That has become less*." (Department B, respondent C)

In addition to being unsure about what other agile teams were doing, interviewees said that the lack of communication between teams also clouded their vision of the tribe's overall purpose and 'the bigger picture'.

"*By having these specific scopes and teams, there is a chance that one team will move left and the other one right* [...] *It comes with risks, to stay together as a whole. Not just regarding the*

people, but also regarding what the tribe produces and what it stands for." (Department B, respondent P)

A different mindset

Many interviewees acknowledged that this way of working required a different mindset. In order to make agile teams a success, a change in mindset or organisational culture is needed. Even so, they realised that changing a mindset or culture was hard, difficult and needs time as well as accurate guidance and support.

"*What can I say… it's difficult and requires a change in organisational culture. But if there is one thing that people dislike, it's change.*" (Department B, respondent A)

However, interviewees also mentioned that they wanted more guidance from management in order to change their current mindset and adapt more quickly to this way of working. At the moment, many experienced a lack of support and guidance from management. Some interviewees implied that both management and product owners were still acting as a determining and controlling actor rather than the needed facilitating and supporting one.

"*Now, they complete the puzzle within your box, your own scope.* [...] *We should set the targets together, create the frameworks together and then they have to say; 'you can put the puzzle together yourselves.'* […] *If that trust isn't given, it just not going to happen, working agile*." (Department B, respondent P)

An unfit work environment

Some demonstrated against the current work spaces at Rabobank. Everything was designed according to the modern way of working, consisting of flexible work spaces. Moreover, working at home was encouraged. However, many said this constrained their team performance and coherence.

"*Rabobank used to be the organisation that said; 'Working modern is also working from home, location independent.' That new modern way of working basically becomes trash, you now just have to be present.*" (Department B, respondent R)

Interviewees experienced too much noise, too little room and tension between teams as they have to 'claim' work spaces in order for the whole team to work together.

"*The floor is just too full, there is too much noise and not enough space.* [...] *I think that it is an important condition for success that squads are be able to sit together. And at the moment, that is being not facilitated"* (Department A, respondent M)

4.3.5 Summary of results

The interviewees defined the way of working in agile teams as having more focus, working in short cycles and having a dedicated team. Especially working with a greater focus was mentioned often. Various, inconsistent reasons were given for why Rabobank had implemented agile team designs.

Multiple work characteristics were experienced while working in agile teams. Interviewees experienced a sufficient amount of work scheduling autonomy, too little decision-making autonomy and too much work methods autonomy. In addition, some experienced a decreased or low task significance. Task variety was seen as sufficient, but not all tasks were considered important and relevant. In addition, interviewees wanted more skill variety and feedback from others. Furthermore, the characteristics of interdependence, specialisation, job-based feedback, task identity and problem solving were discussed in the interviews, but not as much or as thoroughly as the other characteristics.

Various factors were found to impact interviewees' perceptions of agile team designs and experienced work characteristics. These factors consist of team tenure, team maturity and team design. Team design includes the assigned team roles and the number of team members.

In general, the interviewees felt that the agile teams improved their perceived job performance and happiness at work. They specifically enjoyed the smaller team scopes and setting of priorities because it provides a clear overview of the work. However, they also mentioned having less challenging work, losing touch with other teams, needing a different mindset and working in an unfit environment.

4.4 Moving forward to study 2

Based on the results of study 1, the following work characteristics will be included in study 2: work scheduling autonomy, decision-making autonomy, work methods autonomy, task significance, task variety, skill variety and feedback from others. These characteristics have been chosen for various reasons. First of all, they were discussed thoroughly and all

interviewees indicated to experience them, one way or another, whereas the other characteristics were hardly discussed and not necessary experienced by the interviewees. Second, there is enough theoretical evidence to formulate substantiated hypotheses and determine the relationships of work characteristics with perceived job performance and happiness at work. Some of the other characteristics, such as problem solving and specialisation, have not yet been thoroughly examined by scholars. This makes it harder to accurately formulate hypotheses that can be tested (Humphrey et al., 2007; Morgeson & Humphrey, 2006).

Moreover, the variables of team tenure, team maturity and team size will be included in study 2 as moderators. The interviewees also argued team roles to be an impacting factor, but there was not enough theoretical evidence to support their effects. In addition, existing literature has indicated that the assigned team roles in agile teams are not performed in a similar manner. In other words, there is not one 'type' of agile coach or product manager, because individuals often have their own ideas on how to interpret such a role and execute it (Hoda, 2011). Therefore, the results would not be of value as it is not clear to which type of agile coach, for example, the observations apply (Dorairaj et al., 2012). The team roles could thus not be justified as either moderators or control variables.

5. Study 2 (Quantitative)

Study 2 concerns the quantitative part of this research. The purpose of this study is to determine how the experienced work characteristics, as determined in study 1, relate to employees' perceived job performance and happiness at work. This chapter first provides a literature review including hypotheses. Second, the used methods for this study are discussed, consisting of research design, case selection, data collection and data analyses. Next, the results are presented. The chapter ends with a summary of the results.

5.1 Literature review

In this section, hypotheses are developed on the relationships between the experienced work characteristics and employees' perceived job performance and happiness at work. The hypotheses are based on existing studies.

5.1.1 The happy-productive worker

For the past decades, organisational theorists and practitioners have been fascinated by the *happy-productive worker hypothesis*. According to this hypothesis, employees who feel happy exhibit higher levels of performance-related behaviours than unhappy employees (Cropanzano & Wright, 2001). The hypothesis dates from the Human Relations Movement of the 1930s, but is still as popular today. After all, knowing whether or not happiness at work can promote productivity and performance has important implications for work design and the work environment (Wright & Cropanzano, 2007; Zelenski et al., 2008).

Happiness is seen as a valuable, sometimes scarce, resource. The value that is placed on happiness, coupled with its occasional scarcity, makes it important to preserve and maintain it whenever possible (Hobfoll, 1998). When an unhappy individual goes to work, he or she will feel the need to protect his or her limited reserve of happiness. Therefore, unhappy employees are more pessimistic, sensitive to threats in their work environment and can get defensive towards their colleagues. Happy individuals, on the other hand, tend to feel and act the opposite. This means they are optimistic and confident, sensitive to opportunities and more helpful and outgoing towards their colleagues (Cropanzano & Wright, 2001). According to this resource maintenance model, the need to conserve their happiness can lead unhappy people to perform more poorly compared to happy people. Happy people are more flexible because of their abundant happiness reserve. Furthermore, it appears that unhappy employees are more impressionable to negative work events and more likely to remember them, whereas

happy employees are more impressionable to positive work events (Wright & Cropanzano, 2007). For instance, it was found that unfavorable feedback was more hurtful to employees who felt unhappy and were prone to negative emotions, whereas it was less hurtful to those who were prone to positive emotions. In addition, favourable feedback yielded more benefits for happy employees than unhappy employees (Larsen & Ketelaar, 1989). Moreover, individuals prone to negative emotions were more likely to using interpersonal tactics, thereby provoking their colleagues. Unhappy employees also reported feeling less support from managers and colleagues than their happy counterparts do (Staw et al., 1994). In general, these findings suggest that happy employees are to perform better. After all, the tendency that unhappy employees have to emphasize negative work events and negative work aspects is likely to result is deleterious consequences for their job performance, especially when the job requires a great amount of human interaction (Wright, 2005). In addition, some evidence has already been provided for the effects of happiness at organisational level, thereby arguing that happy organisations make for productive organisations (Taris & Schreurs, 2009).

However, there is a large grey area regarding research on the happy-productive worker. Even though there is a certain accordance regarding the definition, happiness - or happiness at work - is a very subjective concept that can be operationalised in various ways (Cropanzano & Wright, 2001), making it an 'umbrella concept' (Fisher, 2010). It has been operationalised by previous scientists as job satisfaction, psychological well-being, quality of work life, emotional exhaustion, positive affect and negative affect, just to name a few. Especially job satisfaction has been used often to measure happiness, but some argue that it is not an effective proxy for happiness (Zelenski et al., 2008). That is, job satisfaction is specific to one's job and excludes external aspects that affect happiness (Wright & Cropanzano, 2007). Nevertheless, even though the various operationalisations may explain or predict part of employees' happiness and performance-related behaviours, they do not measure a similar construct. In addition, narrow conceptualisations and measures of happiness-related constructs have resulted in the underestimation of the total impact of happiness at work (Fisher, 2010). Consequently, support for the happy-productive worker thesis remains equivocal. scientists blame the diverse and ambiguous findings on the variety of ways in which happiness has been defined and operationalised (Wright & Cropanzano, 2007). Furthermore, others claim that the associations between happiness and performance depend on a third variable, such as work environment and self-efficacy (Warr, 2007).

Despite the diverse findings, scientists conclude that happiness does indeed promote higher levels of job performance and that individuals are more productive when they are in

happy moods. In other words, happy employees are productive employees (Cropanzano & Wright, 2001; Wright, 2005; Wright & Cropanzano, 2007; Zelenski et al., 2008).

H1 Happiness at work relates positively to job performance

5.1.2 Work characteristics and employees' perceived job performance and happiness at work

5.1.2.1 Autonomy

Autonomy refers to the freedom that individuals have in carrying out their work (Morgeson & Humphrey, 2006). It is part of JCT and therefore thought of as an enriching job characteristic that motivates employees. That is, individuals with autonomous jobs or tasks are likely to experience higher levels of responsibility and authority during their everyday work (Hackman & Oldham, 1975). Moreover, autonomy creates self-determination and meaning (Ryan & Deci, 2000). A lot of positive effects between autonomy and employee outcomes have been found. Especially the outcomes of job performance and job satisfaction have gotten a lot of attention from scientists. Autonomy has been found to enhance performance and enlarge satisfaction, as well as work engagement and commitment (Humphrey et al., 2007). Therefore, some have implied that autonomy may be an important antecedent of happiness at work (Fisher, 2010; Sousa & Porto, 2015). Even though autonomy has mainly positive effects regarding employee outcomes, studies show that it is more predictive of attitudinal outcomes (e.g., job satisfaction) than of behavioural outcomes (e.g., job performance) (Fried & Ferris, 1987; Oldham & Fried, 2016).

The autonomy that agile teams exhibit to, for example, make decisions and coordinate work, results in greater motivation to perform and more desire for responsibility. This results in enhanced productivity, more creativity, better service quality and greater helping behaviour (Fenton-O'Creevy, 1998). Autonomy enhances productivity and performance of agile teams because it brings decision-making authority to the level of operational problems, which increases the accuracy and speed of problem solving (Tata & Prasad, 2004). It enhances helping behaviour (i.e., organisational citizenship behaviour) because team members experience greater group coherence and collective commitment (Fenton-O'Creevy, 1998). In addition, agile team members also feel more motivated and enthusiastic because of their empowerment. The feeling of having the autonomy to make decisions, among other things, means that members can get more involved and play a bigger part in their team's processes. It stimulates employees' participation and involvement (Moe et al., 2008).The fact that agile teams are more self-regulating and largely accountable for their behaviour and actions, makes

for a greater sense of ownership as well as more perceived meaningfulness (Hoda et al., 2011; Huck-Fries et al., 2019). Therefore, the autonomy in agile teams was found to relate strongly to work engagement (Huck-Fries et al., 2019). As such, team members of agile teams refer often to ‘we’ and ‘us’ instead of ‘I’ or ‘me’ and speak of team processes and products rather than individual tasks (Hoda et al., 2011; Whitworth & Biddle, 2007). Autonomy does not only stimulate participation and engagement, it also enhances employees’ emotional attachment to an organisation. Team members care about their work and these feelings of responsibility, authority and perceived meaningfulness make for greater affective commitment (Kittinger et al., 2009; Moe et al., 2008). In addition, the responsibility and perceived meaningfulness were also found to positively relate to the job satisfaction of employees that were working in agile teams (Moet et al., 2008).

However, as mentioned before, autonomy is not an one-dimensional construct as JCT implies. According to recent research, it consists out of work scheduling autonomy, decision-making autonomy and work methods autonomy (Morgeson & Humphrey, 2006). Although all three facets of autonomy are argued to relate positively to employee outcomes such as job satisfaction, their impact is different. For instance, decision-making autonomy provides employees the opportunity to influence and determine specific behaviours on the job, whereas work scheduling autonomy solely suggests how the behaviours are ordered. Consequently, decision-making autonomy was found to be more predictive of job satisfaction than work scheduling autonomy and work methods autonomy (Humphrey et al., 2007).
Despite the differences in impact, there is enough evidence to suggest that all three dimensions of autonomy will relate positively to the perceived job performance and happiness at work of employees that work in agile teams.

H2a Work scheduling autonomy relates positively to job performance.
H2b Work scheduling autonomy relates positively to happiness at work.
H3a Decision-making autonomy relates positively to job performance.
H3b Decision-making autonomy relates positively to happiness at work.
H4a Work methods autonomy relates positively to job performance.
H4b Work methods autonomy relates positively to happiness at work.

5.1.2.2 Task significance

Task significance refers to the impact a job has on others. Being part of JCT, the characteristic is seen as an enriching characteristic. If employees experience high levels of task significance,

they are likely to be more motivated and experience a great meaningfulness when working (Hackman & Oldham, 1975; Humphrey et al., 2007). In addition, task significance is seen as an intrinsic reward. Hackman and Oldham (1975) argue that the effects of task significance are mediated by experienced meaningfulness, whereas others found that perceptions of social impact and social worth are also important (Grant, 2008). Task significance has been found to positively affect employees' job performance and helping behaviour (i.e., extra-role behaviour), as well as to enhance happiness at work during certain work activities, under the condition that employees experience high levels of positive affect (Fisher, 2010; Oerlemans & Bakker, 2018). That is, task significance can be enjoyable (Fried & Ferris, 1987), but may also bring about challenges that can be stressful (Podsakoff et al., 2007). Even so, most studies argue that positive relationships exist between task significance and employee outcomes (Grant, 2008; Humphrey et al., 2007).

Agile teams are said to exhibit high levels of tasks significance because the team scope is often specialised and the work they perform consists of prioritised tasks. This results in reduced information, which makes it easier for team members to recognise the significance and value of their work (Tripp et al., 2016). In addition, the high levels of experienced ownership and perceived meaningfulness in agile teams also lead to employees perceiving their tasks as significant and important for the overall work processes of the team (Hoda et al., 2011; Huck-Fries et al., 2019). Being able to recognise the significance and value of one's work within agile teams has already been found to positively affect employees' motivation, performance and job satisfaction (Chavan et al., 2012; Tripp & Riemenschneider, 2014). Therefore, it is expected that the task significance of agile team members relates positively to their perceived job performance and happiness at work.

H5a Task significance relates positively to job performance.
H5b Task significance relates positively to happiness at work.

5.1.2.3 Task variety

Task variety is not part of the JCT, but was identified an a motivational characteristic later on by recent scientists (Humphrey et a., 2007) . It refers to the extent to which an individual performs different tasks during his or her job and is often compared to task enlargement (Morgeson & Humphrey, 2006). By performing different tasks, it is expected that employees experience a greater variety in their everyday work and therefore are more motivated. It is said to have the same 'job enriching' effects as autonomy, task significance, task identity,

skill variety and job-based feedback. After all, as mentioned before, task variety is conceptually similar to the JCT characteristics (Oldham & Fried, 2016). However, research regarding the effects of task variety are rather scarce, whereas the effects of the 'original' JCT characteristics have been more established. Even so, it has been found that task variety has positive effects on perceived performance and job satisfaction (Humphrey et al., 2007).

Cross-functionality, which entails that individuals can replace another and perform each other's tasks, is an important element within agile team designs (Nerur & Balijepally, 2007). It is often associated with high levels of skill variety within existing literature (Cockburn & Highsmith, 2001; Nerur & Balijepally, 2007), but the interviewees of study 1 also referred to task variety as being important when wanting to substitute each other. Several scholars speak of agile team designs in relationship to task variety (Chavan et al., 2012; Tripp et al., 2016), but they have not thoroughly tested the effects of task variety in agile teams. Solely Melnik and Maurer (2006) found that employees from agile teams experience a greater job satisfaction because they have the opportunity to work on interesting projects while performing different tasks. Therefore, task variety is expected to relate positively to the perceived job performance and happiness of employees in agile teams. However, this expectation is mainly based on studies that found positive effects on employee outcomes but did not consider the context of agile teams (Humphrey et al., 2007), as evidence is scarce regarding the effects of task variety in agile teams (Tripp & Riemenschneider, 2014).

H6a Task variety relates positively to job performance.
H6b Task variety relates positively to happiness at work.

5.1.2.4 Skill variety

Skill variety refers to the extent to which an individual must use different skills in order to perform his or hers job (Morgeson & Humphrey, 2006). Some refer to skill variety as a motivating characteristic (Fried & Ferris, 1987; Hackman & Oldham, 1975), others describe it as a knowledge characteristic (Humphrey et al., 2007). More recent scientists see it as a knowledge characteristics because it reflects the knowledge and skills that are needed to perform a job rather than how work occurs and the specific tasks that compose a job (Morgeson & Humphrey, 2006). Despite the different descriptions of the characteristic, its effects are mediated by the variable of experienced meaningfulness. That is, employees experience more meaning in their everyday work if they have to use various skills in order to complete it. It can lead to them experiencing a higher chance of performing a challenging and

interesting job which makes it more meaningful to them (Hackman & Oldham, 1976). Via enhanced experienced meaningfulness, skill variety has been found to enhance job satisfaction, organisational commitment and work engagement (i.e., happiness at work), as well as performance (Fried & Oldham, 2016; Humphrey et al., 2007). However, skill variety does not predict OCB as well as other motivational characteristics. This is because performing multiple skills within a job may increase job pressure and workload (Chen & Chiu, 2009).

Agile team members are said to experience high levels of skill variety because of the cross-functionality that agile teams exhibit (Nerur & Balijepally, 2007). By doing learning additional skills, team members are able to help others and substitute someone if needed. Even more important, they develop a greater understanding of each other's work and learn to perform multiple 'functions' (Cockburn & Highsmith, 2001). This has been found to positively affect job performance, but it also increases engagement and job satisfaction (Hoda et al., 2011; Melnik & Maurer, 2006). Therefore, it is expected that skill variety will relate positively to employees' perceived job performance and happiness at work when working in an agile team.

H7a Skill variety relates positively to job performance.
H7b Skill variety relates positively to happiness at work.

5.1.2.5 Feedback from others

Feedback from others refers to the extent to which other organisational members, such as colleagues, provide information about one's performance (Morgeson & Humphrey, 2006). It is different from job-based feedback as it is focused on the interpersonal component of feedback rather than information derived directly from the work itself. By doing so, feedback from others is deemed a social characteristic (Fried & Oldham, 2016). Social characteristics are important because they emphasize the social aspects of work and the interactions within and outside an organisation. As such, relationships between colleagues were found to be important determinants of wellbeing and perceptions. Feedback from others provides the opportunity to learn how jobs can be performed better through the transfer of implicit and explicit assessments (Humphrey et al., 2007). In addition, the exchange of feedback, being a social interaction, can reduce negative outcomes such as stress and overload (Morgeson & Humphrey, 2006) and increase self-determination (Deci & Ryan, 2000). However, people are not always receptive to feedback and sometimes need a considerable amount of it from multiple people over time in order to have a meaningful impact. In addition, the type of

feedback and its timing are important factors as well, considering that feedback from others is subjective rather than objective (London, 2003). As such, the characteristic has been found to relate to perceived performance, but stronger relationships were found for its relationship to turnover intentions, job satisfaction and work engagement, as well as to intrinsic work motivation (Humphrey et al., 2007). Even though more research is needed regarding feedback from others and its effects on employee outcomes (Oldham & Hackman, 2010), recent studies have indicated that feedback from other will enhance job performance and happiness at work (Humphrey et al., 2007).

