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The role of fairness on trust and team work engagement in teams

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Abstract

Title:
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The purpose of this thesis was to study the influence of justice perception on trust behaviors and team work engagement in teams and specially considered computer-mediated communication competences in this case. A model was proposed and tested to explore the connection of these study variables. The study is based on a survey answers from 111 individuals, divided in 34 real life teams in total, and working in 25 different sectors. Results showed a significant positive effect of justice perception on trust and team work engagement, but left room for further influences and research. Computer-mediated communication competences which become more and more important nowadays for not geographical close teams, did not show any significant influence as a moderator on the dependent variables trust and team work engagement. To transpose the study results in practice, supervisors can achieve higher team effectiveness by active execution of procedural, distributive, and interpersonal justice guidelines to achieve higher trust and team work engagement.

Key words:
Justice, fairness, trust, team work engagement, computer-mediated communication competence

Sumarío

Titulo:
O papel da justiça na confiança e envolvimento do trabalho em equipa em equipas

Autor:
Tony Drescher

O objetivo desta dissertação foi estudar a influência da perceção da justiça nos comportamentos de confiança e o envolvimento do trabalho em equipa em equipas e competências de comunicação, neste caso especialmente mediadas por computador. Foi proposto e testado um modelo de forma a explorar a conexão destas variáveis de estudo. Este estudo é baseado num questionário com 111 respostas individuais, dividido em 34 equipas reais, que atuam em 25 setores diferentes. Os resultados mostraram um efeito positivo significante da perceção da justiça no envolvimento do trabalho em equipa, mas deixa espaço para mais influências e pesquisas. Competências de comunicação mediadas por computador que, hoje em dia, se tornaram cada vez mais importantes para equipas geograficamente afastadas, não mostraram uma influência significante como moderadoras nas variáveis dependentes – confiança e envolvimento do trabalho em equipa. Para aplicar os resultados deste estudo de uma forma prática, os supervisores podem facilmente alcançar maior eficácia nas equipas ao excutar ativamente diretrizes de justiça processual, distributiva e interpessoal, para alcançar maior confiança e envolvimento do trabalho em equipa.

Palavras-chave:
Justiça, confiança, trabalho em equipa, competência de comunicação mediada por computador

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Table of Contents

Table of Figures

Table of Tables

1. Introduction

Nowadays teams become more and more frequent and work is more and more organized in teams-based work structures or project teams and can be found in all facets of live (Devine, Clayton, Philips, Dunford, & Melner, 1999). So it can be stated that teamwork is central to the operational execution and success (Mathieu, Marks, & Zaccaro, 2001) and positive effects as enriching the competitive advantage (Rousseau, Sitkin, Burt, & Camerer, 1998) or providing organizational structures that support positive team working conditions (Kozlowski & Bell, 2001) are the consequence.

However, globalization has connected the world and changed how we communicate and apply computer-mediated communication - for example e-mails, text messaging and or video conference - s across different time zones and cultures. McQuillen (2003) showed how every major communication innovation changed the way how we communicate and how we interact socially. New technologies also require new (computer-mediated communication) competences, to apply them properly. Therefore, new opportunities arise to investigate new dimensions of these effects on team interaction, like if there is any difference of justice perceptions on trust and on team work engagement when computer-mediated communication technologies are applied. Teamwork effectiveness benefits from trust and team work engagement.

Trust can be seen as a source for individuals to improve collective performance (Lochner, Kawachi, & Kennedy, 1999). Plus, trust was identified as a key element in the coordination of interactions, behaviors among individuals and prospects. Trust has been also linked with vital paybacks as more positive workplace behaviors, attitudes, more optimized team processes and a proliferation of performance. (Davis, Schoorman, Mayer, & Tan, 2000; Dirks, 1999; Klimoski & L. Karol, 1976; McAllister, 1995; Smith & Barclay, 1997). The links of team work engagement goes a step further and includes a variety of features which can be clustered in degree of interaction, degree of groupness, external cues and emotional events (Costa, Passos, & Bakker, 2012). Nevertheless, justice perceptions can influence both trust and team work engagement with its immediate influence on individual behavior ranging from boosting trust and commitment (Korsgaard, Schweiger, & Sapienza, 1995) to retaliation (Skarlicki, Folger, & Tesluk, 1999).

For myself, this topic has special relevance because I felt that most of the problems during team projects can be traced back on different perceptions of what is being perceived as fair and not fair. This was always influencing team dynamics heavily and especially trust and

team work engagement. Hence, I had a high motivation to explore how justice perceptions affect trust and team work engagement, as well as if new virtual communication forms have an influence on it.

2. Literature review and conceptual framework

This chapter provides an overview on existing theories on teams, trust, procedural justice, team engagement, and computer-mediated communication competences. It includes definitions of the keywords and their connection

2.1 Team and Team Effectiveness

The term team is omnipresent nowadays and barely any organization is not using teams to achieve their objectives. The underlying reasoning behind this is the that teams can accomplish goals that individuals by themselves cannot (Marks, Mathieu, & J. Zaccaro, 2001). According to Salas, Dickinson, Converse, & Tannenbaum (1992, p. 4) a team is defined as "a distinguishable set of two or more people who interact, dynamically, interdependently, and adaptively toward a common and valued goal / objective / mission, who have been assigned specific roles or functions to perform, and who have a limited life-span of membership". Teams are bigger than the sum of individuals and can be seen as a lever for better adaptability, productivity, and creativity (Gladstein, 1984; Hackman, 1987). This is helpful for solving bigger organizational problems in a more original, multifaceted and complete manner (Marks et al., 2001; Sundstrom, DeMeuse, & Futrell, 1990). Notwithstanding, there are disadvantages which should not be neglected as unnoticed deadlines or low productivity (Alderfer, 1977; Janis, 1991). The reasons for failure can have various sources as bad planning, a deficiency of support by leaders, or collapsed team process, mainly communication). However, research has shown that the confluent factor that secures team effectiveness is team process (Gladstein, 1984; Hackman, 1987; McGrath, 1984).

So what promotes team effectiveness first of all? Zaccaro & Klimoski (2001) observed plenty of characteristics in order to develop three key features to ensure team effectiveness**:** I) the integration of (distinctive) roles and takes of individual team members into the broader team context to avoid asynchronous team processes; ii) the adaptability to adjust and perform in fast changing and multifaceted environments, which is especially relevant for teams in top management and operations; iii) team leadership is required for setting team goals and directions, plus establishing and arranging the team itself to achieve the aims (Zaccaro, Rittman, & Marks, 2001). As already mentioned above, team processes are another factor on which team effectiveness depends on. Marks et al. (2001, p. 357) described team process is as "members' interdependent acts that convert inputs to outcomes through cognitive, verbal, and behavioral

activities directed toward organizing taskwork[1] to achieve collective goals". Moreover, they developed a taxonomy to dissect team processes and graded it into three parts: I) the transition processes in which next steps are deliberated and revised like mission analysis, goals specification and strategy; ii) the action processes which pertains the execution of the task itself, coordination and the various stages of monitoring like progress, team and system, iii) and interdependent processes which deals with interpersonal relationships and contains conflict management, affect management, and motivation and confidence building. These interpersonal processes transpire both during transition and action phase and provide the basis of the efficacy of other processes. This basis lays the foundation for the next sections in this literature review. Hereby, especially trust and fairness will be examined as essential and required components when working together in teams.

2.2 Trust

Trust can be contemplated on an individual and group level. Thus, Mayer, Davis, & Schoorman (1995, p. 712) defined trust as " willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that party", considering the fact that the term "party" refers to an individual or groups. Simsarian Webber (2002) defined trust specifically in a team setting as "the shared perception … that individuals in the team will perform particular actions important of its members and … will recognize and protect the rights and interest of all the team members engaged in their joint endeavor." In another facet trust is explained as the cultivated willingness to disperse information in a more elaborated way among team members which can be seen as another trait (Jones & George, 1998). Literature about trust is easy to find, but as Lewicki, Tomlinson, & Gillespie (2006) or Kramer (1999) already stated, trust is not static. Just few tackled trust from a dynamic approach (Serva, Fuller, & Mayer, 2005; Wilson, Straus, & McEvily, 2006). Trust is developing progressively ongoing (Rempel, Holmes, & Zanna, 1985; Zand, 1972) and comes with different features depending on the three stages early, developing, and mature (Roy J. Lewicki & Bunker, 1996). This tacitly shows that trust starts from a low initial level start low and steadily increment during a relationship. This

[1] Taskwork vs team work: Taskwork states the actual task itself (Bowers, Braun, & Morgan Jr., 1997) and team work describes the combination of intersected thoughts, actions, and feelings of each team member that are required to work as a team and that pool to promote coordinated, adaptive performance and task objective resulting in value-added outcomes (Morgan, Glickman, Woodard, Blaiwes, & Salas, 1986; Spielberger, 2004)

is supported by Jones & George (1998) and their psychological approaches who stated that trust begins from scratch and behavioral approaches that indicates that the growth and decline of trust through interaction that are either reciprocated or rejected by the others (Hardin, 1993; Slovic, 1993). In addition, it is also possible that trust falls even below a zero baseline of the trustor because expectations were not met or trust was abused. Consequently, three following scenarios are possible conditional on the trust stage and gravity for the trustor: embolden to develop trust on a different basis, redevelop or quite the relationship (Roy J. Lewicki & Bunker, 1996).

Another dimension to study trust is on its team level as a collective experience. According to Kramer (1999) the record of interactions delivers helpful data for evaluating the attitudes, purposes and motives of others. The judgments of team members about their peers like trustworthiness are partly sourced in their own attitudes and preceding experiences of others people behavior.

To understand the concept of trust deeper, Mayer et al. (1995) see trust from a binary perspective dividing it into two main factors: the psychological state (formative indicators) and behavioral consequences (reflective indicators). Costa, Roe, & Taillieu (2001) extend the concept to the multifaceted approach: formative indicators that lead to trust include propensitty to trust and perceived trustworthiness, and reflective indicators as the consequences of trust including cooperative and monitoring behaviors grouped as risk-taking behaviors.