Feedback from others is an important characteristic within agile team designs (Dybå et al., 2014). On the one hand, it is needed to improve the work processes. On the other hand, it contributes to the learning processes of team members (Chavan et al., 2012; Dybå et al., 2014). It concerns both feedback from customers as well as from team members (Hoda et al., 2010). As a result, constant feedback positively affects the performance of agile teams (Parker et al., 2015). In addition, it is argued to be necessary for employee commitment, job satisfaction and engagement (Hoda, 2010; Whitworth & Biddle, 2007). Especially the so-called retrospectives, meetings in which the team members reflect upon their sprint, were found to enhance feelings of job satisfaction and engagement (Dybå et al., 2014). Therefore, it is expected that feedback from others will positively relate to the perceived job performance and happiness of employees that work in agile teams.

H8a Feedback from others relates positively to job performance.
H8b Feedback from others relates positively to happiness at work.

5.1.3 Moderators

5.1.3.1 Team tenure

Team tenure refers to the length of time an individual has been with the team and can be seen as a proxy for work experience (Schippers et al., 2003). Team tenure is often included as control variable rather than key concept (Carboni & Ehrlich, 2013), yet it has been found to have a moderating effect on multiple occasions. First of all, tenure has also been found to positively moderate the relationship of job knowledge and job performance. That is, individuals who have a certain job for a longer period of time, have higher levels of job-related knowledge and associated competences, which increases their performance (Borman et al., 1993). A similar effect has been found for team tenure, as team tenure positively moderates the relationship of job knowledge with performance (Bell et al., 2011). In addition,

it positively moderates the relationship of social relationships with efficiency, such as involvement (Carboni & Ehrlich, 2013). The greater the team tenure, the better contributions each team member can make to the team because they learn to work together, have better social relationships and acquire more job knowledge and job-related competences (Carboni & Ehrlich, 2013;; Kozlowski et al., 1999). Jobs within agile teams are often based on the talents and specialisations of teams members, meaning they already have a lot of job knowledge (Cockburn & Highsmith, 2001). Members acquire new skills and job knowledge in order to substitute one another if needed (Nerur & Balijepally, 2007). In addition, they also invest in their social relationships and interactions as part of being autonomous (Dybå et al., 2014). It is therefore expected that over time, employees of agile teams will acquire more job knowledge, competences and social relationships as well as learn to work together as team and understand how to contribute to the team's purpose, which will positively moderate the relationships between the experienced work characteristics and employees' perceived performance and happiness at work.

> H9 Team tenure moderates the relationships of, on the one hand, experienced work characteristics and, on the other, perceived job performance and happiness at work, such that the positive relationships are stronger for long-serving teams.

5.1.3.2 Team maturity

In addition to team tenure, team maturity was also found to be an important factor in the results of study 1. Research regarding maturity in agile teams is quite scarce, wherefore it is hard to determine specific characteristics that can define and measure it (Pereira et al., 2017). However, research regarding team maturity has a lot of similarities to the group development stages of Tuckman (1965). That is, the stages of Tuckman (1965) can be used to measure the maturity of agile teams (Lee, 2008). In the 1960s, Tuckman (1965) reviewed over 50 scientific papers about stages of group development over time. As a result, he proposed four stages of group development: forming, storming, norming and performing.

Forming is the phase of orientation. Team members may be positive, polite and even motivated, but at the same time will act very independently. They struggle to find their place within the group and are often not well informed about the objectives of the team, resulting in feelings of uncertainty and anxiety. Team members are dependent on another and have to come together in order to set certain boundaries within the team and determine their strengths and weaknesses. *Storming* is characterised by intra-team conflict and an increase in hostility

between team members. This stage is seen as a turning point in group development where members begin to create emotional identities of their own. Politeness gives way to honest views and feedback as individuals begin to express themselves and their opinions. This 'realness' will provoke differences of opinion and ultimately conflict. The resolution of conflict in necessary in order for the team to move forward. *Norming* is the stage of increased cohesion. The resolved disagreements and personality clashes result in greater intimacy and a spirit of cooperation. The team is more aware of the common goals and shared responsibility. Members have accepted the team as well as the different individuals. Norms and values are being determined and a sense of acceptance and harmony emerges. *Performing*, finally, is the stage in which team members have established themselves as a cohesive entity and use the skills they have developed as tool to accomplish team goals. Issues have been processed and norms, goals and roles have been established. The team is able to function productively as a collaborative instrument. In addition, team members can now work autonomous and handle decision-making processes without supervision (Tuckman, 1965).

After about a decade, Tuckman & Jensen (1977) proposed an extension to the four stage model. The stage of *adjourning* was added, which refers to the termination of a group. However, the agile teams that are included in this study have recently been formed, wherefore the fifth stage of group development is not deemed relevant and will not be included.

Team maturity has been found to moderate several relationships. In general, teams with higher levels of maturity often experience stronger and more positive relationships between the quality of inter-team relationships or work processes and the quality of work outcomes (Pereira et al., 2017). Regarding agile teams, it was found that mature teams experienced stronger relationships between agile team designs and used team practices than less mature teams. For instance, mature agile teams in the performing stage were found to benefit more from *retrospectives* because they implement and use them more effectively than less mature teams in for instance the storming stage (Gren et al., 2019). Moreover, another study found that team maturity moderates the relationship between agile team designs and retrospective games. That is, teams in the forming stage often use energizers, ice-breakers and team building games during the retrospectives, whereas teams in the performing stage use games that foster members' skill sets and in which they also look back on previous retrospectives in addition to just looking back on their last sprint (Jovanović et al., 2016). Therefore, it is expected that team maturity will indeed moderate the relationships between experienced work characteristics and employees' perceived job performance and happiness at

work. More specifically, agile teams in the group development stage of performing are expected to experience the positive relationships stronger.

> H10 Team maturity moderates the relationships of, on the one hand, experienced work characteristics and, on the other, perceived job performance and happiness at work, such that the positive relationships are stronger for teams in the performing group development stage.

5.1.3.3 Team size

Team size refers to the number of team members in an team (Gully et al., 2002). Studies regarding team size have found that it often moderates relationships between team design features and team performance (Rodríguez et al., 2011; Stewart, 2006). The way of working in agile teams was intended for small teams between 5 - 9 members (Hoda, 2011). Smaller teams are associated with better alignment, greater communication and more commitment. In addition, conflict management is easier to handle (Melo et al., 2013). Even so, there are many teams - and organisations - that violate this Scrum rule by enlarging the number of team members (Dorairaj et al., 2012). As team size increases, the number of communication links between members increases as well as potential conflicts and miscommunications. Agile practices applied at a large scale and large agile teams are likely to have problems with the intra-team coordination (Dikert et al., 2016). Therefore, team size has been found to moderate the relationship between agile team designs and team productivity and performance. That is, smaller teams experience more positive relationships of agile team designs with team productivity and team performance, mainly because they are easier to organise and manage (Dorairaj et al., 2012; Melo et al., 2013). It is therefore expected that the relationships between the experienced work characteristics, on the one hand, and perceived job performance and happiness at work, on the other, are more positive for employees in small agile teams when compared to employees in large agile teams.

> H11 The number of team members moderates the relationships of, on the one hand, experienced work characteristics and, on the other, perceived job performance and happiness at work, such that the positive relationships are stronger for smaller teams.

5.1.4 Research model

Below, the research model for study 2 is presented. In order to enhance readability, each of the moderators have but one moderating line towards the relationships between, on the one hand, the experienced work characteristics and, on the other, the variables of job performance and happiness at work. However, as is also clarified in the next chapter, the three moderators will each be tested as interaction effect for every single relationship between a work characteristic and variable of job performance or happiness at work.

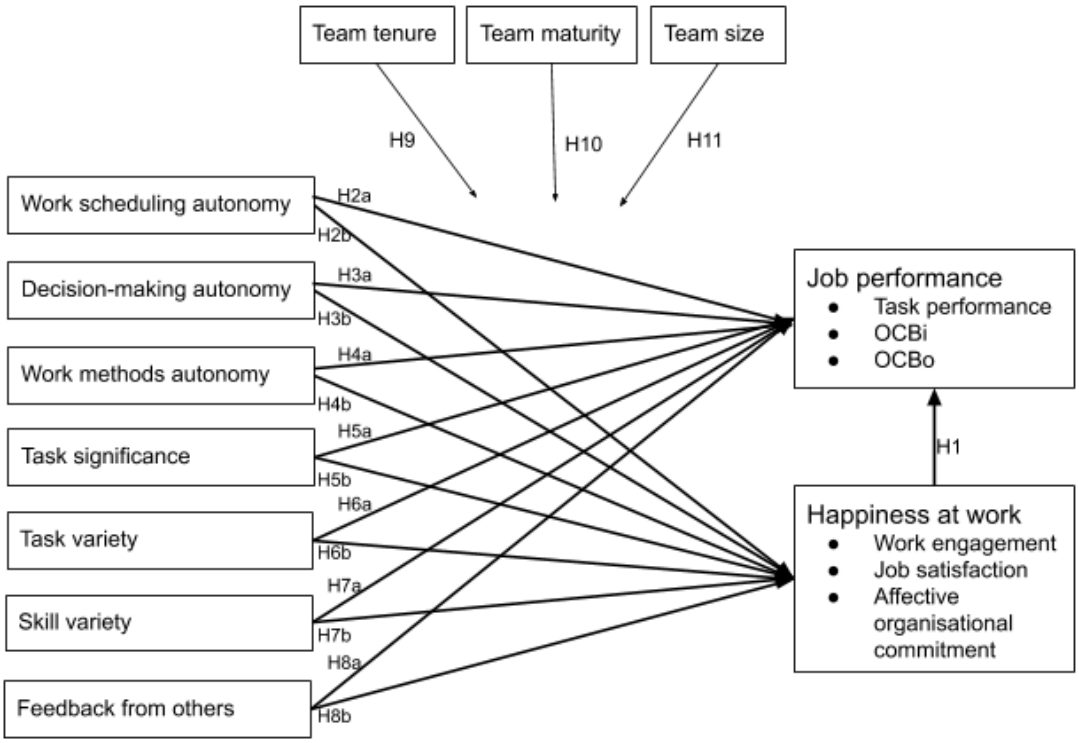


Fig. 3: Research model study 2

5.2 Methods Study 2

This chapter will describe the methodology that was used for study 2. First, the research design will be presented and explained. Second, the research population will be elucidated including specific characteristics of the sample. Following this, the ways in which the data was collected and how the various variables were measured will be described. In addition, the methods for analysing the data are clarified and, finally, the reliability and validity of study 2 will be discussed.

5.2.1 Research design

Study 2 was performed using the quantitative research method of a questionnaire. This was the appropriate method as the purpose and research question of study 2 are both relational in nature (Meadows, 2003). That is, the purpose is to determine the relationships between the experienced work characteristics and employees' perceived job performance and happiness at work. Therefore, the study was conducted using an online questionnaire. Within this design, job performance and happiness at work were included as the dependent variables. The work characteristics, consisting of work scheduling autonomy, decision-making autonomy, work methods autonomy, task significance, task variety, skill variety and feedback from others, featured as the dependent variables. The variables of team tenure, team size and team maturity were included as moderators. Furthermore, the control consisted of gender, age, education, department and tenure at organisation. Similar to study 1, study 2 also concerns a cross-sectional case study.

5.2.2 Research population

The online questionnaire was distributed among Dutch employees of Rabobank from two specific departments: department A and department B. Together, the departments consisted of 170 individuals that were working in agile teams.

5.2.2.1 Respondents

An email containing the link to the questionnaire and an invitation to complete it was send to roughly 170 individuals from both department A and B. A total of 79 employees opened the questionnaire-link, of which 68 gave their consent. In other words, 68 clinked on 'agree' when asked if they understood and accepted the conditions for participating in the study. Following this, 65 participants fully completed the questionnaire. After checking the data and

‘cleaning up’ the dataset, a sample of 62 respondents remained. 62 out of 170 makes for a response rate of 36,5%. Reasons for non-response could be having too little time are no interest in the subject. Answers for questions about the conceptual model were requested, whereas answers for questions about respondents’ background were not requested because of privacy reasons. This, however, made for some missing values within data about the control variables.

5.2.2.2 Sample characteristics

Table 2 displays the demographic characteristics of the respondents. The age of the participants ranged from 29 to 65 years (M = 46.85, SD = 10.02). The male respondents (M = 48.9) were significantly older than female respondents (M = 41.9), t(57) = 2.531, $p < .01$. In addition, more male respondents (M = 1.84) appear to work at department B than female respondents (M = 1.35), t(23.637) = 3.659, $p < .001$. However, the Levene’s Test for Equality of Variances was significant ($p < .01$), meaning there are significant differences in the variance between the groups. Therefore, the t-test was reported where equal variances are not assumed. Unfortunately, no data was available to check the representativeness of the sample compared to the total research population.

Table 2. *Demographic characteristics*

		n	Percentages
Gender	Male	44	71.0%
	Female	17	27.4%
	I do not want to share	1	1.6%
	Total	62	
Age	< 30 years	2	3.2%
	30 through 40 years	17	27.4%
	41 through 50 years	19	30.6%
	51 through 60 years	16	25.8%
	> 60 years	5	8.1%
	Total	59	
Educational level	WO	30	48.4%
	HBO	29	46.8%
	MBO	3	4.8%
	Total	62	
Tenure at organisation	< 5 years	16	26.7%
	5 through 10 years	10	16.7%
	10 through 15 years	17	28.3%
	15 through 20 years	8	13.3%
	> 20 years	9	15.0%
	Total	60	
Department	A	18	29.0%
	B	44	71.0%
	Total	62	

5.2.3 Data collection

Data was collected from June 28th till July 22nd via an online questionnaire. The respondents were approached via an email that was distributed via managers. The email consisted of a short, objective description of the study and its purpose, reasons why employees should participate as well as several statements concerning confidentiality and privacy. As such, the email included information about the time it takes to complete the questionnaire and explained that the questionnaire was anonymous and answers could not be traced back to a specific team or individual. The email and questionnaire were in Dutch. A copy of both is included in the appendix.

The highest number of daily recorded responses was 26 and occurred the Monday after distributing the email (July 1st). After roughly a week, the managers were asked to distribute reminders. Department B solely used emails to spread the reminder, department A also spread it verbally. During team meetings, the study was briefly discussed and employees were reminded to participate, if they had not already. The reminder-email was similar to the original email as it contained all the relevant information about the study and questionnaire.

After clicking on the link in the email, respondents were directed to the first page of the questionnaire. The first page consisted of a welcome and short repetition of the study's goal, as well as some practical information. For instance, it was stated that the questionnaire consists of four different blocks and roughly takes about eight minutes to complete. It was also explained that answers are anonymised and will be deleted three months after the study has been completed. Following this, it was made clear that participation is voluntary. The respondents were asked to click on 'next' if they agreed with the conditions. Lastly, it was clarified that the questionnaire is most compatible for use on a laptop or computer.

If respondents had given their consent, they were directed to the first block with questions about their behaviour at work. This block contained the items of task performance and organisational citizenship behaviour. In other words, the items for measuring job performance. The following page contained the items for measuring happiness at work, consisting of work engagement, job satisfaction and affective organisational commitment. The third block included the items of work scheduling autonomy, decision-making autonomy, work methods autonomy, task significance, task variety, skill variety and feedback from others (i.e., work characteristics). The next and final block consisted of questions about the moderators and control variables. The last question of this block was an 'text entry' question that provided respondents the opportunity to make remarks about the questionnaire or study. Finally, the last page presented a statement that the questionnaire has ended. Because of the

large number of questions, they were divided into multiple blocks and pages. This provided respondents with a better overview of the questionnaire.

5.2.4 Measurement instruments

The online tool of *Qualtrics* was used to create and distribute the online questionnaire. Scales were used that had been designed and validated in previous studies. Most scales were only available in English, wherefore the items were translated to Dutch using *back translation*. Solely the scale of work engagement already had a Dutch version that was constructed by its original authors (Schaufeli & Bakker, 2004). All variables, apart from job satisfaction, were measured using multiple items. Job satisfaction was measured using a single item. Some items were slightly adjusted in order to be more appropriate for the research context. Most questions consisted of statements that could be answered using a Likert-scale. One Likert-scale ranged from 1) Never to 5) Always and another ranged from 1) Completely disagree to 5) Completely disagree. In addition, questions about the moderators and control variables were to be answered using text entry or multiple choice. The questionnaire is included in the appendix.

5.2.4.1 Job performance

Job performance consists of two constructs: 'task performance' and 'contextual performance'. Contextual performance, in turn, encloses two dimensions. These dimensions include 'organisational citizenship behaviour at individual-level' (OCBi) and 'organisational citizenship behaviour at organisational-level' (OCBo). All scales were measured using a five point-scale response scale, ranging from 1) Never to 2) Always.

The scale of *task performance* consists of four items ($\alpha = .77$) and is based on the scale of Williams and Anderson (1991). Their original scale contains seven items. However, previous studies and the research context deemed not all items relevant (Verburg et al., 2017). In addition, the original items are to be filled in by a manager or supervisor. The items were slightly changed in order for self-reports to be possible. A sample item is 'I adequately complete assigned tasks'.

The scale of *OCBi* consists of five items ($\alpha = .74$). The scale is based on the scale of Lee and Allen (2002) and originally consists of eight items. Previous studies showed that not all items are necessary to measure OCBi (Saks, 2006), nor did all items match the research context. The items were also slightly changed so self-reports were possible. A sample item is 'I help others who have been absent'.

The scale of *OCBo* consists of three items (α = .70). The scale is based on the scale of Lee and Allen (2002) and originally consists of eight items. Again, previous studies showed that not all items are necessary to measure OCBo (Saks, 2006), nor did all items seem accurate for this research context. The items were slightly changed so self-reports were possible and the items were more applicable to Rabobank. A sample item is 'I offer ideas to improve the functioning of Rabobank'.

5.2.4.2 Happiness at work

Happiness at work is operationalised at person-level. Therefore, it encompasses work engagement, job satisfaction and affective organisational commitment (Fisher, 2010). All scales were measured using a five point-scale response scale, ranging from 1) Completely disagree to 2) Completely agree. This response scale was used as some 'questionnaire-testers' preferred it over the response scale ranging from 1) Never to 2) Always.

The scale of *work engagement* consists of nine items (α = .89) and was constructed by Schaufeli and Bakker (2004). The nine items are a validated, shorter version of the original scale. A Dutch version of the items already was available. Therefore, none of the items were excluded or changed. A sample item is 'I am enthusiastic about my job'.

The variable of *job satisfaction* was measured using a single item: 'Generally speaking, I am very satisfied with my job'. Previous research has indicated that job satisfaction can be reliably measured using a single item (Tummers & Knies, 2016; Wanout et al., 1997).

The scale of *affective organisational commitment* consists of five items (α = .85). The scale was constructed by Allen and Meyer (1990) and originally encloses eight items. The best-fitting items were selected. The items were slightly changed. For instance, the original reversed items were re-reversed so respondents would not get confused. A sample item is 'I would be very happy to spend the rest of my career at Rabobank'.

5.2.4.3 Work characteristics

The work characteristics included in the questionnaire were based on the interviews that were conducted in study 1. Five variables were enclosed: work scheduling autonomy, decision-making autonomy, work methods autonomy, task significance, task variety. skill variety and feedback from others. All scales are based on the *Work Design Questionnaire*

(Morgeson & Humphrey, 2006). In addition, a five point-scale response scale was used, ranging from 1) Never to 2) Always. Most items were reformulated in order to better fit the research context.

Work scheduling autonomy was measured using three items (α = .85). A sample item is 'I have the opportunity to make my own decisions about how I schedule my work'.

Decision-making autonomy was measured using three items (α = .90). A sample item is 'I have the opportunity to make decisions on my own'.

Work methods autonomy was measured using two items (α = .84). The scale originally consists of three items, but two seemed to be similar wherefore one was excluded. A sample item is 'My work provides me great freedom in how I do my work.'

Task significance was measured using three items (α = .72). The original four items were reduced to three items as some appeared to overlap. A sample item is 'My work is important in the broader scheme of things'.

Task variety was measured using three items (α = .86). Originally, the scale includes four items, but one item was deemed irrelevant. A sample item is 'My work consists of doing different things'.

Skill variety was measured using three items (α = .90). Again, three out of four original items were included because a fourth item seemed unnecessary. A sample item is 'My work requires a variety of skills'.

Feedback from others was measured using three items (α = .84). One of the original three items was removed as it overlapped with others. In addition, another item contained two different questions and had to be split up, making a total of three items. A sample item is 'I receive a great deal of information from my colleagues about my job performance'.

5.2.4.4 Moderators

In addition to team tenure, two other moderators were included as the interviewees in study 1 deemed them relevant for determining and explaining employees' perceptions. These variables consist of team maturity and team design. *Team tenure* was measured in months. *Team maturity* was measured using the stages of group development as determined by Tuckman (1965) (1 = forming, 2 = storming, 3 = norming, 4 = performing). *Team size* was measured through the number of team members within an agile team.

5.2.4.5 Control variables

Several commonly used control variables were included: *Gender* (1 = male, 2 = female, 3 = other, 4 = do not feel comfortable sharing), *age*, *educational level* (1 = university of research (UNI), 2 = university of applied science (UAS), 3 = community college (CC)), *department* (1 = department A, 2 = department B) and *tenure at the organisation*. Age was measured in years, tenure at organisation in months. Age and tenure at organisation are continuous variables. The other control variables are categorical.

5.2.5 Data analysis

In order to analyse the data, statistical analyses were performed using the program of *SPSS Statistics 24*. After the data had been transferred from Qualtrics to SPSS, several steps were taken in order to prepare the data. Frequencies were checked and cases who failed to answer all items from the conceptual model were excluded. Missing values of questions that were continuous in nature, were compensated for using *replace missing values*. By doing so, the missing values were replaced with the mean of that specific question (Field, 2015). This was considered necessary because of the low number of overall respondents. In addition, dummy variables were made for the categorical variables.

Once the data set had been prepared, factor analyses were performed. The extraction method of *principal axis factoring* was used for conducting the factor analyses. This method attempts to identify latent constructs rather than simply reducing data (Field, 2015). The purpose of this factor analysis is to identify the dimensions behind the variables, wherefore this extraction method seemed most appropriate. The rotation method of *direct oblimin* was used in order for the factors to correlate with one another (i.e., non-orthogonal factors) (Field, 2015). A value of at least 0.40 was considered in order to determine if factor loadings were valuable (Stevens, 2002). Therefore, small factor loading were suppressed as values below .30 were left out. All factor analyses were reported on a 5-point Likert scale. Following the factor analyses, the Cronbach's alphas (α) were determined in order to assess the reliability of the scales. It establishes the intercorrelation of the items. Cronbach's alphas of 0.70 or higher are considered to be acceptable (Nunnally, 1987).

Furthermore, the means, standard deviations, minimum scores and maximum scores of the variables were determined using descriptive statistics. In addition, correlations between the variables were calculated in order to establish the interdependence among the variables. An alpha level of .050 was considered. Most correlations consisted of *Pearson* correlations. If a relationship included a nominal variable, a *Spearman* correlation was calculated instead.

The strength of the correlations was determined using the boundaries of Cohen (1988). Correlations between r = .10 and .29 are weak, correlations between r = .30 and .49 are moderate and, finally, correlations between r = .50 and 1.00 are strong.

Before actually testing the hypotheses, several conditions were checked in order to guarantee high quality analyses. As such, it was established whether the residuals were normally distributed and whether the regression was linear and homoscedastic. These assumptions were tested using *scatter plots* and *normal P-P plots*. In addition, the data set showed no multicollinearity, which is assumed to occur when correlations are higher than .80 (Field, 2015). Lastly, the outliers were examined.

In order to test the hypotheses, *linear regression analyses* were used. A regression analysis calculates the relationship between variables and examines whether the independent variable can predict the dependent variable (Field, 2015). In order to establish the relationships between, on the one hand, the work characteristics and, on the other, the variables of job performance and happiness at work, several steps were taken. First, it was established how the work characteristics were related to job performance and happiness at work individually. Based on the regression analyses between a single work characteristic and the variables of job performance and happiness at work, the significant work characteristics were included in the regression analyses that tested all work characteristics in relationship to the dependent variables. This was done per dependent variable, as SPSS does not allow more than one dependent variable in regression analyses. The analyses with multiple work characteristics were used to confirm or reject the hypotheses. It was necessary to first determine the work characteristics that individually related significantly to the variables of job performance and happiness at work because of the small sample. The control variables were included in all regression analyses. Next, the direct relationships between the moderators and dependent variables were calculated. Each regression analysis consisted of the control variables and one moderator in order to prevent the moderators from influencing one another in the analyses. Afterwards, interaction variables were created and included in the analyses. In order to create the interaction variables, the independent variables and moderating variables were centred. Centring variables entails subtracting the mean from every score. Every centred independent variable was multiplied by every centred moderator (Field, 2015). As a result, the interaction variables were constructed. Following this, the interaction effects were tested. Because of the small sample, this was done for each individual relationship between a work characteristic and dependent variable. Again, an alpha level of .050 was considered and control variables were included in every regression analysis.

5.2.6 Reliability and validity

Several actions were undertaken in order to guarantee a reliable and valid study. One of these actions, as mentioned before, consisted of solely using scales that had already been proven valid and reliable by previous research. Furthermore, the questionnaire was tested beforehand in order to establish whether the items were clear and appropriate for this particular research population and context. In addition, factor analyses were performed and Cronbach's alphas were determined in order to examine the reliability and validity of the scales in this research context.

5.2.6.1 Factor analysis

The factor analysis of job performance encompassed three factors. Together, the three factors explained 60.83% of the variance of job performance. The analysis had a significant Kaiser-Meyer-Olkin measure (KMO = .69), meaning that the sample was adequate. Factor 1 consisted of six items. It explained 34.90% of the variance with factor loadings ranging from .38 to .96. Factor 2 included 5 items that explained 14.67% of the variance. Factor loadings ranged from -.78 to -.38. Lastly, the third factor contained 3 items that explained 11.27% of the variance with factor loadings ranging from .45 to .96.

The factor analysis of happiness at work showed three factors. The three factors explain 65.98% of the variance of happiness at work. The analysis had a significant Kaiser-Meyer-Olkin measure (KMO = .84), meaning that the sample was adequate. Factor 1 consisted of ten items. It explained 44.31% of the variance with factor loadings from .59 to .82. Factor 2 enclosed five items that explained 14.69% of the variance. Factor loadings ranged from .32 to .93. Lastly, the third factor contained two items that explained 6.98% of the variance with factor loadings ranging from -.66 to .39.

The factor analysis of work characteristics showed five factors. Together, the five factors explain 72.68% of the variance of work characteristics. The analysis had a significant Kaiser-Meyer-Olkin measure (KMO = .78), meaning that the sample was adequate. Factor 1 consisted of four items. It explained 35,25% of the variance with factor loadings from .47 to .90. Factor 2 included four items that explained 15.07% of the variance. Factor loadings ranged from -.84 to -.34. The third factor contained four items that explained 9.40% of the variance with factor loadings ranging from -.86 to -.62. Factor 4 contained three items. It explained 7.22% of the variance with factor loading from .70 to .81. Last, factor 5 enclosed three items, explained 5.74% of the variance and its factor loadings ranged from .78 to .94.

Based on the factor analyses, it became apparent that some items of work characteristics had to be removed. The specific items were determined based on both the factor analysis of work characteristics and the Cronbach's alphas. Therefore, the next paragraph (5.2.6.2) will further elaborate upon the deleted items. All factor analyses of the concepts have been included in the appendix.

5.2.6.2 Cronbach's alpha

The Cronbach's alphas of the constructs ranged from α = .70 to α = .90, which implies that the internal consistency of the scales is either acceptable, good or excellent. The Cronbach's alpha of three scales increased substantially if items were left out. The table with all Cronbach's alphas has been included in the appendix (Table 6).

First, the scale of decision-making autonomy originally had a good Cronbach's alpha (α = .85). However, after removing the item of 'I have the opportunity to use personal initiatives in carrying out my work', the value of the Cronbach's alpha increased substantially (α = .90). The item scored lowest on the item-total correlation (r = .60). Now, the internal consistency of the scale is excellent rather than good.

Next, the Cronbach's alpha of task variety changed from acceptable (α = .79) to good (α = .86) after eliminating the item of 'My work involves a great deal of task variety'. Again, the item had the lowest item-total correlation score (r = .55).

Finally, the scale of skill variety also experienced a substantial change after an item was deleted. Its Cronbach's alpha originally was good (α = .81), but became excellent (α = .90) after deleting the item 'My work requires me to use complex skills'. This particular item had a low item-total correlation (r = .55).

The three deleted items had either a low or diverging factor loading in the factor analysis of work characteristics (see table 5 in the appendix) and low item-total correlations in the Cronbach's alpha analyses.

5.3 Results Study 2

This chapter will give an overview of the results of the questionnaire. First, an overview of the descriptives and correlations is displayed. Next, the results of the regression analyses are presented, as well as whether the hypotheses are confirmed or rejected. Finally, a summary of results will close the chapter.

5.3.1 Descriptive statistics

Table 7 displays the means and standard deviations of the various variables. The respondents scored high on task performance (M = 4.25), work scheduling autonomy (M = 4.10) and skill variety (M = 4.05). Low scores, in turn, were found for the variables of feedback from others (M = 2.90), affective organisational commitment (M = 3.05) and task significance (M = 3.26). The standard deviations range from 0.46 to 0.81.

Regarding the moderators, it was found that the agile teams, on average, have a team tenure of 6 months and consist of 13 team members.

5.3.2 Correlations

Table 7 displays the correlations between the various variables that were included in study 2. Based on the correlations, several observations can be made. First, the relationships between job performance (i.e., task performance, OCBi and OCBo) and happiness at work (i.e., work engagement, job satisfaction and affective organisational commitment) were considered. Many significant correlations were found between the constructs. The variable of task performance positively relates to work engagement ($r(62) = .44$, $p < .001$) and job satisfaction ($r(62) = .49$, $p < .001$). OCBi also relates to work engagement ($r(62) = .31$, $p < .05$) and job satisfaction ($r(62) = .32$, $p < .05$), but less stronger. Finally, OCBo correlates with work engagement ($r(62) = .40$, $p < .01$), job satisfaction ($r(62) = .35$, $p < .01$) and affective organisational commitment ($r(62) = .45$, $p < .001$). Task performance and OCBi do not significantly correlate with affective organisational commitment. All significant correlations are positive in nature.

When considering the relationships between the work characteristics, on the one hand, and job performance and happiness at work on the other, the significant correlations seem to be weak or moderate in strength. First, work scheduling autonomy solely correlates with OCBi ($r(62) = .26$, $p < .05$) and OCBo ($r(62) = .29$, $p < .05$). Decision-making autonomy correlates with OCBi ($r(62) = .30$, $p < .05$) , OCBo ($r(62) = .37$, $p < .01$), work engagement ($r(62) = .55$, $p < .001$), job satisfaction ($r(62) = .35$, $p < .01$) and affective organisational commitment ($r(62) = .34$, $p < .01$). Work methods autonomy positively relates to OCBo ($r(62) = .46$, $p < .001$), work engagement ($r(62) = .49$, $p < .001$), job satisfaction ($r(62) = .38$, $p < .01$) and affective organisational commitment ($r(62) = .39$, $p < .01$). Neither of the autonomy variables appear to significantly correlate with task performance. In addition, task significance positively relates to OCBi ($r(62) = .29$, $p < .05$) , work engagement ($r(62) = .37$, $p < .01$) and affective organisational commitment ($r(62) = .26$, $p < .05$). Task variety relates to

task performance ($r(62) = .27$, $p < .05$), OCBi ($r(62) = .39$, $p < .01$), OCBo ($r(62) = .27$, $p < .05$), work engagement ($r(62) = .27$, $p < .05$) and affective organisational commitment ($r(62) = .34$, $p < .01$). Skill variety solely correlates with OCBi ($r(62) = .29$, $p < .05$). Finally, feedback from others relates to OCBi ($r(62) = .36$, $p < .01$), work engagement ($r(62) = .32$, $p < .05$), job satisfaction ($r(62) = .26$, $p < .05$) and affective organisational commitment ($r(62) = .32$, $p < .05$). Again, all significant correlations were found to be positive.

Regarding the moderators, it was first found that team maturity (the performing stage) correlates positively to task significance ($r(62) = .27$, $p < .05$). Team size correlates negatively with work engagement ($r(62) = -.27$, $p < .05$), affective commitment ($r(62) = -.25$, $p < .05$) and feedback from others ($r(62) = -.46$, $p < .01$). Team tenure correlates negatively with OCBi ($r(62) = -.36$, $p < .01$), affective commitment ($r(62) = -.29$, $p < .05$), decision-making autonomy ($r(62) = -.45$, $p < .001$), work methods autonomy ($r(62) = -.33$, $p < .01$) and task variety ($r(62) = -.30$, $p < .05$). In turn, team tenure relates positively with team maturity ($r(62) = .39$, $p < .01$). A correlation model including control variables has been included in the appendix.

Table 7. *Means, standard deviations and correlations without control variables.*

	M	*SD*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. Task performance	4.25	0.46	1.00															
2. OCB individuals	3.90	0.52	.41**	1.00														
3. OCB organisation	4.01	0.64	.29*	.43***	1.00													
4. Work engagement	3.78	0.50	.44***	.31*	.40**	1.00												
5. Job satisfaction	3.92	0.64	.49***	.32*	.35**	.76***	1.00											
6. Affective organisational commitment	3.05	0.80	.08	.18	.45***	.43**	.44***	1.00										
7. Work scheduling autonomy	4.10	0.49	.10	.26*	.29*	.24	.18	.15	1.00									
8. Decision-making autonomy	3.69	0.76	.16	.30*	.37**	.55***	.35**	.34**	.44***	1.00								
9. Work methods autonomy	3.90	0.68	.24	.22	.46***	.49***	.38**	.39**	.63***	.70***	1.00							
10. Task significance	3.26	0.66	.23	.29*	.22	.37**	.25	.26*	.18	.26*	.28*	1.00						
11. Task variety	3.97	0.61	.27*	.39**	.27*	.27*	.19	.34**	.31*	.48***	.41**	.46***	1.00					
12. Skill variety	4.05	0.56	.14	.29*	.20	.07	.06	.11	.31*	.38**	.23	.33**	.75***	1.00				
13. Feedback from others	2.90	0.81	.23	.36**	.10	.32*	.26*	.32*	.06	.25	.15	.39**	.51***	.29*	1.00			
14. Team maturity (0 = other, 1 = performing)	.34	0.23	.27*	.10	.02	.16	.12	.06	.10	.07	.06	.03	-.03	.04	.18	1.00		
15. Team size	13	4.47	-.07	-.16	-.05	-.27*	-.22	-.25*	-.06	-.23	-.11	-.15	-.13	-.05	-.46**	.12	1.00	
16. Team tenure (months)	6	2.78	.00	-.36**	-.24	-.16	-.19	-.29*	-.20	-.45***	-.33**	-.21	-.30*	-.23	-.13	.39**	-.10	1.00

Note: *p < .05, **p < .01, ***p < .001

5.3.3 Hypothesis testing

5.3.3.1 Relationship between happiness at work and job performance.

One significant relationship was found between happiness at work and the variables of job performance: job satisfaction related positively to task performance ($\beta = .41$, $p = < .05$). Work engagement and affective organisational commitment did not significantly relate to any of the variables of job performance. Therefore, ***H1, Happiness at work relates positively to job performance***, was partially confirmed.

Table 8. *Regression analyses happy-productive worker. Dependent variable: job performance.*

	Model 1 Task performance	Model 2 OCBi	Model 3 OCBo
Work engagement	.25	.17	.30
Job satisfaction	.41*	.22	-.01
Affective organisational commitment	-.25	-.11	.29
N	62	62	62
R^2	.34	.20	.31
Adjusted R^2	.24	.08	.20
F-statistic	3.391	1.696	2.936
p-value	.003	.121	.009

Note: *p < .05, **p < .01, ***p < .001. The effects of control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

5.3.3.2 Relationships of work characteristics with happiness at work and job performance. As mentioned before, the hypotheses were tested using multiple regression. Beforehand, regression analyses with single work characteristics were performed in order to elucidate which of the work characteristics would be included in the regression analyses with multiple characteristics. This was necessary because of the small sample. First, these analyses showed that work scheduling autonomy did not significantly affect the variables of job performance and happiness at work. Decision-making autonomy, in turn, related to OCBo (β = .34, *p* = < .05), work engagement (β = .60, *p* = < .001), job satisfaction (β = .37, *p* = < .01) and affective commitment (β = .28, *p* = < .05). Work methods autonomy related to task performance (β = .33, *p* = < .05), OCBo (β = .45, *p* = < .01), work engagement (β = .56, *p* = < .001), job satisfaction (β = .43, *p* = < .01) and affective commitment (β = .28, *p* = < .05). Task significance solely related to work engagement (β = .37, *p* = < .05). Task variety related to task performance (β = .37, *p* = < .05), OCbi (β = .36, *p* = < .05) and work engagement (β = .31, *p* = < .05). Skill variety did not significantly relate to any dependent variable. Finally, feedback from others related to task performance (β = .30, *p* = < .05), OCBi ((β = .29, *p* = < .05) and work engagement (β = .33, *p* = < .05). All significant relationships were positive in nature. Based on the analyses with single work characteristics, it could be argued that H3b and H4b would be confirmed, H3a, H4a, H5b, H6a, H6b, H8a and H8b partially confirmed and H2a, H2b, H5a, H7a and H7b were rejected. The regression models with single characteristics have been included in the appendix.