Per definition propensity to trust is “an expectancy held by an individual or group that the word, promise, verbal or written statement of another individual or group can be relied upon” (Rotter, 1967, p. 651). Other authors represent different insights. Sitkin & Pablo (1992) contemplate propensity to trust as a rather steady trait, but acknowledge it as a situation-specific feature, influenced by their environment as other individuals and team members and situations itself. Another standpoint is given by Farris, Senner, & Butterfield (1973) and Dasgupta (1988) who see propensity to trust as a part of personality which follows to generalized beliefs about the trustworthiness of other individuals. Rotter (1980) drew the link towards groups stating how efficiency, adjustment and survival are related on the level of propensity to trust. According to McKnight, Cummings, & Chervany (1998) a person’s propensity to trust is affecting other persons trust when there are no other indicators as type of relationships or institutional structures. Moreover, propensity to trust can be very likely seen as a key feature for the evolution of trust especially in the beginning and for finite work relation like project teams

Good (1988) described trustworthiness as the extent to which individuals expect others to be and to behave according to their implicit or explicit claims. Costa, Bijlsma-Frankema, & de Jong (2009) stated that perceived trustworthiness is the main trait to assess trust in a specific relation and refers to which degree individuals assume others to behave and to be according their claims. After Cummings & Bromiley (1996) perceived trustworthiness can be assessed and divided within three dimensions. First, the belief that an individual or group behave in good-faith efforts along explicit and implicit pledges. Second, the belief that an individual or group is honest when commitments were established. Third, the belief that an individual or group does not act in a disproportionate opportunistic way to gain advantage. This set of shared expectations are built on motives and intentions, experience, information about others' competence to whom one is taking into consideration to become vulnerable (Lewis & Weigert, 1985; McAllister, 1995).

Trust behaviors can be stated as actions that echo an individual's disposition to be vulnerable to others and their actions which cannot be controlled (Zand, 1972). Various empirical studies have focused on how trust can be observed through diverse patterns in behavior (Costa et al., 2001; Cummings & Bromiley, 1996; Currall & Judge, 1995; Smith & Barclay, 1997). Jones & George (1998) divide trust behaviors into two sections: cooperative and monitoring behaviors.

Cooperative behaviors belong to the group of trust behaviors. It states the scope team members do communicate in an open manner about their tasks, consent with the influence of peers (Zand, 1972), and feel individually involved with their group (Costa et al., 2001). This attitude incorporates acceptance of influence (Smith & Barclay, 1997), assurance of others (Clark & Payne, 1997), information sharing (Currall & Judge, 1995) and communication openness (Smith & Barclay, 1997). This behaviors be accompanied by a awareness of trustworthiness of the trustor (Costa et al., 2009).

In contrast, the need of exercising surveillance, monitoring or control behaviors is linked to a deficiency of trust (Currall & Judge, 1995; Zand, 1972). This implies an inverse nexus of trust and monitoring behaviors. The lower the necessity of controlling team members, the higher the degree of trust in a relationship (Cummings & Bromiley, 1996). Hence, trust can be seen as an incentive for intensification of information exchange and deterioration of uncertainty (Gambetta, 1988; Gulati, 1995). Another influencing factor is the maturity of teams, which shows the longer a team is working together, the higher the willingness to cooperate and the lower the need of observation (Costa et al., 2001).

So one can assume that trust is a key component because teams work interpedently, which incurs the acceptance of a certain level of risk to rely to meet deadlines, contributing to the team task, and cooperate without subversive intentions (Salas, Sims, & Burke, 2005). Team work is also influenced by mutual trust as Simons & Peterson (2000) found out, because the interpretation of behaviors in a team is significantly influenced by trust. If there is not a group level of trust established, the possible drawbacks are that team members construe actions or behaviors as missed deadlines or discords as harmful undertaking against the team or individual. Another point would be that team members use their efforts and time to examine, protect, and inspect each other instead of cooperating to proceed the task (R. K. Cooper & Sawaf, 1998). Finally, there is no proper team leadership possible without acceptance and trust. Without that the leader is undermined and cannot execute his role effectively. Hence, by establishing and developing mutual trust through fairness, team members understand that each one is looking for the other one and the teams greater goal.

2.3 Justice Perceptions

As Kirkman, Shapiro, Novelli, & Brett (1996) described, justice is a helpful tool in order to set up effective groups. However, literature shows that justice can be described in three different dimensions: procedural, distributive, and interpersonal justice. The first one contemplates the procedure which resulted in the outcome, the second is dealing with decision about the distribution of outcomes and the third one consider the interpersonal treatment.

Procedural justice can be described as a form of justice that examines the processes that lead to decision outcomes (Colquitt, 2001; Leventhal, 1980; Thibaut & Walker, 1975). Each individual itself judges what is fair and what not. Moreover, a process is in comparison to an outcome vague, and not concise tangible in terms of definition. Thus, some studies bisect processes in structural and social processes. (Greenberg, 1993; Tyler & Bies, 2015).

Structural procedures are embedded within work policies which set up a specific range for a decision outcome (Cropanzano & Greenberg, 1997). In order to be able to evaluate structural procedure as fair, it should match following criteria developed by Leventhal (1976; 1980): I) consistent allocation of outcomes (e.g. criteria for performance evaluation needs to be developed prior by leaders); ii) that are free of bias (so that decision making is not influenced on personal motives), iii) are accurate and precise (in order to avoid rewarding someone for something underlying not sufficient information); iv) can be revised and corrected (because

errors happens and a no modification rule would undermine a procedure); v) are representative (e.g. by including subgroups during the decision making process), vi) and are ethical sustainable (so as to be acceptable by the individual).

However, the applied criteria vary by different occasions by each individual. Depending on that, the importance of each rule has another power. These individual judgments are called weight in procedural justice. A social procedure is characterized by the interpersonal treatment which is defined in a coming forthcoming section.