However, the regression analyses that included multiple work characteristics showed but three significant relationships. First, decision-making autonomy was found to positively relate to work engagement (β = .38, *p* = < .05). Second, work methods autonomy was found to positively relate to OCBo (β = .38, *p* = < .05). Third, feedback from others related positively to work engagement (β = .26, *p* = < .05). Therefore, based on the regression analyses with multiple characteristics, solely ***H3b, decision-making autonomy relates positively to happiness at work***, ***H4a, work methods autonomy relates positively to job performance***, and ***H8b, feedback from others relates positively to happiness at work*** were partially confirmed. Below, the regression models of OCBo and work engagement are presented. The other regression models that tested multiple work characteristics in relationship to a dependent variable, have been included in the appendix.

Table 16. *Regression analysis with multiple work characteristics. Dependent variable: OCBo.*

	β	S.E.	P-value
Intercept	2.35		
Decision-making autonomy	.10	.14	.557
Work methods autonomy	.38	.17	.038
N	62		
R^2	.25		
Adjusted R^2	.15		
F-static	2.507		
p-value	.026		

Note: The effects of work scheduling autonomy, task significance, task variety, skill variety, feedback from others and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 17. *Regression analysis with multiple work characteristics.. Dependent variable: work engagement.*

	β	S.E.	P-value
Intercept	1.38		
Decision-making autonomy	.38	.10	.015
Work methods autonomy	.30	.12	.059
Task significance	.24	.09	.055
Task variety	-.15	.12	.289
Feedback from others	.26	.08	.042
Tenure at organisation (control variable)	-.32	.00	.019
N	62		
R^2	.48		
Adjusted R^2	.38		
F-static	4.788		
p-value	.000		

Note: The effects of work scheduling autonomy, skill variety and of the control variables gender, age, education and department were non-significant and are excluded to enhance readability.

5.3.3.3 Moderators

When testing the moderators in direct relationships to the dependent variables, several effects were found. First, team maturity was found to positively relate to task performance (β = .32, p < .05). Second, team tenure negatively related to OCBi (β = -.38, p < .05). Finally, the number of team members in agile teams was found to negatively relate to work engagement (β = -.30, p < .05). The models with significant relationships have been included in the appendix.

5.3.3.4 Interaction effects

First, team tenure did not significantly interact with any of the relationships, wherefore ***H9, team tenure moderates the relationships of, on the one hand, experienced work characteristics and, on the other, perceived job performance and happiness at work, such that the positive relationships are stronger for long-serving teams***, was rejected.

Moreover, the group development stage of performing (0 = other, 1 = performing) was found to significantly moderate several relationships that predicted work engagement or job satisfaction. First, it negatively interacted with the relationship between work scheduling autonomy and work engagement (β = -.41, p <.01). Next, it negatively impacted the relationship between task variety and work engagement (β = -.31, p <.05), as well as the relationship between skill variety and work engagement (β = -.31, p <.05). Finally, the group development stage of performing negatively moderated the relationship between work scheduling autonomy and job satisfaction (β = -.51, p <.001) Therefore, ***H10, team maturity moderates the relationships of, on the one hand, experienced work characteristics and, on the other, perceived job performance and happiness at work, such that the positive relationships are stronger for teams in the performing group development stage,*** was rejected.

Finally, the number of team members was found to negatively moderate the relationship between work scheduling autonomy and task performance (β = -.37, p < .01). In addition, it negatively affected the relationship between task significance and task performance (β = -.37, p < .05). Therefore, ***H11, the number of team members moderates the relationships of, on the one hand, experienced work characteristics and, on the other, perceived job performance and happiness at work, such that the positive relationships are stronger for smaller teams,*** was partially confirmed.

5.3.4 Summary of results

The results show that the respondents scored high on task performance, work scheduling autonomy and OCBo. In turn, they scored lowest on feedback from others, affective organisational commitment and task significance.

Regarding the happy-productive worker, one significant relationship was found between happiness at work and the variables of job performance: job satisfaction positively relates to task performance.

Regression analyses between a single work characteristic and the variables of job performance and happiness at work showed multiple significant relationships (control variables included). Five out of seven characteristics predicted work engagement. That is, decision-making autonomy, work methods autonomy, task significance, task variety and feedback from others all related positively to it. In addition, decision-making autonomy and work methods autonomy had many significant effects as they both were found to positively relate to OCBo and all variables of happiness at work, thereby being predictive of employees' happiness at work. Work scheduling autonomy and skill variety had no significant effects. Based on these analyses, it could be argued that H3b and H4b would be confirmed, H3a, H4a, H5b, H6a, H6b, H8a and H8b partially confirmed and H2a, H2b, H5a, H7a and H7b were rejected.

Next, per dependent variable, regression analyses were performed that included all work characteristics that were found to have a significant effect on that dependent variable. These results showed far less significant relationships: the relationship of decision-making autonomy with work engagement, of work-methods autonomy with OCBo remained significant and of feedback from others with work engagement. Furthermore, the results showed that tenure at organisation increased affective commitment. However, these results should be interpreted with some caution as the sample size is probably not sufficient to test models with multiple antecedents at once.

Furthermore, the moderators were found to have several direct effects. Team tenure negatively related to OCBi, the number of team members had a negative effect on work engagement and, finally, the presence of an agile coach related negatively to the OCBi of team members. In addition, the moderators had various interaction effects as well. Especially the variables of team maturity and team size affected the relationships between, on the one hand, a work characteristic and, on the other, a variable of job performance or happiness at work. Not all effects were however positive. Team tenure did not have significant moderating effects.

6. Conclusion and Discussion

6.1 Conclusion

The purpose of this study was to provide insight into how employees perceive agile team designs, elucidate the work characteristics they experience when working in agile teams and establish how these specific characteristics relate to their perceived job performance and happiness at work. The study was conducted within two departments of Rabobank that have recently undergone - or are currently undergoing - an agile transformation. This research contributes to existing literature by conducting research at individual level instead of team level, by moving beyond the job characteristics and by applying mixed methods.

The general purpose of this study was translated into two specific research aims: 1) examine how employees perceive the way of working in agile teams by focusing on the work characteristics they experience and 2) determine how the experienced work characteristics relate to employees' perceived job performance and happiness at work. These aims resulted in two research questions:

RQ1: " *How do employees perceive agile team designs and which work characteristics do they experience when working in agile teams?*"

RQ2: "*How do employees' perceptions regarding the experienced work characteristics relate to their perceived job performance and happiness at work?*"

6.1.1 Study 1

The purpose of study 1 was to provide insight into how employees perceive agile team designs and detect which work characteristics they experience when working in such teams. The first research question is exploratory in nature, wherefore a qualitative approach was used consisting of semi-structured interviews.

Based on the results of study 1, it can be stated that employees perceived the way of working in agile teams mainly as having focus while working, which they defined as having a smaller team scope, prioritising and specialising. This finding is in accordance with various studies. That is, agile teams are said to have a small team scope as a result of either the specialised purpose of the team or the specialised jobs of its team members (Cockburn & Highsmith, 2001; Tripp & Riemenschneider, 2014). This was confirmed in study 1.

In addition, employees gave various reasons as to why agile team designs had been implemented according to them. The arguments included more speed, transparency and alignment within work processes as well as having a greater customer focus. It was expected that employees would think agile team designs were implemented to increase speed and process agility because the principles of agile teams include fast and consistent delivery of products while responding to changing business requirements (Highsmith & Fowler, 2001). Therefore, the expectation was confirmed up to a certain extent.

Moreover, it was found that employees experienced several work characteristics when working in agile teams. First of all, they experienced autonomy. More specifically, employees experienced the expected work scheduling autonomy, decision-making autonomy and work methods autonomy. This finding is in line with a lot of studies on agile team designs, as they refer to agile teams as being empowered, self-organising or even self-managing and argue that the teams have the freedom to determine their own planning, make decisions and choose their own work methods (Hoda et al., 2011; Moe et al., 2010). Secondly, employees experienced task significance. This is in line with existing literature which argues that agile team members should experience task significance as a result of a great sense of ownership and high levels of perceived of meaningfulness (Hoda et al., 2011; Huck-Fries et al., 2019). In addition, it was expected that employees would experience task identity because of the specialised and prioritised tasks that would reduce the amount of information, thereby making it easier for team members to identify with their work (Tripp et al., 2016). This expectation was however not found, which will be explained in chapter 6.2.3. Furthermore, it was found that employees experienced task variety, which was not expected. Chapter 6.2.4. further examines this finding. In addition, employees were expected to experience skill variety because of the cross-functionality within agile teams (Nerur & Balijepally, 2007), which was confirmed. Finally, the characteristic of feedback from others was experienced by employees. Research indicates that the exchange of feedback is important for the improvement of work processes and the learning processes of agile team members, wherefore this characteristic was expected to be experienced and thus confirmed (Chavan et al., 2012; Dybå et al., 2014).

6.1.2 Study 2

The purpose of study 2 was to determine how employees' perceptions regarding the experienced work characteristics - as determined in study 1 - relate to their perceived job performance and happiness at work. The second research question is relational in nature, wherefore a quantitative approach was used consisting of an online questionnaire.

First of all, in line with the happy-productive worker hypothesis (Cropanzano & Wright, 2001), it was found that job satisfaction does indeed predict task performance. Previous research has argued that job satisfaction will lead to higher levels of performance (Wright & Cropanzano, 2007; Zelenski et al., 2008), which has been confirmed by this study.

Moreover, the second question can be answered by stating that all significant relationships between experienced work characteristics and employees' perceived job performance and happiness at work are positive in nature, as was expected. This is in line with the work design theory, which argues that the work characteristics of work scheduling autonomy, decision-making autonomy, work methods autonomy, task significance, task variety, skill variety and feedback from others relate positively to employee outcomes such as performance and well-being (Humphrey et al., 2007; Oldham & Fried, 2016). However, the amount of significant relationships depended on whether single or multiple characteristics were included the regression analyses. When considering the regression analyses that included multiple work characteristics, it was first found that decision-making relates positively to work engagement. This finding is in line with previous research, as it is argued that high levels of freedom in making decisions will get members of agile teams more involved in the work process as well as stimulate their participation (Moe et al., 2008). Several scholars have already found that autonomy strongly relates to work engagement (Huck-Fries et al., 2019). This was confirmed in this study. Secondly, work methods autonomy relates positively to employees perceived OCBo. Others have demonstrated that autonomy in teams relates positively to greater helping behaviour because team members tend to feel a great group coherence and collective commitment (Fenton-O'Creevy, 1998; Humphrey et al., 2007). The results of this study affirmed it for agile teams. Thirdly, feedback from others positively relates to work engagement. This is in accordance with previous studies which argue that feedback from others, especially during the retrospectives, will help get employees more involved and engaged (Dybå et al., 2014). It should however be said though that the sample size was probably not large enough to test models with multiple antecedents at once. Therefore, these results should not be lead to the conclusion that the other work characteristics are unimportant. Rather, the conclusion should be interpreted as job autonomy and feedback from others seeming to have a positive impact on job performance and happiness at work.

Moreover, it was hypothesised that team tenure would positively moderate the relationships between work characteristics and perceived job performance and happiness at work, as tenure helps improve job knowledge, associated skills social relationships and

therefore thus performance, among other things (Bell et al., 2011; Carboni & Ehrlich, 2013; Kozlowski et al., 1999). However, no significant effects were found, which will be explained in chapter 6.2.7. A similar interaction effect was hypothesised for team maturity, such that teams in the performing development stage would experience stronger relationships between the work characteristics and perceived job performance and happiness at work. The results however showed only negative interaction effects, wherefore the hypothesis was rejected. These results are contrary to previous findings, which states that team maturity would have positive interaction effects (Jovanovic et al., 2016). The findings will be examined in chapter 6.2.. Finally, team size (i.e., the number of team members) was found to negatively moderate multiple relationships. This is accordance with earlier research that showed that agile team design is more applicable to smaller teams rather than large teams and therefore has negatively interaction effects (Dorairaj et al., 2012; Melo et al., 2013). This hypothesis has thus been confirmed up to a certain extend.

6.1.3 Overall conclusions

Based on the results on study 1 and study 2, several general conclusions can be made.

First of all, both studies indicated that employees experienced a low amount of decision-making autonomy. Study 2 showed that, compared to work scheduling autonomy and work methods autonomy, decision-making autonomy had the lowest mean score (M = 3.69) of all autonomy dimensions. Multiple interviews in study 1 confirmed this, as employees spoke of experiencing too little freedom to make decisions. For instance, they mentioned that management and product owners were still being determinative and thus made a lot of decisions *for* the teams rather than *with* the teams.

Secondly, both studies implied that employees experienced a low task significance. That is, study 2 illustrated a low mean score (M = 3.26), which was one of the lowest out of all variables. A low task significance was confirmed in study 1. Employees felt that their new tasks were not as challenging as they used to be, which will be further discussed in chapter 6.2.2 In addition, the various new type of tasks that employees performed were perceived to be unimportant or even a waste of time. Finally, some employees came from very autonomous jobs and were not used to being part of a team that performed less of what these employees were used to.

Moreover, study 2 found that feedback from others related positively to work engagement, even though it had the lowest mean of all variables (M = 2.90). Both findings were coherent to the results of study 1. First, interviewees indicated to value the feedback

from others. They found it useful and also necessary in order to improve themselves and their team. Especially the retrospectives were argued to be very important and helpful as individual and team performances were assessed. It helped them to get more involved. The interviewees of study 1 however also confirmed to experiencing a lack of feedback exchanges. They said it was because employees are not used to give and receive feedback from their colleagues on a regular basis. In addition, they blamed it on people wanting to be liked by others.

Furthermore, study 2 illustrated that, in addition to feedback from others, both decision-making autonomy and work methods autonomy are important for how employees perceive their OCBo and work engagement. The importance of autonomy has been affirmed in the interviews of study 1, as multiple employees argued to need a certain extent of autonomy in order to function successfully as an agile team. They also indicated that autonomy enhanced their engagement, among other things. As such, the interviewees wanted more freedom in making decisions and more responsibility. However, at the same time, some interviewees mentioned to experience too much freedom in determining their work methods. The contradictory finding of work methods autonomy relating positively to OCBo but several employees wanting less of it, will be further examined in chapter 6.2.1.

6.2 Discussion

In the discussion, the unexpected and contradictory findings will be discussed and further examined.

6.2.1 Autonomy

The result of study 2 showed that both decision-making autonomy and work methods autonomy related positively to variables of job performance and happiness at work. This is in line a lot of existing studies that argue that autonomy is important for both employee outcomes and the functioning of agile teams (Humphrey et al., 2007; Moe et al., 2008). The results of study 2 and study 1 showed that employees' experienced decision-making autonomy was low, which could be explained based on management and product owners being determinative rather than facilitating. However, even though work methods autonomy had positive relationships with perceived job performance and happiness at work, some interviewees from study 1 indicated to wanting less freedom in determining their work methods. This seems rather contradictory, but can be explained up to a certain extend. First of all, the observation of employees wanting less work methods autonomy can be a result of their low team tenure of roughly 6 months. It could be that team members are not quite used

to agile team designs and therefore ill at ease with much freedom in choosing their own methods, as some interviewees argued in study 1. Secondly, it can be explained by the lack of communication between agile teams. Interviewees in study 1 mentioned that the agile, dedicated teams behaved like islands despite the fact that they often produce components for the same product. This finding is similar to the study of Whitworth (2008), who observed that agile teams often have a certain in-group vs. out-group bias. This entails that categorising individuals into dedicated teams will bring about a bias that negatively affects employees' motivation to collaborate and communicate with other employees from outside the team. The interviewees argued that teams used methods they deemed fitting, without consulting other teams. This led to confusion and tensions between teams as they did not understand each other's work processes. However, a third explanation for the contradictory finding is that the respondents of the questionnaire could be more enthusiastic about agile team designs and therefore more positive about work methods autonomy than the interviewees from study 1 (*person-positivity bias*, chapter 6.3). After all, participation in study 2 was voluntary, whereas the interviewees were asked to participate by their managers. Either way, it indicates a need for further research or repetition of study 2.

6.2.2 Task significance

The results of both study 1 and study 2 found that employees experienced a low task significance. The interviewees of study 1 already provided various explanations, but the argument of less challenging work was rather unexpected. Several employees perceived their new work to be less challenging. This could be explained by the specialisation that agile teams exhibit. As found in study 1, employees mainly defined the way of working in agile teams as having focus. This focus was described as having a small team scope, prioritising and specialising, which was in accordance with existing research (Cockburn & Highsmith, 2001; Tripp & Riemenschneider, 2014). The interviewees indicated to appreciate the greater focus, especially when just having transitioned to an agile team. It made their jobs less complicated and provided a better understanding of what they are doing. However, at the same time, it took away a lot of complexities and challenges that some used to enjoy. Therefore, it appears that the way of working in agile teams could be associated with standardised and simplified work. This observation is in accordance with the meta-analysis of Dybâ and Dingsoyr (2008), who argue that work patterns in agile teams are often standardised. Agile practices provide a framework to help standardise the work and make it more accessible and visible to the team members. However, this may thus also simplify and

standardise the work. Previous research regarding work design has found that standardised and simplified work leads to boredom and deviant behaviours such as tardiness, especially on the long term (Bruursema, 2007; Walker & Guest, 1952). Consequently, it could be that the way of working in agile teams may lead to job boredom and deviant behaviours once the agile team designs have been fully implemented and employees are used to working in agile teams. Therefore, this needs further attention.

6.2.3 Task identity

In study 1, it was expected that employees would experience task identity. The small team scopes and specialisations that agile teams exhibit, were argued to help team members identify with their work (Tripp & Riemenschneider, 2014). However, as can be concluded from the results of study 1, employees did not necessary identity with their tasks. Task identity is defined as 'the ability to complete a whole product' (Hackman & Oldham, 1975; Humphrey et al., 2007). But, multiple interviewees have said to no longer be able to complete a 'whole' product from front to end. Instead, they produce components of products. The observation could again be explained by the specialisation that agile team designs exhibit, as it forces employees to stick to a certain specialised part of the production process. It may seem efficient, but thus also appears to explain employees' lack of task identity.

6.2.4 Task variety

Second, study 1 found that employees experience task variety, which was not expected. This could be explained based on the cross-functionality of agile teams, which requires team members to take on each other's tasks (Nerur & Balijepally, 2007). However, an even more important discovery was made. That is, not all employees were happy about the new variations. As a result of working in agile teams, team members now have additional administrative and operational tasks. Some employees did not mind, but others found the tasks a complete waste of time and energy. Several employees in study 1 even mentioned that it increased the workload. Therefore, even though task variety is deemed an motivating characteristic (Morgeson & Humphrey, 2006), not all variations in tasks may necessary be perceived as enriching. This finding is similar to previous findings, in which is stated that task variety can cause job overload rather than job enrichment (Humphrey et al., 2007). It may also explain why task variety had little relationships with the variables of job performance and happiness at work.