Next, Cropanzano & Schminke (2001, p. 144) define distributive justice as "the outcomes of allocations that result from some decision". A common example is the job application process, with the final binary result of receiving a job offer or not (Gilliland, 1993). It was also shown by Kulik & Ambrose (1992) that the more significant an outcome is, the more carefully it will be gauged by the concerned individual. Possible referents can be obtained different sources, but the majority is based on other people's judgement (Crosby, 1976). An allocation is seen as unfair by the affected person when allocations misaligned. That means the referent standard is not matching the individuals expectation and one is prone to experience distributive injustice (Schwarzwald, Koslowsky, & Shalit, 1992; Stepina & Perrewe, 1991; Summers & Hendrix, 1991; Sweeney, McFarlin, & Inderrieden, 1990). Not only under reward, but also over reward can lead individuals to the feeling of distributive injustice[2].

Interpersonal justice is a social procedure that considers the interpersonal treatment that a person is facing throughout the allocation process (Folger & Bies, 1989; Tyler & Bies, 2015). In accordance with Brockner & Wiesenfeld (1996) and Tyler & Bies (2015) interpersonal justice is characterized by two facets. Primarily, individuals wish to be treated with dignity and respect, which is sometimes mentioned as interactional justice or interpersonal sensitivity (Greenberg, 2002). If that is not happening and individuals do not feel that they are treated properly, destructive actions or toxic development on interpersonal relations cause consequences (Baron, 1988, 1990). Finally, individuals are looking for the reasoning of a decision. With suitable and meaningful reasons offered, the behavior of individuals obtaining non-positive results are taken in a much more conciliatory manner.

Taken together, research has shown that leaders are being perceived as fair by their employees when they give insights into their decision making process which affect them (Folger & Bies, 1989; Tyler & Bies, 2015). For example, Greenberg (1990) showed the effect

[2] For more information regarding over reward consult (Greenberg, 1982, 1988; Harder, 1992).

of the implementation of fairness in a company in a field study were the rate of theft for underpaid workers dropped significantly after they received a profound clarification why they receive this specific low salary. However, the self-serving bias explains the notion of individuals to discern the fairest outcomes that allocates them the highest payoff and vice versa (Greenberg, 1983). Other studies showed that performance can be boosted by operating with fair procedures. Undergraduate students had higher performances in two laboratory experiments when their supervisors treated them in a procedural fair way (Earley & Lind, 1987). Gilliland (1994) applied procedural and distributive justice during an employee selection process with a higher performance of newly hired employees as outcome. Additionally, Folger (1986; Cropanzano & Folger, 1989) developed his referent cognitions theory about the creation of resentments of individuals because they reached (negative) outcome decided by the decision maker could have been better by realizing the process of the rejected person.

Thus, one can transfer the problems of an individuals on a team level when procedural, distributive and interpersonal justice are not applied. Reciprocity Justice perception can influence trust. Trust itself is the key element for the concept of reciprocity between individuals (Nooteboom, 2002). The conclusion that one person is exposing himself in a vulnerable position by trusting someone else might induce the opposite to do the same and replicate the given trust and behavior (Das & Teng, 1998). This reciprocity also leads to a better team interaction, which promotes the development of shared expectations, perceptions, patterns of understanding each other, and norms and behavior. Hence, trust is the foundation and starting point of working well and effective in a team (Campion, Medsker, & Higgs, 1993; West & Anderson, 1996). This leads to the first set of hypothesizes:

(H1a) The higher perceived justice, the higher trust within teams.
(H1b) The higher procedural justice, the higher trust within teams.
(H1c) The higher distributive justice, the higher trust within teams.
(H1d) The higher interpersonal justice, the higher trust within teams.

Figure 1: Hypothesis 1

2.4 Team Engagement

After examining how trust in teams is affected by the degree of applied fair procedures, it is consequent to continue to investigate if there is any influence of justice perception on team work engagement. Prior one can define team work engagement, the individual term work engagement needs to be introduced: "Work engagement is the mental state where employees feel full with physical energy (vigor), are enthusiastic about the content of their work and the things they do (dedication), and are so immersed in their work activities that time seems to fly (absorption)", (Bakker & Demerouti, 2017, p. 274). Various studies showed different advantages. The more people are engaged with their work, the more they prone to be proactive and excited (Halbesleben & Wheeler, 2008). They show better results than their peers, by being more attentive and going beyond what is required from them (Bakker & Demerouti, 2017). Fredrickson (2001) explained this performance accretion as an outcome of positive emotions in her broaden and build theory. On a team basis the effect might be even more visible, because Totterdell, Kellett, Teuchmann, & Briner (1998) found out that teams disclosed alike traits of mood.

From an individual perspective of work engagement, the term team work engagement can be developed and described as positive, fulfilling, shared, motivational emergent state of work-related well-being (Costa et al., 2012). In the group, team members are in constant exchange which means also that they note each other's demeanor. They recognize the different facets of each other's body language like being excited and smiling about new tasks or a higher pitched intonation during speaking - the same example vice versa too. Nonverbal signs of communication, like gestures and facial expression and intonation, are the key for emotional contagion which are in charge conveying analogous emotional states. Team work engagement is also contemplated as an "emergent state whose collective structure is shaped by the nature of their members' interactions during team processes and dynamics" (Costa, Passos, & Bakker, 2014, p. 35). However, there are more influencing factors which determine the composition of team work engagement: I) team processes, like mission statement, preparation and, organization; ii) different aspects of work ambience like leader's behavior, work structure and work events; iii) interpersonal processes[3] like motivational processes, affective processes, and conflict management (Costa et al., 2014).

[3] Like interdependent processes of the team taxonomy framework by (Marks, Mathieu, & Zaccaro, 2001).