6.2.5 Skill variety

A rather odd observation was made regarding skill variety. On the one hand, study 1 indicated that several employees would like a greater skill variety and have the opportunity to learn more various skills, whereas, on the other hand, the questionnaire scores showed that skill variety was not low within agile teams (M = 4.05). It appeared that a few interviewees experienced a lack of variety in skills, whereas a larger number of employees experienced enough skill variety. Even so, existing articles argue that variations in skills will positively affect employee outcomes such as job satisfaction (Humphrey et al., 2007), but no significant relationships were found in study 2. This could be caused by the low number of respondents or a person-positivity bias. Nevertheless, it means that no substantiated conclusions can be made about the cross-functionality within the agile teams.

6.2.6 Feedback from others

Feedback from others was found to positively relate to work engagement. However, both study 1 and 2 also implied that low levels of it were experienced. This finding can be explained as interviewees in study 1 have mentioned that employees are not yet used to the mindset that is associated with agile team designs. They argued that many are not yet used to giving each other regular feedback and would rather be liked by their team. Experiencing difficulties when getting used to an agile way of working is not uncommon. Others have established that employees often face challenges when changing to an ‘agile’ mindset (Hoda, 2010). Team tenure plays a role in this process (Dorairaj et al., 2012), but others have also indicated that it is very important to communicate the ‘why’ of an agile transformation as well as guiding employees through it step by step (Hekkala et al., 2017). The results of study 1 illustrated that employees felt as if management was still acting as a controlling factor rather than the supporting and facilitating one that the teams need. In addition, study 1 also established that the interviewees were divided as to why the agile team designs had been implemented. The lack of conformity about the ‘why’ of the agile teams could explain why employees have trouble adjusting to an agile mindset and exchange feedback.

6.2.7 Impacting factors

The results of study 2 found that team maturity and team size moderated several relationships between experienced work characteristics and perceived job performance and happiness at work. Team tenure, however, did interact with any relationships. This could be explained by the average team tenure of the teams, which was 6 months. That is, it may be too soon for this

variable to significantly affect the relationships. However, it could also be explained by the small sample, which could be too small to test the large hypothesised model.

In addition, the significant interaction effects of team maturity were all found to be negative in nature, which was not as hypothesized. This entailed that if an agile team is in a performing stage, its members are likely to experience the relationship between a work characteristics and variable of job performance or happiness at work less strong. Most significant interaction effects were found for the dependent variable of work engagement. It therefore seems that mature teams experience the relationships between their work characteristics and work engagement less strong. This could be a result of their performing nature. However, the results of study 1 do not provide an explanation, nor do existing studies. Therefore, the results of the interaction effects request further research as well as a repetition of study 2.

6.3 Limitations and suggestions for future research

There are several limitations to this study. First of all, both study 1 and study 2 are *cross-sectional designs*. This entails that the results are based on a snapshot wherefore the causality of the relationships can be questioned. As such, it may be that happiness at work does not predict job performance, but that job performance is determinative for happiness at work. In addition, it may be that the variables of job performance and happiness at work predict the work characteristics. This means that employees' perceptions of their job performance and happiness at work may be determinative for how they experience their work characteristics instead of the other way around. A longitudinal study to confirm the directions of the relationships was unfortunately not possible considering the circumstances. However, there are multiple studies, even longitudinal ones, that confirm the direction of work characteristics being determinative for the variables of job performance and happiness at work (Cordery & Parker, 2012; Parker, 2003) Moreover, the purpose of this study was to determine how the dependent and independent variables were related to one another. It was never the intention to test the direction of the relationships, nor could it be done because of the limited number of respondents.

The second limit consists of the small number of respondents in study 2. Even though the study has a response rate of about 30%, the N of 62 is not sufficient enough to make valid conclusions. The sample was too small to accurately test a model with as many variables as the model of study 2. Therefore, the reliability of the results of study 2 can be questioned. However, the study was still conducted as it did provide certain indications that helped

substantiate various findings of study 1. In addition, as mentioned before, the purpose of study 2 was to indicate how the work characteristics were related to variables of job performance and happiness at work, not to test certain effects. This brings us however to the first recommendation for future research: repeating study 2 with a larger sample. It should be repeated with a larger sample in order to provide stronger evidence for the relationships that were found in this study. In addition, more evidence is needed for the effects of the moderators.

A third limit consists of *common method bias*, which means that variations in employees' responses of study 2 are partially caused by the measuring instruments rather than the actual predispositions of individuals that the instruments attempt to uncover. Put otherwise, the instruments introduce a bias that 'contaminates' the results (Podsakoff et al., 2003). Moreover, the results of study 2 might also suffer from a *person-positivity bias* (Sears, 1983) This bias refers to objects being evaluated more favourable if people have a connection with it. Therefore, it could be that solely employees who are enthusiastic about agile team designs have completed the questionnaire, which could explain the differences in experienced work methods autonomy and skill variety between study 1 and 2. This possible bias could be caused by the lack of information about the total research population, wherefore the representativity of the sample could not be checked. Furthermore, the results of study 2 are based on self-reports rather than objective data. The results could therefore be influenced by employees' subjective opinions of for example their task performance instead of their actual task performance. However, self-reports were used as this study's purpose was to determine how individuals *experienced* agile team designs and establish how the experienced work characteristics relate to their *perceived* job performance and happiness at work. Objective data could not have been used to deduce employees experiences and perceptions.

Another limit is the use of Tuckman's (1965) model of group stage development for measuring team maturity. Several scholars have criticised Tuckman (1965) for claiming that the group stages are to occur in the specific order of forming, storming, norming and performing (Bonebright, 2010). According to the scholars, teams can relapse into a previous stage before moving forward. As such, they say it is possible for a team in a performing stage to relapse back into a norming or even storming stage, thereby claiming Tuckman's model (1965) to be inaccurate to measure team progress in the long run. Despite the criticisms, the model was still used to measure team maturity. That is, all agile teams from this study had recently been formed and the criticism was mainly meant for teams that had been active for a longer period of time and were suddenly faced with certain developments (Bonebright, 2010).

Being ‘young’ agile teams, it seemed unlikely for them to already experience developments or changes other than having to get used to a new team and a new way of working.

The final limitation consists of a low generalisability. The research design of this study concerns a case study. This, however, means that the results are not likely to be applicable to other organisations. It may be possible for other Dutch banks that have recently undergone - or are currently undergoing - an agile transformation, but Dutch banks differ from one another in purpose, organisational structure and culture. Therefore, the results appears to be most applicable for other departments within Rabobank. This design was however used as the case presented itself as an excellent example of a Dutch bank that was undergoing transitions to agile teams without fully realising the effects it would have.

Regarding future research, the results imply that a critical reflection of working in agile teams is necessary. First, it needs to be clarified how working in agile teams is related to job complexity, job boredom and deviant behaviours. Study 1 and 2 implied that employees experienced a low task significance, less challenging work and maybe even job boredom in the long run, but this has yet to be confirmed by other studies. Secondly, study 1 implies that the modern, ‘location independent’ way of working, consisting of flexible work spaces and working at home, obstructs the coherence and collaboration among team members of agile teams. Therefore, the way of working in agile teams seems to clash with the current trends in attendance and designing work spaces. However, its effects on the performance and well-being of team members from agile teams has yet to be examined, as well as what the agile teams require in terms of work environment in order to perform optimally.

6.4 Theoretical implications

Based on the results, several theoretical implications can be made. First, decision-making autonomy, work methods autonomy and feedback from others were found to have a lot of significant and positive relationships with variables of job performance and happiness at work. This entails that certain aspects of autonomy and feedback could be of great influence on employees’ perceived job performance and happiness at work. However, as mentioned before, further research is needed in order to validate this theoretical implication. Second, the way of working in agile teams may be related to job boredom and deviant behaviours. As mentioned before, it appears that working in agile teams is associated with simplified tasks and standardised work. The results showed that the new jobs lack a certain complexity that can challenge employees to push themselves. In the long run, this may results in job boredom and deviant behaviours. Third, the results showed that employees responded differently to

work scheduling autonomy, decision-making autonomy and work methods autonomy. Simply using 'autonomy', as Hackman and Oldham (1975) do for example, appears to be insufficient when measuring all aspects of the concept. Therefore, the argument that different notions of autonomy should be considered when measuring it (Humphrey et al., 2007), has been confirmed by this study. Finally, task variety is argued to be a motivating characteristic (Morgeson & Humphrey, 2006). However, the results showed that not all variations in tasks were considered to be enriching or motivating. Especially administrative and operational tasks were found to be a waste of time. Therefore, it can be argued that not all variations in tasks will necessary enrich employees' work.

6.5 Practical implications

Several practical implications can be made for (HR) managers based on the results of this study. The design of work and how employees experience their work characteristics is likely to influence how they perceive their job performance and happiness at work. Especially decision-making autonomy, work methods autonomy and feedback from others can affect employees' perceptions. More specifically, high levels of freedom in making decisions and exchanging feedback can enhance team members' perceived work engagement, whereas autonomy in determining the work methods has been found to increase their perceived organisational citizenship behaviour towards the organisation. Therefore, if one want to increase employees' perceptions of their work engagement and OCBo, it is advised to enhance decision-making autonomy, work methods autonomy and feedback from others within agile teams. First, decision-making autonomy can be enlarged by giving team members the freedom to determine their own priorities. Employees indicated that management and product-owners often decided which tasks they will take on during a sprint. By giving this autonomy to the teams, it will enhance employees' experienced decision-making autonomy and therefore their perceived work engagement. A greater work methods autonomy can be achieved by letting the teams choose which methods they use for, for example, documentation. However, as found in study 1, it must be noted that some teams might feel insecure and ill at ease with high levels of work methods autonomy, especially when they are 'young' or do not communicate a lot with other teams. Freedom in determining the work methods should therefore be implemented with caution. Finally, feedback from others can be improved by investing more in retrospectives. Retrospectives, in which the latest sprint is evaluated, were praised by the interviewees in study 1. Employees found them very useful as both individual and team performances are assessed with the intention of making

improvements. Management can support a greater feedback among team members by facilitating retrospectives, making sure that agile teams take part in them and by stressing their importance. These recommendations are especially relevant since the way of working in agile teams is associated with simplified tasks and standardised work. Investing in employees' work engagement and OCBo may help prevent job boredom, but this has yet to been confirmed.

All in all, it can be stated that employees in agile teams can benefit greatly from autonomy and feedback, if well implemented and facilitated by management. However, there is still a lot about agile team designs that we do not know and cannot predict, wherefore more research is needed.

7. References

Agile Scrum Group (2019). Agile en Scrum in de Financiële Dienstverlening. *Agile Scrum Group.* Retrieved from: https://agilescrumgroup.nl/financiele-dienstverlening-agile-scrum/ (last accessed 14 September 2019).

Alvesson, M. & Skoldberg, K. (2000). *Reflexive Methodology: New Vistas for Qualitative Research*. CA: Thousand Oaks.

Bainbridge, H.T.J. & Lee, I. (2014). Mixed methods in HRM research. In K. Sanders, J. Cogin & H.T.J. Bainbridge (Eds.), *Research Methods for Human Resource Management* (pp. 15-33). NY: Routledge.

Bakker, A.B., & Daniels, K. (2012). *A day in the life of a happy worker*. Hove Sussex: Psychology Press.

Bakker, A.B., Schaufeli, W.B., Leiter, M.P. & Taris, T.W. (2008). Work engagement: an emerging concept in occupational health psychology. *Work and Stress*, 22, 187–200.

Beaubien, G. (2018, 18 April). Ability through agility: Using agile tech strategies to win the customer service race. *Banking Strategies*. Retrieved from: https://www.bai.org/ banking- strategies/article-detail/ability-through-agility-using-agile-tech-strategies-to -win-the- customer-service-race (last accessed 21 April 2019).

Bell, S.T., Villado, A.J., Lukasik, M.A., Belau, L. & Briggs, A. (2011). Getting specific about demographic diversity variable and team performance relationships: A meta-analysis. *Journal of Management*, 37, 709–743.

Boehm, B. W. & Turner., R. (2005). Management challenges to implementing agile processes in traditional development organizations. *IEEE Software*, 22(5) 30–39.

Borman, W.C., Hanson, M.A., Oppler, S.H., Pulakos, E.P. & White, L.A. (1993). Role of early supervisory experience in supervisor performance. *Journal of Applied Psychology*, 78, 443–449.

Borman, W.C. & Motowidlo, S.J. (1997). Task performance and contextual performance: the meaning for personnel selection research, *Human Performance*, 102, 99-109.

Boselie, P., Dietz, G. & Boon, C. (2005). Commonalities and contradictions in HRM and performance research. *Human Resource Management Journal*, 15 (3), 67-94.

Bruursema, K. (2007). H*ow individual values and trait boredom interact with job characteristics and job boredom in their effects on counterproductive work behavior*. [Unpublished doctoral dissertation]. Tampa: University of South Florida.

Campion, M.A. & McClelland, C.L. (1991). Interdisciplinary examination of the costs and benefits of enlarged jobs: A job design quasiexperiment. *Journal of Applied Psychology*, 76, 186 –198.

Carboni, I. & Ehrlich, K. (2013). The effect of relational and team characteristics on individual performance: A social network perspective. *Human Resource Management*, 52, 511-535.

CBS, TNO (2019, 11 April). Nationale Enquête Arbeidsomstandigheden 2018. *CBS*. [Report]. Retrieved from: https://www.cbs.nl/nl-nl/publicatie/2019/15/nationale-enquete-arbeidsomstandigheden-2018 (last accessed 5 October 2019).

Chavan, P., Mendhekar, P., Varahan, S. & Nerur, S. (2012). Impact of Agile Methodologies on Project Management. *Great Lakes Herald*, 6 (2), 36-57.

Chen, C.C. & Chiu, S.F. (2009). The mediating role of job involvement in the relationship between job characteristics and organizational citizenship behavior. *Journal of Social Psychology*, 149, 474–494.

Cockburn, A. & Highsmith, J. (2001). Agile Software Development: The People Factor. *IEEE Computer*, 34 (11), 131-133.

Coleman, V.I. & Borman, W.C. (2000). Investigating the underlying structure of the citizenship performance domain. *Human Resource Management Review*, 10, 25– 44.

Cordery, J.L. & Parker, S.K. (2012). Work design: creating jobs and roles that promote individual effectiveness. In S.W.J. Kozlowski, (Eds.), *The Oxford Handbook of Industrial and Organizational Psychology* (pp. 247-284). Oxford: Oxford University Press,

Creswell, J.W. & Plano-Clark, V.L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

Creswell, J.W. (2013) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* Los Angeles: Sage publications.

Cropanzano, R. & Wright, T.A. (2001). When a 'happy' worker is really a 'productive' worker: a review and further refinement of the happy-productive worker thesis. *Consulting Psychology Journal: Practice and Research*, 53, 182-199.

Curphey, M. (2018, 29 June). Agility in finance: How is digital changing the face of banking? *Relocate Global*. Retrieved from: https://www.relocatemagazine.com/technology-agility-in-finance-how-is-digital-changing-the-face-of-banking-mcurphey-su18 (last accessed 25 April 2019).

De Jong, A. & De Ruyter, K. (2004). Adaptive versus proactive behaviour in service recovery: The role of self-managing team. *Decision Sciences*, 35 (3), 457-491.

Deci, E.L. & Ryan, R.M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227–268.

Delle-Fave, A.D., Brdar, I., Freire, T., Vella-Brodrick, D. & Wissing, M.P. (2011). The Eudaimonic and hedonic components of happiness: Qualitative and quantitive findings. *Social Indicators Research*, 100, 185–207.

Dikert, K., Paasivaara, M. & Lassenius, C. (2016). Challenges and success factors for large-scale agile transformations: a systematic literature review. *Journal of Systems and Software*, 119, 87–108.

Dorairaj, S., Noble, J. & Malik, P. (2012). Understanding team dynamics in distributed Agile software development. In C. Wohlin (Eds.), *Agile Processes in Software Engineering and Extreme Programming* (pp. 47-61). Berlin: Springer.

Drury-Grogan, M.L. (2014). Performance on agile teams: Relating iteration objectives and critical decisions to project management success factors. *Information and Software Technology*, 56 (5), 506-515.

Dybå, T. & Dingsøyr, T. (2008). Empirical Studies of Agile Software Development: A Systematic Review. *Information and Software Technology*, 50 (9), 833-859.

Dybå, T., Dingsøyr, T. & Moe, N.B. (2014). Agile project management. In G. Ruhe, & C. Wohlin (Eds.), *Software Project Management in a Changing World* (pp.277–300). Berlin: Springer.

Fenton-O'Creevy, M. (1998). Employee involvement and the middle manager: evidence from a survey of organizations. *Journal of Organizational Behavior*, 19 (1), 67-84.

Field, A. (2015). *Discovering statistics using IBM SPSS Statistics.* London: Sage.

Fisher, C. (2010). Happiness at work. *International Journal of Management Reviews,* 12 (4), 384–412.

Frederik, J. (2015, 25 March). Zo werden banken plots 7 keer zo belangrijk voor onze economie. *De Correspondent.* Retrieved from: https://decorrespondent.nl/2595/zo-werden-banken-plots- 7-keer-zo-belangrijk-voor-onze-economie/156118570905 - af25296f (last accessed 24 April 2019).

Fried, Y. & Ferris, G.R. (1987). The validity of the job characteristics model: A review and meta-analysis. *Personnel Psychology*, 40, 287- 322.

Glaser, B. (1992). *Basics of grounded theory analysis: emergence vs forcing.* Sociology Press.

Grant, A.M. (2008). The significance of task significance: Job performance effects, relational mechanisms, and boundary conditions. *Journal of Applied Psychology*, 93, 108-124.

Grant, A.M. & Parker, S.K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. *Academy of Management Annals*, 3, 317-375.

Gren, L., Goldman, A. & Jacobsen, C. (2019). Agile Ways of Working: A Team Maturity Perspective. *The Journal of Software: Evolution and Process* (Accepted november 16, 2019).

Gully, S.M., Incalcaterra, K.A., Joshi, A. & Beaubien, J.M. (2002). A meta-analysis of team-efficacy, potency, and performance: Interdependence and level of analysis as moderators of observed relationships. *Journal of Applied Psychology*, 87, 819-832.

Gustavsson, T. (2018). Impacts on Team Performance in Large-Scale Agile Software Development. [Conference paper]. In J. Zdravkovic, J. Grabis, S. Nurcan & J. Stirna (Eds.), *CEUR Workshop Proceedings* (pp. 421-431).

Guzzo, R.A. & Dickson, M.W. (1996). Teams in organizations: Recent research on performance and effectiveness. *Annual Review of Psychology*, 47, 307-338.

Hackman, J.R. & Oldham, G.R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology*, 60, 159-170.

Hackman, J.R. & Oldham, G.R. (1976). Motivation through the design of work: Test of a theory. *Organisational Behaviour and Human Performance,* 16 (2), 250-279.

Hekkala, R., Stein, M-K., Rossi, M. & Smolander, K. (2017). Challenges in Transitioning to an Agile Way of Working. *In Proceedings of the 50th Hawaii International Conference on System Sciences*, 5869-5878.

Highsmith, J. (2004). *Agile project management: creating innovative products*. USA: Addison-Weasley.

Hobfoll, S.E. (1998). *Stress, culture, and community: The psychology and philosophy of stress.* New York: Plenum.