The positive effects of positive justice perception were tested in various studies. Taking the case of Korsgaard, Schweiger, & Sapienza (1995) on strategic planning groups. They examined how executives in a training program formed teams and behavior. After each team had to set up an imaginary strategic plan, the results showed that whenever group members took their views into contemplation, they could modify team decisions and procedural justice was observed as high. Moreover, due to the fairer processes, the participants testified amplified levels of trust, decision commitment and group cohesion. Kim & Mauborgne (1991, 1993) gathered similar data by surveying managers from various multinational companies about implementing new global strategies. The findings revealed that when the planning stage was done and experienced in a procedural just manner, the executives stated more harmony, satisfaction, trust, and commitment with the new strategy. Furthermore, team work engagement and team effectiveness can be already undermined from the beginning on when individuals predict the manifestation of injustice (Kirkman et al., 1996; Roberson & Colquitt, 2005), for instance, during team-based reorganizations (Wall, Kemp, Jackson, & Clegg, 1986).

By taking together, it can be deduced that the higher the positive justice perception, the higher the team work engagement. This leads to various positive effects. The work force is more committed, the turnover rate decreases, a lower probability of rancorous actions against the team or the company, higher acceptance, and trust; and the empowerment of helping their team on their expense. Thus,

(H2a) The higher the perceived justice, the higher the team work engagement within a team.
(H2b) The higher the procedural justice, the higher the team work engagement within a team.
(H2c) The higher the distributive justice, the higher the team work engagement within a team.
(H2d) The higher the interpersonal justice, the higher the team work engagement within a team.

Figure 2: Hypothesis 2

2.5 Computer-Mediated Communication Competence as moderator

As already stated above in chapter 2.4 team work engagement, nonverbal communication has a big impact in establishing common ground within a team. Conversely, the business world is in a diverging process with less face-to-face and more computer-mediated communication (CMC). So, the question arises, if this development has a negative influence on trust and team work engagement, due to the missing face-to-face contact which should be crucial in creating a common ground? To answer this question, it is necessary to introduce the concept of CMC.

Spitzberg (2006, p. 630) developed and defined CMC as "any symbolic text-based interaction conducted or facilitated through digitally-based technologies", like internet, instant messaging, cellular communication, email, and all audio-visual exchange. To guarantee the effective usage of CMC and individual needs to master the three CMC competences CMC motivation, CMC knowledge and CMC skills. Ring and colleagues (Ring, Braginsky, & Braginsky, 1966; Ring, Braginsky, Levine, & Braginsky, 1967; Ring & Wallston, 1968) described the interlocking of the different components in an allusive example: So as to give a good performance an actor needs to be (self-) motivated, but if the actor does not know the script the motivation alone is not sufficient. The motivation and knowledge are also not enough to perform well if the mandatory skillset is not existing.

First, CMC motivation indicates the disposition of an individual to adapt to new CMC technologies and its co-products like gratification, satisfaction, and positive mindsets. Positive motivation is displayed by bringing confidence, comfort, and vigor into the communication. Negative motivation shapes the communication with disinterest, apathy until social anxiety as features (Richter, Naumann, & Groeben, 2000). Second, CMC knowledge is divided by Greene (1997) into the two-parts content knowledge and procedural knowledge. Content knowledge deals with the cognitive characteristics as rules, topics, and concepts. Procedural knowledge encompasses the understanding of applying content knowledge. Third, CMC skills encapsulate the use of recurred, outcome-driven, social strategies of motivation and knowledge skills. Spitzberg (2003) found over 100 distinct skills and grouped them into four sections. I) attentiveness like exhibiting apprehension and responsiveness to others action and behaviors of other individuals, ii) composure as showing assertiveness, confidence, being in power, iii) coordination like presenting deft management of scheduling, commencement and finish of conversations, topic management, iv) expressiveness as demonstrating vibrancy and energy in both verbal and nonverbal communication. In this way CMC competences serve as a moderating factor concerning how teams interact and communicate with each other.

This is the basis that CMC competences will moderate the effect of perceived justice on trust and team work engagement because CMC and social aspects like relationship origination, maintenance, and closure are already yoked together. Different studies have shown that people are incorporating CMC as another pillar for their relationship management (Hovick, Meyers, & Timmerman, 2003; McCown, Fischer, Page, & Homant, 2001), which goes beyond being pure information exchange possibilities (Garton & Wellman, 1995; Sitkin, Sutcliffe, & Barrios-Choplin, 1992). The more time spent on CMC, the less time remains for face-to-face interactions and its by-products network size, density and quality of the communication (Cai, 2004). Peñarroja, Orengo, Zornoza, & Hernández (2013) showed that the higher the degree of virtuality (no face-to-face communication) is, the lower is the level of team coordination, which was partly mediated by the grade of trust. Hence, as already stated within in the previous hypothesis justice perception should influence trust and team work engagement. By taking CMC competences into consideration the set of hypothesizes can be extended as following:

(H3a) The higher the perceived justice, the higher the trust within a team especially when computer mediated *communication competences* are high.
(H3b) The higher the procedural justice, the higher the trust within a team especially when computer mediated *communication competences* are high.
(H3c) The higher the distributive justice, the higher the trust within a team especially when computer mediated *communication competences* are high.
(H3d) The higher the interpersonal justice, the higher the trust within a team especially when computer mediated *communication competences* are high.