Hoda, R. (2011). *Self-Organizing Agile Teams: A Grounded Theory* [Dissertation]. New Zealand: Victoria University of Wellington.

Hoda, R., Noble, J. & Marshall, S. (2011). Developing a grounded theory to explain the practices of self-organizing agile teams. *Empirical Software Engineering*, 17, 609-639.

Hoda, R., Noble, J. & Marshall, S. (2010). The impact of inadequate customer collaboration on self-organizing agile teams. *Information and Software Technology*, 53 (5), 521–534.

Huck-Fries, V., Prommegger, B., Wiesche, M. & Kremar, H. (2019). The role of work engagement in agile software development: investigating job demands and job resources. *In Proceedings of the 52th Hawaii International Conference on System Sciences*, 7048–7056.

Humphrey, S.E., Nahrgang, J.D. & Morgeson, F.P. (2007). Integrating motivational, social, and contextual job design features: A meta-analytic summary and theoretical extension of the job design literature. *Journal of Applied Psychology*, 92, 1332-1356.

Jovanovic, M., Mesquida A.-L., Radakovic, N. & Mas, A. (2016). Agile retrospective games for different team development phases. *Journal of Universal Computer Science*, (12) 22, 1489–1508.

Judge, T.A., Heller, D. & Klinger, R. (2008). The dispositional sources of job satisfaction: a comparative test. *Applied Psychology: An International Review*, 57, 361–372.

Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692–724.

Karasek, R.A. (1979). Job demands, job decision latitude, and mental strain: implications for job design. *Administrative Science Quarterly*, 24, 285-308.

Katzenbach, J.R. & Smith, D.K. (1993). The Discipline of Teams. *Harvard Business Review*. 71 (2), 111-120.

Kittinger, J.D., Walker, A.G., Cope, J.G. & Wuensch, K.L. (2009). The relationship between core self-evaluations and affective commitment. *Journal of Behavioral and Applied Management*, (1) 11, 68-92.

Korhonen, K. (2010). Exploring defect data, quality and engagement during agile transformation at a large multisite organization. *In 11th international conference on agile processes and eXtreme Programming in software engineering XP* (pp. 88–102). Berlin: Springer.

Kozlowski, S.W.J., Gully, S.M., Nason, E.R. & Smith, E.M. (1999). Developing adaptive teams: A theory of compilation and performance across levels and time. In D.R. Ilgen & E.D. Pulakos (Eds.), *The changing nature of performance: Implications for staffing, motivation, and development* (pp. 240–292). San Francisco, CA: Jossey-Bass.

Kozlowski, S.W.J. & Bell, B.S. (2013). Work groups and Teams in Organizations. In N. Schmitt & S. Highhouse (Eds.), *Handbook of psychology: Industrial and organizational psychology* (pp. 412-469). London: Wiley.

Kramers, J. (2017, 1 March). Kan Wiebe Draijer het moreel bij de Rabobank opkrikken? *ManagementSite*. Retrieved from: https://www.managementsite.nl/kan-wiebe-draijer-moreel-rabobank-opkrikken (last accessed 16 September 2019).

Laanti, M. (2013). Agile and wellbeing-stress, empowerment, and performance in scrum and kanban teams. *In Proceedings of 46th Hawaii International Conference on System Sciences*, 4761–4770.

Larman, V.R. & Basili, M. (2003). Iterative and incremental development: a brief history. *Computer*, 36, 47–56.

Larsen, R.J. & Ketelaar, T. (1989). Extraversion, neuroticism, and susceptibility to positive and negative mood induction procedures. *Personality and Individual Differences,* 10, 1221-1228.

Lazarus, R.S. (1991). *Emotion and Adaptation.* New York: Oxford University Press.

Lee, E.C. (2008). Forming to performing: transitioning large-scale project into agile. *In proceedings of Agile Conference*, 106-111.

Lee, K. & Allen, N.J. (2002). Organizational citizenship behavior and workplace deviance: the role of affect and cognitions. *Journal of Applied Psychology,* 87, 131-42.

Leyva, M. & Kumar, K. (2014, 1 October). Agility: The New Generation of Successful Banks. *InformationWeek: Bank Systems & Technology*. Retrieved from: http://www.banktech.com/management-strategies/agility-the-new-generation-of-successful-banks/a/d-id/1296780d41d.html (last accessed 25 April 2019).

Locke, E.A. (1976). The nature and causes of job satisfaction. In M.D. Dunette (Eds.), *Handbook of industrial and organizational psychology* (pp. 1297–1343). Chicago, IL: Rand McNally.

London, M. (2003). *Job feedback: Giving, seeking and using feedback for performance improvement* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.

McHugh, O., Conboy, K. & Lang, M. (2011). Agile practices: The impact on trust in software project teams. *Software IEEE,* 29 (3), 71-76.

Meadows, K. A. (2003). So you want to do research? 2: Developing the research question. *British Journal of Community Nursing*, 8 (9), 397-408.

Melnik, G. & Maurer, F. (2006). Comparative analysis of job satisfaction in agile and non-agile software development teams. *In Proceedings of the International Conference on Agile Processes in Software Engineering and Extreme Programming (XP),* 32–42.

Melo, C., Cruzes, D., Kon, F. & Conradi, R. (2013). Interpretative case studies on agile team productivity and management. *Information and Software Technology*, (2) 55, 412-427.

Meyer, J.P. & Allen, N.J. (1997). *Commitment in the workplace.* Thousand Oaks, CA: Sage.

Meyer, J.P., Stanley, D.J., Herscovitch, L. & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: a meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 61, 20–52

Moe, N.B., Dingsøyr, T. & Dybå, T. (2010). A teamwork model for understanding an agile team: a case study of a Scrum project. *Information and Software Technology*, 52 (5) 480-491.

Moe, N.B., Dingsøyr, T. & Dybå, T. (2008). Understanding Self-Organizing Teams in Agile Software Development. *In Proceedings of the 19th Australian Conferences on Software Engineering*, 76-85.

Money, K., Hillenbrand, C. & Da Camara, N. (2008). Putting Positive Psychology to Work in Organisations. *Journal of General Management*, 34, 21–36.

Morgeson, F.P. & Campion, M.A. (2003). Work Design. In W.C. Borman, D.R. Ilgen & R. J. Klimoski (Eds.), *Handbook of Psychology, Volume 12: Industrial and organisational psychology* (pp. 423-452). New York: Wiley and Sons.

Morgeson, F.P. & Humphrey, S.E. (2006). The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, 91, 1321–1339.

Morgeson, F.P. & Humphrey, E.E. (2008). Job and team design. Toward a more integrative conceptualization of work design. In J. Martocchio (Eds.), *Research in personnel and human resource management* (pp. 39-92). United Kingdom: Emerald Group Publishing Limited.

Motowidlo, S.J. (2003). Job performance. In W.C. Borman, D.R. Ilgen, & R.J. Klimoski (Eds.), *Handbook of psychology, Volume 12: Industrial and organizational psychology* (pp. 39 –53). Hoboken, NJ: John Wiley & Sons.

Nerur, S. & Balijepally, V. (2007). Theoretical Reflections on Agile Development Methodologies. *Communications of the ACM,* 50 (3), 79-83.

NOS (2019, 11 November). Werkdruk en prestatiedrang: 1,3 miljoen werknemers met burn-outklachten. *NOS*. Retrieved from: https://nos.nl/artikel/2309986-werkdruk-en-prestatiedrang-1-3-miljoen-werknemers-met-burn-outklachten.html (last accessed 14 November 2019).

NRC. (2017, 17 June). Waarom een bank moet denken als een techbedrijf. *NRC.nl*. Retrieved from: https://www.nrc.nl/advertentie/vodafone/waarom-een-bank-moet-denken-als-een-tech-bedrijf (last accessed 25 April 2019).

Nunnally, J.C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Oerlemans, W.G.M., & Bakker, A.B. (2018). Motivating Job Characteristics and Happiness at Work: A Multilevel Perspective. Journal of Applied Psychology, (11) 103.

Oldham, G.R., & Fried, Y. (2016). Job design research and theory: Past, present and future. O*rganizational Behavior and Human Decision Processes*, 136, 20-35.

Oldham, G.R., & Hackman, J.R. (2010). Not what it was and not what it will be: The future of job design research. *Journal of Organizational Behavior*, 31, 463– 479.

Organ, D.W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.

Parker, D.W., Holesgrove, M. & Pathak, R. (2015). Improving productivity with self-organised teams and agile leadership. *International Journal of Productivity and Performance Management*, 64, 112-128.

Parker, S.K. & Turner, N. (2002). Work Design and Individual Work Performance: Research Findings and an Agenda for Future Inquiry. In S. Sonnentag (Eds.), *Wiley Handbooks in the Psychology of Management in Organisations: Psychological Management of Individual Performance* (pp. 69-94). New York: Wiley and Sons.

Parker, S.K. (2003). Longitudinal effects of lean production on employee outcomes and the mediating role of work characteristics. *Journal of Applied Psychology*, 88, 620–634.

Parker, S.K., Wall, T.D. & Cordery, J.L. (2001). Future work design research and practice: Towards an elaborated model of work design. *Journal of Occupational and Organizational Psychology*, 74, 413– 440.

Pereira D.V., Marsicano, G., da Silva, F.Q.B. & Ribeiro, D.M. (2017). Team Maturity in Software Engineering Teams: a Work in Progress. *ICSE Work. Collab. Hum. Asp. Softw. Eng.*, no. CHASE, 4–7.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.-Y. & Podsakoff, N.P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88 (5), 879–903.

Podsakoff, N.P., LePine, J.A. & LePine, M.A. (2007). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: A meta-analysis. *Journal of Applied Psychology*, 92, 438-454.

Podsakoff, P.M., MacKenzie, S.B., Paine, J.B. & Bachrach, D.G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26, 513–563.

Ramakrishna, V. (2014, 8 October). Banking on Agility: Have you got it right? [Blog post]. *Wipro.* Retrieved from: https://www.wipro.com/blogs/venkata-ramakrishna/banking-on-agility--have-you-got-it-right-/ (last accessed 20 April 2019).

Rodriguez, D., Sicilia, M.-Á., Garcia, E.G. & Harrison, R. (2011). Empirical findings on team size and productivity in software development. *Journal of Systems and Software*, (3) 85, 562-570.

Rogers, A. (2007). *Functions of Financial Institutions* [PowerPoint]. Retrieved from: https://slideplayer.com/slide/7231865/ (last accessed 23 Aprl 2019).

Ryan, R.M. & Deci, E.L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52 (1), 141–166.

Schaufeli, W.B. & Bakker, A.B. (2004). Bevlogenheid: Een begrip gemeten [Work engagement: The measurement of a concept]. *Gedrag & Organisatie*, 17, 89–112.

Schippers, M.A., Den Hartog, D.N., Koopman, P.L. & Wienk, J.A. (2003). Diversity and team outcomes: the moderating effects of outcome interdependence and group longevity and the mediating effect of reflexivity. *Journal of Organizational Behaviour*, 24 (6), 779-802.

Scrum Company (2019). Wat is Agile. *Scrum Company*. Retrieved from: https://www.scrumcompany.nl/wat-is-agile/ (last accessed 14 September 2019).

Sears, D.Q. (1983). The person-positivity bias. *Journal of Personality and Social Psychology*, 44, 233-250.

Seligman, M.E.P. (1999). The president's address. *American Psychologist*, 54, 559–562.

Sousa, J.M. & Porto, J. B. (2015). Happiness at work: Organizational values and person-organization fit impact. *Paidéia (Ribeirão Preto)*, 25 (61), 211-220.

Sparrowe, R.T., Liden, R.C., Wayne, S.J. & Kraimer, M.L. (2001). Social networks and the performance of individuals and groups. *Academy of Management Journal*, 44 (2), 316-325.

Staw, B.M., Sutton, R.I. & Pelled, L.H. (1994). Employee positive emotion and favorable outcomes at the workplace. *Organization Science*, 5, 51-71.

Stettina, C.J., Heijstek, W. & Fægri, T.E. (2012). Documentation work in agile teams: The role of documentation formalism in achieving a sustainable practice. *IEEE Computer Society*, 31–40.

Stevens, J. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). New York: Routledge.

Stewart, G. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of Management*, 32, 29-54.

Syed-Abdullah, S., Holcombe, M. & Gheorge, M. (2006). The impact of an Agile methodology on the well being of development teams. *Empirical Software Engineering*, 11 (1), 143–167.

Taris, T.W. & Schreurs, P.J.G. (2009). Well-being and organizational performance: An organizational-level test of the happy-productive worker hypothesis. *Work and Stress*, 23, 120–136.

Tata, J. & Prasad, S. (2004). Team Self-management, Organizational Structure, and Judgments of Team Effectiveness. *Journal of Managerial Issues*, 16 (2), 248-265.

Tripp, J.F., Riemenschneider, C.K. & Thatcher, J.B. (2016). Job satisfaction in agile development teams: Agile development as work redesign. *Journal of the Association of Information Systems*, 17 (4), 267–307.

Tripp, J.F. & Riemenschneider, C.K. (2014). Toward an Understanding of Job Satisfaction on Agile Teams: Agile Development as Work Redesign. *In Proceedings of Hawaii International Conference on System Sciences* (pp. 3993–4002). Berlin: Springer.

Tuckman, B.W. (1965). Developmental sequence in small groups. *Psychological Bulletin*, 63, 384-399.

Tuckman, B. & Jensen, M. (1977). Stage of small group development revisited. *Group and Organizational Studies*, 2, 419-427.

Tummers, L. & Knies, E. (2016). Measuring public leadership: Developing scales for four key public leadership roles. *Public Administration*, 94 (2), 433-451.

Van Bree, J. (2019, 8 April). Agile als favoriete vergaarbak. *Managementsite*. Retrieved from: https://www.managementsite.nl/agile-werkwijze-vergaarbak (last accessed 16 September 2019).

Van de Voorde, K., Paauwe, J. & van Veldhoven, M. (2012). Employee well-being and the HRM-performance relationship: a review of quantitative studies. *International Journal of Management Reviews*, 14 (4), 391–407.

Verburg, R.M., Nienaber, A.M., Searle, R.H., Weibel, A., Den Hartog, D.N. & Rupp, D.E. (2018). The role of organizational control systems in employees' organizational trust and performance outcomes. *Group & Organization Management*, 43, 179-206.

Viswesvaran, C. (2001). Assessment of individual job performance: A review of the past century and a look ahead. In N. Anderson, D.S. Ones, H.K. Sinangil & C. Viswesvaran (Eds.), *Handbook of industrial, work and organizational psychology* (pp. 95–125). Thousand Oaks, CA: Sage.

Walker, C.R. & Guest, R H. (1952). *Man on the assembly line*. Cambridge, MA: Harvard University Press.

Warr, P. (2007). *Work, Happiness, and Unhappiness.* Mahwah, NJ: Lawrence Erlbaum.

Warr, P. & Inceoglu, I. (2012). Job engagement, job satisfaction, and contrasting associations with person–job fit. *Journal of Occupational Health Psychology*, 17 (2), 129–138.

Whitworth, E. & Biddle, R. (2007). The social nature of agile teams. *In Proceedings of the AGILE 2007*, 26-36.

Whitworth, E. (2008). Experience report: The social nature of agile teams. *In Proceedings of the AGILE 2008*, 429– 435.

Williams, L.J. & Anderson, S.E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17, 601-617.

Wright, T.A. (2005). The role of "happiness" in organizational research: Past, present and future directions. In P.L. Perrewe & D.C. Ganster (Eds.), *Research in occupational stress and well-being* (pp. 225-268). Amsterdam: JAI.

Wright, T.A. (2003). Positive organizational behavior: an idea whose time has truly come. *Journal of Organizational Behavior*, 24, 437–442.

Wright, T.A., & Cropanzano, R. (2007). The happy/productive worker thesis revisited. *Research in Personnel and Human Resources Management*. 26, 269–307.

Zelenski, J.M., Stephen A.M. & David A.J. (2008). The happy-productive worker thesis revisited. *Journal of Happiness Studies*, 9, 521–37.

Zhao, H., Wayne, S.J., Glibkowski, B.C. & Bravo, J. (2007). The impact of psychological contract breach on work-related outcomes: A meta-analysis. *Personnel Psychology*, 60 (3), 647-680.

8. Appendix

8.1 Interview structure, topics and example questions

1. **Introductie**
    a. Begroeting
    b. Doel en structuur van het interview toelichten
    c. Anonimiteit benadrukken
    d. Toestemming vragen voor opnemen interview
2. **Openingsvraag om het ijs te breken**
    a. '*Kunt u wat meer vertellen over wie u bent en wat u doet?'*
3. **Agile team design**
    a. Definitie
        i. '*Hoe zou u het werken in agile teams definiëren?*'
        ii. '*Welke elementen of kenmerken verstaat u er precies onder?*'
    b. Waarom geïmplementeerd
        i. '*Met welk doeleinde denkt u dat Rabobank de agile teams heeft geïmplementeerd?*' '*Waarom?*'
4. **Ervan werkkenmerken**
    a. Veranderingen in het werk
        i. '*Als u naar uw werkzaamheden kijkt en de situatie van nu vergelijkt met die van voor de transitie naar agile teams, in hoeverre vindt u dan dat uw werk verandert is en kunt u daar iets over vertellen?*'
        ii. '*Hoe ervaart u de veranderingen in uw werk?*'
    b. Werkkenmerken
        i. '*Hoe zou u uw werkzaamheden in uw agile team beschrijven?*'
        ii. '*Welke kenmerken zou u aan uw werkzaamheden toeschrijven en waarom?*'
        iii. '*Welke kenmerken zou u aan uw agile team designs toeschrijven en waarom?*'
        iv. '*Welke kenmerken associeert u met het werken in agile teams?*' '*Hoe ervaart u deze kenmerken?*'

        <u>Indien nodig:</u>

        - Lijst met werkkenmerken van Morgeson & Humphrey (2006) erbij pakken voor suggesties/aanvullingen in werkkenmerken.

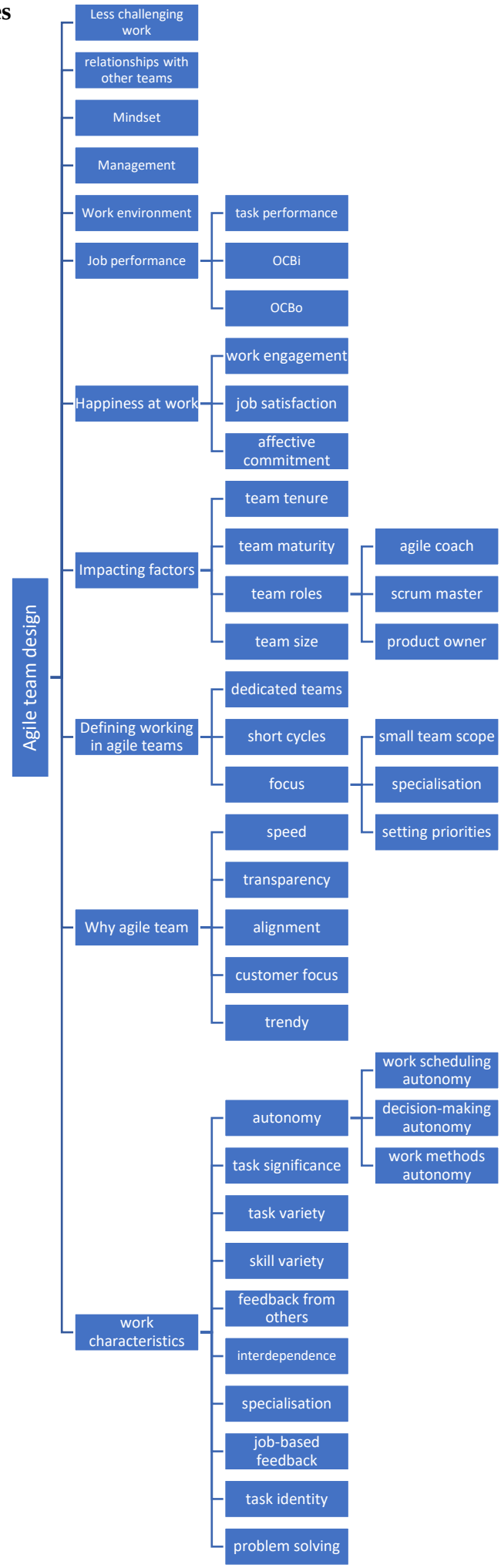
        <u>Vervolg:</u>

        v. '*U heeft tot nu toe 3 kenmerken benoemd die u associeert met/ervaart tijdens het werken in agile teams namelijk …. Heeft u nog andere associaties of ervaringen?*'
        vi. '*Welke van de door u genoemde werkkenmerken is volgens u belangrijk voor werken in agile teams?*' '*Waarom?*'
        vii. '*Welke van de door u genoemde werkkenmerken is volgens u in strijd met het werken in agile teams?*' '*Waarom?*'
5. **Gevolgen voor job performance**
    a. '*Hoe zou u uw eigen performance beoordelen nu na de agile transformatie?*' '*Waarom?*'
    b. '*In hoeverre bent u bereid om anderen te helpen?'*
    c. '*In hoeverre bent u bereid om zich in te zetten voor Rabobank?'*
    d. '*Welke kenmerken van werken in agile teams ziet u als belemmeringen voor uw performance?*'
    e. '*Welke kenmerken van werken in agile teams werken ziet u juist als 'bevorderingen voor uw performance?*'

f. ‘*Wat zou de Rabobank volgens u kunnen doen om medewerkers (nog) beter te laten presteren in de agile teams?*’

6. **Gevolgen voor happiness at work**
    a. ‘*Hoe zou u uw werktevredenheid omschrijven?*’ ‘*Hoe uit dat zich?*’ ‘*In hoeverre is dit verandert vergeleken met voorheen?*’
    b. ‘*Hoe zou u uw betrokkenheid bij het werk omschrijven?*’ ‘*Hoe uit dat zich?*’ ‘*In hoeverre is dit verandert vergeleken met voorheen?*’
    c. ‘*Hoe zou u uw bevlogenheid in het werk omschrijven?*’ ‘*Hoe uit dat zich?*’ ‘*In hoeverre is dit verandert vergeleken met voorheen?*’
    d. ‘*Wat zou de Rabobank volgens u kunnen doen om uw werkgeluk/werkplezier te bevorderen voor haar medewerkers?*’
7. **Achtergrond informatie van geïnterviewden (indien nog niet voldoende besproken bij opening)**
    a. ‘*Hoe oud bent u?*’
    b. ‘*Hoelang werkt u voor de Rabobank?*’
    c. ‘*Hoelang werkt u in uw squad/hoelang bestaat uw squad?*’
8. **Afsluiting**
    a. ‘*Is er nog iets dat u mee wilt geven waarnaar ik niet gevraagd heb?*’
    b. ‘*Heeft u nog vragen voor mij?*’
    c. Bedanken
    d. Vervolg onderzoek uitleggen indien nodig

8.2 Overview of codes



Code overview			Files	References
Definition working in agile teams			0	0
	Focus		8	40
		Small team scope	8	18
		Setting priorities	8	27
		Specialisation	6	14
	Short cycles		4	10
	Dedicated teams		3	7
Why agile teams			0	0
	Speed		2	2
	Transparency		1	1
	Alignment		2	2
	Customer focus		2	2
	Trendy		1	1
Work characteristics			0	0
	Autonomy		8	38
		Work scheduling autonomy	7	11
		Decision-making autonomy	8	13
		Work methods autonomy	7	14
	Task significance		7	18
	Task variety		6	15
	Skill variety		8	27
	Feedback from others		8	30
	Interdependence		3	5
	Specialisation		3	6
	Job-based feedback		3	3
	Task identity		3	3
	Problem solving		3	4
Impacting factors			0	0
	Team tenure		7	22
	Team maturity		3	5
	Team size		5	8
	Team roles		6	10
		Agile coach	7	17
		Scrum master	3	7
		Product owner	8	23
Job performance			7	16
	Task performance		3	5
	OCBi		4	5
	OCBo		2	2
Happiness at work			0	0
	Work engagement		**5**	**8**
	Job satisfaction		**4**	**5**
	Affective commitment		**7**	**15**
Less challenging work			5	14
Relationships with other teams			4	12
Mindset			4	8
Management			7	29
Work environment			5	8

8.3 E-mail invitation

Subject: Masteronderzoek naar agile teams.

Beste medewerker,
Voor de master *Strategisch HRM* aan de Universiteit van Utrecht, ben ik momenteel bezig met een afstudeeronderzoek naar agile teams. Hiervoor heb ik uw hulp nodig.

Momenteel zijn meerdere afdelingen binnen Rabobank bezig met het implementeren van diverse agile praktijken. Deze 'agile transformatie' bestaat o.a. uit het herinrichten en herstructureren van teams. Het doel van mijn onderzoek is om na te gaan hoe het werken in de agile teams wordt ervaren door medewerkers en waar ruimte is voor verbetering. Een mooie kans voor u om uw mening te geven over de nieuwe manier van werken.
De enquête bestaat uit 4 blokken en zal 5 à 8 minuten duren om in te vullen. Diverse onderwerpen zullen worden bevraagd, waaronder werkkenmerken. De antwoorden worden volledig anoniem verwerkt en zullen niet terug te leiden zijn naar één individu of specifiek team. Tevens wordt het onderzoek uitgevoerd in samenwerking met Rabobank. De resultaten worden hierom na afloop gecommuniceerd zodat er concrete vervolgstappen gezet kunnen worden.

Link:

https://usbo.eu.qualtrics.com/jfe/form/SV_2hHihmjpfvew6Pz

Alvast bedankt voor uw medewerking en veel plezier met het invullen van de enquête!

Vriendelijke groet,

Thirsa van Dorp
Masterstudente *Strategisch HRM,* Universiteit Utrecht

Let op: de enquête wordt idealiter op een laptop of desktopcomputer geopend. Bepaalde functies zijn minder compatibel voor gebruik op een mobiel apparaat.

8.4 Questionnaire

Beste medewerker,

Van harte welkom bij de enquête voor mijn afstudeeronderzoek. Het doel van het onderzoek is om inzichtelijk te maken hoe het werken in de agile teams ervaren wordt door medewerkers en waar ruimte is voor verbetering. De enquête bestaat uit 4 blokken en zal 5-8 minuten duren om in te vullen.

Uw antwoorden worden volledig anoniem verwerkt en zullen niet terug te leiden zijn naar één individu of specifiek team. Tevens wordt de data drie maanden na afloop van het onderzoek vernietigd. Deelname is vrijwillig en u bent ten allen tijde vrij om zich terug te trekken.

Voor vragen of opmerkingen kunt u contact opnemen met thirsavdorp@gmail.com.

Alvast bedankt voor de medewerking en veel plezier met het invullen van de enquête.

Vriendelijk groet,

Thirsa van Dorp
Masterstudente Strategisch Human Resource Management

o Ik heb het bovenstaande gelezen en ga akkoord met deelname

Let op: de enquête wordt idealiter op een laptop of desktopcomputer geopend. Bepaalde functies zijn minder compatibel voor gebruik op een mobiel apparaat.

De volgende stellingen gaan over uw gedrag op het werk. Geef per stelling aan in hoeverre het voor u van toepassing is.

	Nooit (1)	Zelden (2)	Soms (3)	Vaak (4)	Altijd (5)
1. Ik voltooi mijn taken adequaat.	O	O	O	O	O
2. Ik vervul verantwoordelijkheden zoals gespecificeerd in mijn functieomschrijving.	O	O	O	O	O
3. Ik voer taken uit die van mij worden verwacht.	O	O	O	O	O
4. Ik voldoe aan de formele prestatie-eisen van mijn baan.	O	O	O	O	O
5. Ik help anderen die afwezig zijn geweest.	O	O	O	O	O
6. Ik besteed mijn tijd aan collega's om hen te helpen met werk-gerelateerde problemen.	O	O	O	O	O
7. Ik pas mijn werkschema aan zodat collega's verlof op kunnen nemen.	O	O	O	O	O
8. Ik doe mijn uiterste best om nieuwkomers welkom te heten in het team.	O	O	O	O	O
9. Ik toon oprechte bezorgdheid en hoffelijkheid richting mijn collega's, in welke situatie dan ook.	O	O	O	O	O
10. Ik breng ideeën in om het functioneren van Rabobank te verbeteren.	O	O	O	O	O
11. Ik toon loyaliteit richting Rabobank.	O	O	O	O	O
12. Ik onderneem actie om Rabobank tegen potentiële problemen te beschermen.	O	O	O	O	O

De volgende stellingen gaan over uw houding op het werk. Geef per stelling aan in hoeverre u het er mee eens bent.

	Helemaal niet mee eens (1)	Niet mee eens (2)	Neutraal (3)	Mee eens (4)	Helemaal mee eens (5)
13. Op mijn werk bruis ik van energie.	O	O	O	O	O
14. Als ik werk voel ik me fit en sterk.	O	O	O	O	O
15. Als ik ‘s morgens opsta heb ik zin om aan het werk te gaan.	O	O	O	O	O
16. Ik ben enthousiast over mijn baan.	O	O	O	O	O
17. Mijn werk inspireert mij.	O	O	O	O	O
18. Ik ben trots op het werk dat ik doe.	O	O	O	O	O
19. Wanneer ik heel intensief aan het werk ben, voel ik mij gelukkig.	O	O	O	O	O
20. Ik ga helemaal op in mijn werk.	O	O	O	O	O
21. Mijn werk brengt mij in beweging.	O	O	O	O	O
22. Over het algemeen ben ik zeer tevreden met mijn baan.	O	O	O	O	O
23. Ik zou heel graag de rest van mijn loopbaan bij Rabobank willen doorbrengen.	O	O	O	O	O
24. Ik ervaar de problemen van Rabobank alsof ze van mijzelf zijn.	O	O	O	O	O
25. Ik voel me onderdeel van de familie bij Rabobank.	O	O	O	O	O
26. Ik voel me emotioneel gehecht aan Rabobank.	O	O	O	O	O
27. Rabobank is voor mij van grote persoonlijke betekenis.	O	O	O	O	O

De volgende stellingen gaan over uw werkkenmerken. Geef per stelling aan in hoeverre het voor u van toepassing is.

	Nooit (1)	Zelden (2)	Soms (3)	Vaak (4)	Altijd (5)
28. Ik heb de mogelijkheid om zelf beslissingen te maken over hoe ik mijn werk inplan.	O	O	O	O	O
29. Ik heb de mogelijkheid om zelf de volgorde te bepalen waarin taken gedaan worden.	O	O	O	O	O
30. Ik heb de mogelijkheid om zelf in te plannen hoe ik mijn werk doe.	O	O	O	O	O
31. Ik heb de mogelijkheid om persoonlijke initiatieven te gebruiken in mijn werk.	O	O	O	O	O
32. Ik heb de mogelijkheid om zelfstandig beslissingen te nemen.	O	O	O	O	O
33. Mijn werk geeft mij veel autonomie in het nemen van beslissingen	O	O	O	O	O
34. Ik heb de mogelijkheid om zelf te beslissen over de manier waarop ik mijn werk doe.	O	O	O	O	O
35. Mijn baan geeft me veel vrijheid in hoe ik mijn werk uitvoer.	O	O	O	O	O
36. De resultaten van mijn werk hebben invloed op de levens van andere mensen.	O	O	O	O	O
37. Mijn werk is belangrijk voor het grotere geheel.	O	O	O	O	O
38. Het werk dat ik uitvoer heeft een grote impact op mensen buiten Rabobank.	O	O	O	O	O
39. Mijn werk kent veel taakvariatie.	O	O	O	O	O
40. Mijn werk bestaat uit het doen van verschillende dingen.	O	O	O	O	O
41. Mijn werk vereist het uitvoeren van een breed scala aan taken.	O	O	O	O	O

42. Mijn werk vereist een variëteit aan vaardigheden.	O	O	O	O	O
43. Mijn werk vereist dat ik een verschillende vaardigheden inzet om het werk te voltooien.	O	O	O	O	O
44. Voor mijn werk moet ik complexe vaardigheden gebruiken.	O	O	O	O	O
45. Ik krijg veel informatie van mijn collega's over mijn werkprestaties.	O	O	O	O	O
46. Ik krijg veel informatie van mijn manager over mijn werkprestaties.	O	O	O	O	O
47. Mensen bij Rabobank, zoals mijn squad-members, geven feedback op de effectiviteit (bijvoorbeeld kwaliteit of kwantiteit) van mijn werkprestaties.	O	O	O	O	O

Achtergrond informatie.

48. Wat is uw geslacht?

o Man o Vrouw o Anders o Wil ik niet zeggen

49. Wat is uw leeftijd?

50. Wat is uw opleidingsniveau?

o WO o HBO o MBO o Middelbaar onderwijs

51. Binnen welke afdeling/tribe bent u werkzaam?

o A o B

52. Hoeveel maanden bent u werkzaam in uw squad? (graag afronden op hele maanden)

53. Hoelang bent u werkzaam binnen Rabobank? (graag afronden op hele maanden)

54. In welke fase bevind uw squad zich momenteel?

- o Oriëntatiefase (weifelende deelnemers, beleefde communicatie, bezorgdheid over groepsdoelen, actieve leider en meegaande leden)
- o Machtsfase (kritiek op ideeën, matige aandacht, vijandigheid en polarisatie)
- o Affectie/ normering fase (overeenkomen van afspraken, afname van rol-ambiguïteit, toename van wij-gevoel)
- o Prestatiefase (besluitvormings-gericht, probleem-oplossingsgericht, wederzijdse samenwerking, productiegericht)
- o Anders, namelijk…

55. Wat zou u nog mee willen geven? (Optioneel)

8.5 Translation of items

Items used in questionnaire	Original items
Taak prestaties Ik voltooi mijn taken adequaat. Ik vervul verantwoordelijkheden zoals gespecificeerd in mijn functieomschrijving. Ik voer taken uit die van mij worden verwacht. Ik voldoe aan de formele prestatie-eisen van mijn baan.	Task performance (Williams & Anderson, 1991) Adequately completes assigned duties. Fulfils responsibilities specified in job description. Performs tasks that are expected of him/her. Meets formal performance requirements of the job.
Extra-rol gedrag op individueel niveau Ik help anderen die afwezig zijn geweest. Ik besteed mijn tijd aan collega's om hen te helpen met werk-gerelateerde problemen. Ik pas mijn werkschema aan zodat collega's verlof op kunnen nemen. Ik doe mijn uiterste best om nieuwkomers welkom te heten in het team. Ik toon oprechte bezorgdheid en hoffelijkheid richting mijn collega's, in welke situatie dan ook.	OCBi (Lee & Allen, 2002) Help others who have been absent. Willingly give your time to help others who have work-related problems. Adjust your work schedule to accommodate other employees' requests for time off. Go out of the way to make newer employees feel welcome in the work group. Show genuine concern and courtesy toward coworkers, even under the most trying business or personal situations.
Extra-rol gedrag op organisatie niveau Ik breng ideeën in om het functioneren van Rabobank te verbeteren. Ik toon loyaliteit richting Rabobank. Ik onderneem actie om Rabobank tegen potentiële problemen te beschermen.	OCBo (Lee & Allen, 2002) Offer ideas to improve the functioning of the organization. Express loyalty toward the organization. Take action to protect the organization from potential problems.
Bevlogenheid (Original items were used as they were already in Dutch)	UBES-9 (Schaufeli & Bakker, 2004)

	Op mijn werk bruis ik van energie. Als ik werk voel ik me fit en sterk. Als ik ‘s morgens opsta heb ik zin om aan het werk te gaan. Ik ben enthousiast over mijn baan. Mijn werk inspireert mij. Ik ben trots op het werk dat ik doe. Wanneer ik heel intensief aan het werk ben, voel ik mij gelukkig. Ik ga helemaal op in mijn werk. Mijn werk brengt mij in vervoering.
Tevredenheid Over het algemeen ben ik zeer tevreden met mijn baan.	Job satisfaction (Tummers & Knies, 2016) Generally speaking, I am very satisfied with my job.
Betrokkenheid Ik zou heel graag de rest van mijn loopbaan bij Rabobank willen doorbrengen. Ik ervaar de problemen van Rabobank alsof ze van mijzelf zijn. Ik voel me onderdeel van de familie bij Rabobank. Ik voel me emotioneel gehecht aan Rabobank. Rabobank is voor mij van grote persoonlijke betekenis.	Affective Commitment (Allen & Meyer, 1990) I would be very happy to spend the rest of my career with this organization. I really feel as if this organization's problems are my own. I do not feel like 'part of the family' at my organization (R) I do not feel 'emotionally attached' to this organization (R) This organization has a great deal of personal meaning for me

Autonomie: werkplanning	Work Scheduling Autonomy (Morgeson & Humphrey, 2006)
Ik heb de mogelijkheid om zelf beslissingen te maken over hoe ik mijn werk inplan.	The job allows me to make my own decisions about how to schedule my work.
Ik heb de mogelijkheid om zelf de volgorde te bepalen waarin taken gedaan worden.	The job allows me to decide on the order in which things are done on the job.
Ik heb de mogelijkheid om zelf in te plannen hoe ik mijn werk doe.	The job allows me to plan how I do my work.
Autonomie: besluitvorming	Decision-Making Autonomy (Morgeson & Humphrey, 2006)
Ik heb de mogelijkheid om persoonlijke initiatieven te gebruiken in mijn werk.	The job gives me a chance to use my personal initiative or judgment in carrying out the work.
Ik heb de mogelijkheid om zelfstandig beslissingen te nemen.	The job allows me to make a lot of decisions on my own.
Mijn werk geeft mij veel autonomie in het nemen van beslissingen	The job provides me with significant autonomy in making decisions.
Autonomie: werkmethoden	Work Methods Autonomy (Morgeson & Humphrey, 2006)
Ik heb de mogelijkheid om zelf te beslissen over de manier waarop ik mijn werk doe.	The job allows me to make decisions about what methods I use to complete my work.
Mijn baan geeft me veel vrijheid in hoe ik mijn werk uitvoer.	The job gives me considerable opportunity for independence and freedom in how I do the work.
Taak significantie	Task Significance (Morgeson & Humphrey, 2006)
De resultaten van mijn werk hebben invloed op de levens van andere mensen.	The results of my work are likely to significantly affect the lives of other people.
Mijn werk is belangrijk voor het grotere geheel.	The job itself is very significant and important in the broader scheme of things.
Het werk dat ik uitvoer heeft een grote impact op mensen buiten Rabobank.	The work performed on the job has a significant impact on people outside the organization.