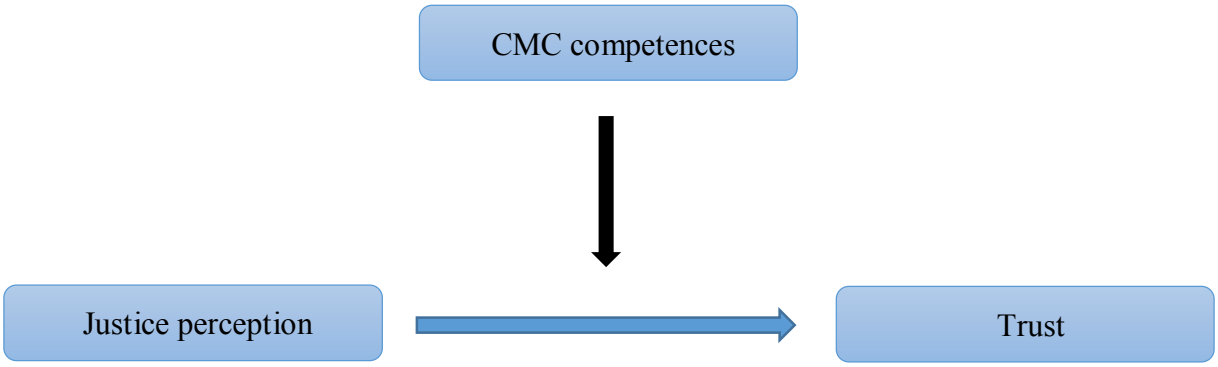

Figure 3: Hypothesis 3

(H4a) The higher the perceived justice, the higher the team work engagement within a team especially when computer mediated *communication competences* are high.
(H4b) The higher the procedural justice, the higher the team work engagement within a team especially when computer mediated *communication competences* are high.
(H4c) The higher the distributive justice, the higher the team work engagement within a team especially when computer mediated *communication competences* are high.
(H4d) The higher the interpersonal justice, the higher the team work engagement within a team especially when computer mediated *communication competences* are high.

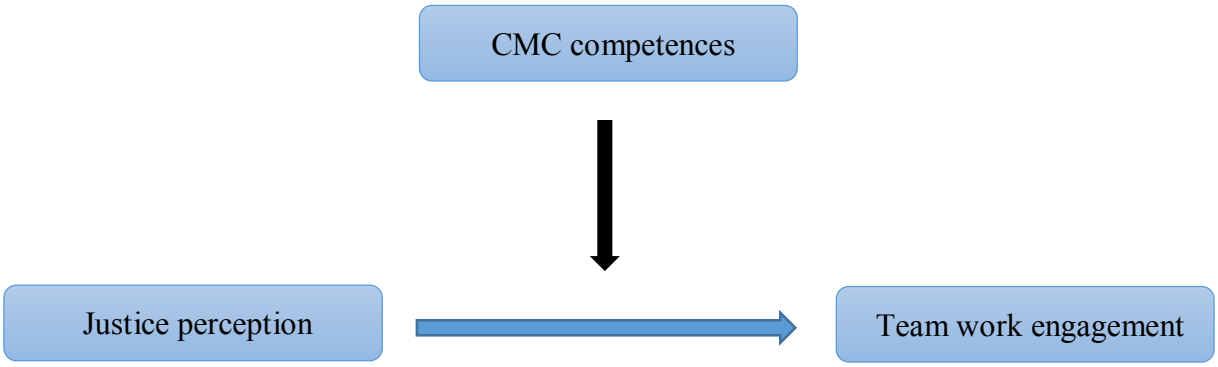

Figure 4: Hypothesis 4

3. Methodology

In this chapter, the data collection procedure, the participants, and scales and measurement will be described.

3.1 Data collection and Procedure

To gather the required data to validate the hypotheses presented in prior section, I teamed up with one fellow student of Católica Lisbon School of Business and Economics. This was useful to collect data on a team basis instead of an individual basis. This approach offsets the risks of a too small sample size and thus unreliable results at the same time when collecting alone. A team was just contemplated when three or more individuals of the same team completed the survey. Moreover, the gained complexity is then better settled in the research topic of team effectiveness. Next, the data were collected with the help of a survey in Qualtrics, and in

English, including all necessary variables required to examine in this paper as following: justice perceptions, trust, team work engagement, CMC competences, and demographics.

The distribution of the questionnaire took place via an anonymous link, either in e-mails or social media messages to 89 individuals, who forwarded the link within their network if possible. To assure correct grouping of the individuals into a team each message was individual and included a team code. The survey was conducted at one point over the duration of 18 days, with all the variables at once and required an estimated amount of 15 minutes. Each participant answered the questionnaire individually and anonymously. In the end 166 individuals had finished the questionnaire. Due to the team minimum limit of at least three members and cleaning of the data, some responses were removed from the sample. So, the analysis was conducted with 34 teams and an average of 3.2647 members per team.

3.2 Participants

The 111 valid answers for the data sample consist of 63 male participants (57%) and 48 female participants (43%). Their origin is limited to Europe with a strong majority from Austria (61%) and Germany (19%) and the remainder (20%) is spread between Czech Republic, Italy, Poland, and Portugal. Furthermore, the different sectors in which the teams are active amount to 25 ranging from architecture, finance, marketing, and retail. The different teams are working together from a duration of one month up to ten years, giving an average of 41.59 months and a standard deviation of 26.96. The age of participants was ranging from 19 to 59 years with a mean of 31.63 years and standard deviation of 11.30 years.