Taak variëteit Mijn werk kent veel taakvariatie. Mijn werk bestaat uit het doen van verschillende dingen. Mijn werk vereist het uitvoeren van een breed scala aan taken.	Task Variety (Morgeson & Humphrey, 2006) The job involves a great deal of task variety. The job involves doing a number of different things. The job requires the performance of a wide range of tasks.
Skill variëteit Mijn werk vereist een variëteit aan vaardigheden. Mijn werk vereist dat ik een verschillende vaardigheden inzet om het werk te voltooien. Voor mijn werk moet ik complexe vaardigheden gebruiken.	Skill Variety (Morgeson & Humphrey, 2006) The job requires a variety of skills. The job requires me to utilize a variety of different skills in order to complete the work. The job requires me to use a number of complex or high-level skills.
Feedback van anderen Ik krijg veel informatie van mijn collega's over mijn werkprestaties. Ik krijg veel informatie van mijn manager over mijn werkprestaties. Mensen bij Rabobank, zoals mijn squad-members, geven feedback op de effectiviteit (bijvoorbeeld kwaliteit of kwantiteit) van mijn werkprestaties.	Feedback From Others (Morgeson & Humphrey, 2006) I receive a great deal of information from my manager and coworkers about my job performance. Other people in the organization, such as managers and coworkers, provide information about the effectiveness (e.g., quality and quantity) of my job performance.

8.6 Factor analyses and Cronbach's alphas

Table 3. *Factor analysis of job performance*

		Factor		
Items		1	2	3
Task performance	I adequately complete assigned duties.	.44	-.38	
	I fulfil responsibilities as specified in my job description.		-.78	
	I perform tasks that are expected of me.		-.69	
	I meet the formal performance requirements of my job.		-.75	
OCBi	I help others who have been absent.	0.96		
	I spend time helping my colleagues with work-related problems.	.59		
	I adjust my work schedule to accommodate other employees' requests for time off.	.40		
	I go out of my way to make newer employees feel welcome in the team.	.55		
	I show genuine concern and courtesy towards my colleagues, whatever the situation.	.38	-.48	
OCBo	I offer ideas to improve the functioning of Rabobank.			.45
	I express loyalty towards Rabobank.			.51
	I take action to protect Rabobank from potential problems.			.96
Eigenvalue		4.188	1.760	1.352
% explained variance		35%	15%	11`%
Total explained variance		61%		

Note: Extraction method: Principal Axis Factoring. Rotation method: Oblimin with Kaiser Normalisation. Factor loadings with a value of .30 or less were suppressed. Factors analysis was conducted with Dutch items.

Table 4. *Factor analysis of happiness at work*

		Factor		
Items		1	2	3
Work engagement	At my work, I feel bursting with energy.	.68		
	At my job, I feel strong and vigorous.	.60		
	When I get up in the morning, I feel like going to work.	.70		
	I am enthusiastic about my job.	.77		
	My job inspires me.	.82		
	I am proud of the work that I do.	.81		
	I feel happy when I am working intensely.	.59		.39
	I am immersed in my work.	.60		
	I get carried away when I am working.	.61		
Job satisfaction	Generally speaking, I am very satisfied with my job.	.72		
Affective organisational commitment	I would be very happy to spend the rest of my career at Rabobank.		.57	
	I really feel as if Rabobank's problems are my own.		.32	-.66
	I feel like 'part of the family' at Rabobank.		.72	
	I feel 'emotionally attached' to Rabobank.		.82	
	Rabobank is of great personal meaning to me.		.93	
Eigenvalue		6.307	2.204	1.046
% explained variance		44%	15%	7%
Total explained variance		66%		

Note: Extraction method: Principal Axis Factoring. Rotation method: Oblimin with Kaiser Normalisation. Factor loadings with a value of .30 or less were suppressed. Factors analysis was conducted with Dutch items.

Table 5. *Factor analysis of work characteristics*

		Factor				
Items		1	2	3	4	5
Work scheduling autonomy	I have the opportunity to make my own decisions about how I schedule my work.		-.78			
	I have the opportunity to decide on the order in which tasks are done.		-.84			
	I have the opportunity to plan how I do my work.		-.81			
Decision-making autonomy	I have the opportunity to use personal initiatives in my work	.47	-.48			
	I have the opportunity to make decisions on my own.	.84				
	My work provides me with great autonomy in making decisions.	.90				
Work methods autonomy	I have the opportunity to decide for myself how I do my work.	.67	-.39			
	My work provides me great freedom in how I do my work.	.62	-.34			
Task significance	The results of my work affect the lives of other people.				.81	
	My work is important in the broader scheme of things.				.70	
	The work I perform has a great impact on people outside Rabobank.				.81	
Task variety	My work has a lot of task variations.	.56				
	My work consists of doing different things.			-.66		
	My work requires the performance of a wide range of tasks.			-.62		
Skill variety	My work requires a variety of skills.			-.86		

	My work requires me to utilize different skills in order to complete the work.			-.85		
	My work requires me to use complex skills.			-.81		
Feedback from others	I receive a great deal of information from my colleagues about my job performance.					.83
	I receive a great deal of information from my manager about my job performance.					.78
	Other people at Rabobank, such as my squad members, provide feedback on the effectiveness (e.g., quality or quantity) of my job performance.					.94
Eigenvalue		7.050	3.013	1.879	1.444	1.148
% explained variance		35%	15%	9%	7%	6%
Total explained variance		72%				

Note: Extraction method: Principal Axis Factoring. Rotation method: Oblimin with Kaiser Normalisation. Factor loadings with a value of .30 or less were suppressed. Factors analysis was conducted with Dutch items.

Table 6. *Cronbach's alphas*

	n	α
Task performance	62	.77
OCBi	62	.74
OCBo	62	.70
Work engagement	62	.89
Job satisfaction	62	[1]
Affective organisational commitment	62	.85
Work scheduling autonomy	62	.85
Decision-making autonomy	62	.90
Work methods autonomy	62	.84
Task significance	62	.72
Task variety	62	.86
Skill variety	62	.90
Feedback from others	62	.84

Note[1]: Job satisfaction was measured using a single item.

8.7 Correlations with control variables

Table 7a. *Correlations including control variables.*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.
1. Task performance	1.00																				
2. OCB individuals	.41**	1.00																			
3. OCB organisation	.29*	.43***	1.00																		
4. Work engagement	.44***	.31*	.40**	1.00																	
5. Job satisfaction	.49***	.32*	.35**	.76***	1.00																
6. Affective organisational commitment	.08	.18	.45***	.43**	.44***	1.00															
7. Work scheduling autonomy	.10	.26*	.29*	.24	.18	.15	1.00														
8. Decision-making autonomy	.16	.30*	.37**	.55***	.35**	.34**	.44***	1.00													
9. Work methods autonomy	.24	.22	.46***	.49***	.38**	.39**	.63***	.70***	1.00												
10. Task significance	.23	.29*	.22	.37**	.25	.26*	.18	.26*	.28*	1.00											
11. Task variety	.27*	.39**	.27*	.27*	.19	.34**	.31*	.48***	.41**	.46***	1.00										
12. Skill variety	.14	.29*	.20	.07	.06	.11	.31*	.38**	.23	.33**	.75***	1.00									
13. Feedback from others	.23	.36**	.10	.32*	.26*	.32*	.06	.25	.15	.39**	.51***	.29*	1.00								
14. Team maturity (0 = other, 1 = performing)	.27*	.10	.02	.16	.12	.06	.10	.07	.06	.03	-.03	.04	.18	1.00							
15. Team size	-.07	-.16	-.05	-.27*	-.22	-.25*	-.06	-.23	-.11	-.15	-.13	-.05	-.46**	.12	1.00						
16. Team tenure (months)	.00	-.36**	-.24	-.16	-.19	-.29*	-.20	-.45***	-.33**	-.21	-.30*	-.23	-.13	.39**	-.10	1.00					
17. Gender (0 = other, 1 = male)	-.13	-.17	.06	-.06	-.11	-.10	-.06	-.21	-.05	-.12	-.15	-.04	-.14	.18	-.09	-.13	1.00				
18. Age	.00	.01	-.03	-.08	.03	.21	-.14	-.14	-.03	-.15	-.08	-.08	.00	.41	-.11	.01	-.03	1.00			
19. Education (0 = other, 1 = WO)	-.13	-.12	.10	-.13	.03	-.04	-.01	.00	-.02	-.11	.10	.11	-.09	.02	.10	-.18	-.17	-.01	1.00		
20. Department (0 = B, 1 = A)	-.13	.27*	.10	.13	.06	.17	.26*	.27*	.33**	.24	.32*	.27*	.32*	-.26*	.21	.31*	.09	-.53***	-.71***	1.00	
21. Tenure at organisation	.05	.20	.16	-.03	.07	.44***	.25	.15	.29*	.18	.24	.17	.21	.22	.09	.17	.03	-.13	-.19	-.06	1.00

Note: *p < .05, **p < .01, ***p < .001.

8.8 Regression analyses with single work characteristics

Table 9. *Regression analyses with a single work characteristic. Dependent variable: Task performance.*

	β	S.E.	P-value
Work methods autonomy	.33	.09	.024
Task variety	.37	.11	.010
Feedback from others	.30	.08	.036

Note: The effects of work scheduling autonomy, decision-making autonomy, task significance, skill variety and of the control variables gender, age, education and tenure at organisation were non-significant and are excluded to enhance readability.
Model fit WMA: N = 62, R^2 = .13, ΔR^2 = .04, F-statistic = 1.418, p-value = .224.
Model fit TS: N = 62, R^2 = .16, ΔR^2 = .07, F-statistic = 1.707, p-value = .137.
Model fit FFO: N = 62, R^2 = .12, ΔR^2 = .03, F-statistic = 1.281, p-value = .036.

Table 10. *Regression analyses with a single work characteristic. Dependent variable: OCBi.*

	β	S.E.	P-value
Task variety	.36	.12	.011
Feedback from others	.29	.09	.037

Note: The effects of work scheduling autonomy, decision-making autonomy, work methods autonomy, task significance, skill variety and of the control variables gender, age, education and tenure at organisation were non-significant and are excluded to enhance readability.
Model fit TS: N = 62, R^2 = .20, ΔR^2 = .12, F-statistic = 2.318, p-value = .046.
Model fit FFO: N = 62, R^2 = .17, ΔR^2 = .08, F-statistic = 1.894, p-value = .098.

Table 11. *Regression analyses with a single work characteristic. Dependent variable: OCBo.*

	β	S.E.	P-value
Decision-making autonomy	.34	.11	.012
Work methods autonomy	.45	.12	.001

Note: The effects of work scheduling autonomy, task significance, task variety, skill variety, feedback from others and of the control variables gender, age, education and tenure at organisation were non-significant and are excluded to enhance readability.
Model fit DMA: N = 62, R^2 = .18, ΔR^2 = .09, F-statistic = 2.043, p-value = .075.
Model fit WMA: N = 62, R^2 = .24, ΔR^2 = .16, F-statistic = 2.908, p-value = .016.

Table 12. *Regression analyses with a single work characteristic. Dependent variable: work engagement.*

	β	S.E.	P-value
Decision-making autonomy	.60	.08	.000
Work methods autonomy	.56	.09	.000
Task significance	.37	.10	.007
Task variety	.31	.12	.035
Feedback from others	.33	.09	.021

Note: The effects of work scheduling autonomy, skill variety and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.
Model fit DMA: N = 62, R^2 = .35, ΔR^2 = .28, F-statistic = 4.946, p-value = .000.
Model fit WMA: N = 62, R^2 = .29, ΔR^2 = .21, F-statistic = 3.764, p-value = .003.
Model fit TS: N = 62, R^2 = .16, ΔR^2 = .06, F-statistic = 1.690, p-value = .141.
Model fit TV: N = 62, R^2 = .11, ΔR^2 = .02, F-statistic = 1.167, p-value = .337.
Model fit FFO: N = 62, R^2 = .13, ΔR^2 = .03, F-statistic = 1.337, p-value = .257.

Table 13. *Regression analyses with a single work characteristic. Dependent variable: job satisfaction.*

	β	S.E.	P-value
Decision-making autonomy	.37	.11	.009
Work methods autonomy	.43	.13	.003

Note: The effects of work scheduling autonomy, task significance, task variety, skill variety, feedback from others and of the control variables gender, age, education and tenure at organisation were non-significant and are excluded to enhance readability.
Model fit DMA: N = 62, R^2 = .13, ΔR^2 = .04, F-statistic = 1.405, p-value = .229.
Model fit WMA: N = 62, R^2 = .16, ΔR^2 = .07, F-statistic = 1.803, p-value = .116.

Table 14. *Regression analyses with a single work characteristic. Dependent variable: affective organisational commitment.*

	β	S.E.	P-value
Decision-making autonomy	.28	.13	.025
Tenure at organisation (control variable)	.36	.04	.011
Work methods autonomy	.28	.15	.034
Tenure at organisation (control variable)	.33	.07	.026

Note: The effects of work scheduling autonomy, task significance, task variety, skill variety, feedback from others and of the control variables gender, age and education were non-significant and are excluded to enhance readability.
Model fit DMA: N = 62, R^2 = .29, ΔR^2 = .21, F-statistic = 3.744, p-value = .003.
Model fit WMA: N = 62, R^2 = .28, ΔR^2 = .21, F-statistic = 3.614, p-value = .004.

8.9 Regression analyses with multiple work characteristics

Table 15. *Regression analysis with multiple work characteristics. Dependent variable: task performance.*

	β	S.E.	P-value
Intercept	2.78		
Work methods autonomy	.28	.10	.058
Task variety	.19	.12	.232
Feedback from others	.22	.08	.139
N	62		
R^2	.23		
Adjusted R^2	.12		
F-static	2.005		
p-value	.064		

Note: The effects of work scheduling autonomy, decision-making autonomy, task significance, skill variety and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 15. *Regression analysis with multiple work characteristics. Dependent variable: OCBi.*

	β	S.E.	P-value
Intercept	2.57		
Task variety	.28	.13	.067
Feedback from others	.17	.09	.248
N	62		
R^2	.22		
Adjusted R^2	.12		
F-static	2.195		
p-value	.049		

Note: The effects of work scheduling autonomy, decision-making autonomy, work methods autonomy, task significance, skill variety and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 18. *Regression analysis with multiple work characteristics. Dependent variable: job satisfaction.*

	β	S.E.	P-value
Intercept	2.10		
Decision-making autonomy	.16	.15	.372
Work methods autonomy	.32	.18	.096
N	62		
R^2	.18		
Adjusted R^2	.07		
F-static	1.656		
p-value	.140		

Note: The effects of work scheduling autonomy, task significance, task variety, skill variety, feedback from others and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 19. *Regression analysis with multiple work characteristics. Dependent variable: affective organisational commitment.*

	β	S.E.	P-value
Intercept	.87		
Decision-making autonomy	.19	.17	.265
Work methods autonomy	.15	.20	.401
Tenure at organisation	.33	.00	.024
N	62		
R^2	.30		
Adjusted R^2	.21		
F-static	3.295		
p-value	.005		

Note: The effects of work scheduling autonomy, task significance, task variety, skill variety, feedback from others and of the control variables gender, age, education and department were non-significant and are excluded to enhance readability.

8.10 Direct effects of moderators

Table 20 : *Direct effects of moderators individually. Dependent variable: task performance.*

	β	S.E.	P-value
Team Maturity	.32	.15	.028
N	62		
R^2	.13		
Adjusted R^2	.04		
F-static	1.365		
p-value	.245		

Note: The effects of moderators team maturity, team tenure and of the control variables gender, age, education department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 21 : *Direct effects of moderators individually. Dependent variable: OCBi.*

	β	S.E.	P-value
Team tenure	-.38	.02	.019
N	62		
R^2	.19		
Adjusted R^2	.10		
F-static	2.129		
p-value	.064		

Note: The effects of moderators number of team members, team maturity and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 22 : *Direct effects of moderators individually. Dependent variable: work engagement.*

	β	S.E.	P-value
Team size	-.30	.01	.040
N	62		
R^2	.11		
Adjusted R^2	.01		
F-static	1.124		
p-value	.361		

Note: The effects of moderators team maturity, team tenure and of the control variables gender, age, education department and tenure at organisation were non-significant and are excluded to enhance readability.

8.11 Interaction effects

Table 23. *Interaction effects. Dependent variable: task performance.*

	β	S.E.	P-value
Work scheduling autonomy	.15	.13	.147
Team size	-.15	.08	.096
WSA*Teamsize	-.37	.05	.005
N	62		
R^2	.22		
Adjusted R^2	.10		
F-static	1.815		
p-value	.095		

Note: *p < .05, **p < .01, ***p < .001. The effects of moderators team maturity, team tenure and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 24. *Interaction effects. Dependent variable: task performance.*

	β	S.E.	P-value
Task significance	.09	.19	.498
Team size	-.20	.11	.168
TS*Teamsize	-.37	.08	.038
N	62		
R^2	.23		
Adjusted R^2	.11		
F-static	1.940		
p-value	.073		

Note: *p < .05, **p < .01, ***p < .001. The effects of moderators team maturity, team tenure and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 25. *Interaction effects. Dependent variable: work engagement.*

	β	S.E.	P-value
Work scheduling autonomy	.27	.11	.149
Team maturity	.26	.18	.168
WSA*Team maturity	-.41	.03	.007
N	62		
R^2	.27		
Adjusted R^2	.16		
F-static	2.395		
p-value	.028		

Note: *p < .05, **p < .01, ***p < .001. The effects of moderators team tenure, team size and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 26. *Interaction effects. Dependent variable: work engagement.*

	β	S.E.	P-value
Task variety	.23	.09	.089
Team maturity	.22	.12	.134
TV*Team maturity	-.31	.07	.035
N	62		
R^2	.25		
Adjusted R^2	.13		
F-static	2.173		
p-value	.045		

Note: *p < .05, **p < .01, ***p < .001. The effects of moderators team tenure, team size and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 27. *Interaction effects. Dependent variable: work engagement.*

	β	S.E.	P-value
Skill variety	.01	.19	.934
Team maturity	.27	.03	.088
SV*Team maturity	-.31	.13	.043
N	62		
R^2	.18		
Adjusted R^2	.06		
F-static	1.457		
p-value	.195		

Note: *p < .05, **p < .01, ***p < .001. The effects of moderators team tenure, team size and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.

Table 28. *Interaction effects. Dependent variable: job satisfaction.*

	β	S.E.	P-value
Work scheduling autonomy	.22	.18	.183
Team maturity	.18	.14	.338
WSA*Team maturity	-.51	.04	.000
N	62		
R^2	.27		
Adjusted R^2	.14		
F-static	2.281		
p-value	.035		

Note: *p < .05, **p < .01, ***p < .001. The effects of moderators team tenure, team size and of the control variables gender, age, education, department and tenure at organisation were non-significant and are excluded to enhance readability.