3.3 Scales and Measurement

The questionnaire included the four main variables outlined before and demographics: justice perceptions, trust, CMC competences, and team work engagement. The complete structure of the questionnaire is included in the appendix. The variables were measures as follows:

Justice perception was measured using a 12-item scale. The variable has three subscales: procedural justice (e.g. “Have you been able to express your views and feelings during those procedures”) developed by Thibaut & Walker (1975), distributive justice (e.g. “Does your (outcome) reflect the effort you have put into your work”) from Leventhal (1976), and interpersonal justice (e.g. “Has (he/she [the leader]) treated you in a polite manner”) by Bies & Moag (1986). This scales reliability results with a Cronbach’s αlpha of 0.862 (Table 1).

Scale	Number of items	Cronbach's Alpha
Justice perception	12	0.862
Procedural justice	4	0.721
Distributive justice	4	0.885
Interpersonal justice	4	0.890

Table 1: Cronbach's alpha - justice scale variables

The **trust** scale was developed by Costa & Anderson (2011) and is composed of 15 items and contains four subscales: propensity to trust (e.g. "Most people in this team would not hesitate to help a person in need"), perceived trustworthiness (e.g. "We have complete confidence in each other's ability to perform the task"), cooperative behaviors (e.g. "While taking a decision we take each other's opinion into consideration"), and monitoring behaviors (e.g. "In this team most people tend to keep each other's work under surveillance"). The Cronchbach's alpha measure for reliablitiy amounts to 0.756 (Table 2).

Scale	Number of items	Cronbach's Alpha
Trust	15	0.756
Propensity to trust	4	0.635
Perceived trustworthiness	4	0.841
Cooperative behaviors	4	0.732
Monitoring behaviors	3	0.862

Table 2: Cronbach's alpha - trust scale variables

CMC competence measure was based on Spitzberg (2006). We used six items for parsimony reasons (e.g. "I am very motivated to use computers to communicate with others", "I am generally satisfied with my communication encounters."). The measured Cronbach's alpha value was 0.800 (Table 3).

Scale	Number of items	Cronbach's Alpha
CMC competence	6	0.800
Motivation	3	0.852
Satisfaction	3	0.789

Table 3: Cronbach's alpha - CMC competence scale variables

The **team work engagement** scale was developed by Costa et al. (2014) and includes 9 items (e.g. "While we are working we feel bursting with energy"). The scales reliability was measured by Cronbach's alpha with an outcome value of 0.899.

All answers were obtained by using a 7-point Likert scale, with 1 indicating "Strongly disagree", 4 indicating "Neither agree nor disagree", and 7 indicating "Strongly agree". Moreover, all scales showed a sufficient value for Cronbach's alpha.

4. Data Analysis and Results

4.1 Data Analysis

All hypothesizes hypotheses were tested with the aggregated team data set. In order to attest a high group agreement and implement a team level analysis, the corresponding rwg(j) values[4] were calculated for each scale and subscale. The results returned sufficient values bigger than 0.7 for each analyzed variable (Table 4). Hypothesis one (H1) and two (H2) were tested using a simple regression in SPSS. For the hypothesis three (H3) and four (H4) the moderation model by Preacher & Hayes (2004) was applied with the bootstrapping setting of 5000 samples. The bootstrapping method is "a nonparametric approach to effect-size estimation and hypothesis testing that makes no assumptions about the shape of the distributions of the variables or the sampling distribution of the statistic" (Preacher & Hayes, 2004, p. 721). The demographic variable team duration was used as control variable but not presenting relevant significance for the analysis. All study variables were mean centered for the moderation analysis. Finally, all confidence intervals were tested at 95%.

[4] See James, Demaree, & Wolf (1984)

Variable	Rwg(j)
Trust	0.95
Propensity to trust	0.86
Perceived trustworthiness	0.87
Cooperative behaviors	0.89
Monitoring behaviors	0.71
Justice	0.88
Procedural justice	0.83
Distributive justice	0.79
Interpersonal justice	0.81
CMC competences	0.86
Motivation	0.70
Satisfaction	0.88
Team work engagement	0.89

Table 4: Rwg values for study variables

4.2 Results

Table 5 shows the mean ($\overline{x}$) and standard deviation (σ) of each study variable in addition to the corresponding correlations between the study variables in the aggregated team data set.

Correlations

	$(\bar{x})$	(σ)	1	1.1	1.2	1.3	1.4	2	2.1	2.2	2.3	3	3.1	3.2	4	5
1. Trust	5.240	0.219	1	.												
1.1 Propensity to trust	5.551	0.324	0.733**	1												
1.2 Perceived trustworthiness	5.650	0.376	0.768**	.659**	1											
1.3 Cooperative behavior	5.838	0.306	0.693**	.544**	0.586**	1										
1.4 Monitoring behavior	3.485	0.417	0.338	-0.136	-0.184	-0.182	1									
2. Justice perception	5.614	0.344	0.163	.0138	0.235	0.063	-0.015	1								
2.1 Procedural justice	5.340	0.382	0.103	.0139	0.275	0.037	-0.147	0.776**	1							
2.2 Distributive justice	5.485	0.469	-0.109	-.037	-0.005	-0.062	-0.139	0.800**	0.599**	1						
2.3 Interpersonal justice	6.018	0.481	0.349*	.0205	0.270	0.155	0.204	0.718**	0.275	0.270	1					
3 CMC competences	5.359	0.382	.038	.0129	0.041	-0.147	0.058	0.505**	0.376*	0.477**	0.310	1				
3.1 CMC motivation	4.895	0.491	-0.163	-0.051	-0.103	-0.258	-0.017	0.349*	0.308	0.388*	0.126	0.924**	1			
3.2 CMC satisfaction	5.824	0.339	0.420*	0.423*	0.309	0.150	0.179	0.560**	0.322	0.413*	0.520**	0.645**	0.304	1		
4. Team work engagement	43.221	0.349	0.275	0.424*	0.365*	0.244	-0.207	0.506**	0.501**	0.390*	0.295	0.222	0.117	0.319	1	
5. Team duration	41.586	26.981	0.170	0.414*	0.438**	0.116	-0.376*	0.234	0.431*	0.165	0.000	0.113	0.131	0.020	0.332	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 5: Correlations of the aggregated team data set

Contrary to what was hypothesized, perceived and trust did not show any significant correlation, also considering the subscales procedural and distributive justice. Therefore, only H1d was tested using regression analysis, showing a positive effect ($p < .05$) on overall trust (Table 6) However, the R-squared value was 0.150, meaning that interpersonal justice explains 15.0% of the variance on trust. This implicates more not included influencing factors.

	Independent variable	Dependent variable	R-squared	F	B	SE	Sig.	β
H1d	Interpersonal justice	Trust	0.150	2.745	0.216	0.103	0.043	0.349
CV	Team duration				0.002	0.001	0.312	0.170

Table 6: Results hypothesis one (H1)

For hypothesis two (H2) interpersonal justice did not show any correlation (Table 5). Though, the following hypothesis did. Hypothesis H2a, showed a positive effect of justice perception on team work engagement (Table 7) significantly ($p<.05$), with an explained variance R-squared value of 26.8% of the model. Next, Hypothesis H2b, showed a positive effect of procedural justice on team work engagement (Table 7) significantly ($p<.05$), with an explained variance R-squared value of 26.8% of the model. Last, Hypothesis H2c, showed a positive effect of distributive justice on team work engagement (Table 7) significantly ($p<.05$), with an explained variance R-squared value of 22.6% of the model.

	Independent variable	Dependent variable	R-squared	F	B	SE	Sig.	β
H2a	Justice perception	Team work engagement	0.305	6.790	0.779	0.265	0.006	0.453
CV	Team duration				0.004	0.003	0.153	0.226
H2b	Procedural justice	Team work engagement	0.268	5.671	0.672	0.260	0.015	0.440
CV	Team duration				0.002	0.003	0.408	0.143
H2c	Distributive justice	Team work engagement	0.226	4.522	0.447	0.208	0.039	0.345
CV	Team duration				0.005	0.003	0.096	0.275

Table 7: Results hypothesis two (H2)

To further examine how virtual communication via CMC competences influenced these behaviors the process macro by Preacher & Hayes (2004) was used. The moderation was executed with a bootstrapping of 5000 samples. As the independent and dependent variables in

the set of the third hypotheses showed no significant correlation between them, they were excluded from the moderation analysis.

Therefore, just an adjustment of the last hypothesis H3d (the higher the interpersonal justice, the higher the trust within a team particularly when computer mediated communication satisfaction is high) was tested. Yet, the results were not significant and as the confidence interval includes 0 (zero) (Table 8).

	Independent variable	Moderator	Dependent variable	Interaction	Lower CI	Upper CI
H3	Interpersonal justice	CMC Satisfaction	Trust	0.2586	-0.2031	0.7202
CV	Team duration			Not available	-0.0011	0.0049

Table 8: Results hypothesis three (H3)

For the last set of hypothesises (with team work engagement as a dependent variable), and CMC competences (Table 9), CMC motivation (Table 10), and CMC motivation (Table 11) as moderators results were also not significant.

	Independent variable	Moderator	Dependent variable	Interaction	Lower CI	Upper CI
H4a	Justice perception	CMC competences	Team work engagement	0.5867	-0.3633	1.5366
CV	Team duration			Not available	-0.0013	0.0092
H4b	Procedural justice	CMC competences	Team work engagement	0.7774	-0.624	1.6173
CV	Team duration			Not available	-0.0040	0.0074
H4c	Distributive justice	CMC competences	Team work engagement	0.1078	-0.8955	1.1112
CV	Team duration			Not available	-0.0011	0.0101

Table 9: Results hypothesis four (H4) with CMC competences as moderator

	Independent variable	Moderator	Dependent variable	Interaction	Lower CI	Upper CI
H4e	Justice perception	CMC motivation	Team work engagement	0.2613	-0.5316	1.0542
CV	Team duration			Not available	-0.0015	0.0091
H4f	Procedural justice	CMC motivation	Team work engagement	0.6724	-0.0600	1.4048
CV	Team duration			Not available	-0.0040	0.0073
H4g	Distributive justice	CMC motivation	Team work engagement	-0.1354	-0.8580	0.5872
CV	Team duration			Not available	-0.0009	0.0103

Table 10: Results hypothesis four (H4) with CMC motivation as moderator

	Independent variable	Moderator	Dependent variable	Interaction	Lower CI	Upper CI
H4i	Justice perception	CMC satisfaction	Team work engagement	0.6779	-0.1499	1.5056
CV	Team duration			Not available	-0.0007	0.0097
H4j	Procedural justice	CMC satisfaction	Team work engagement	0.5642	-0.1249	1.2533
CV	Team duration			Not available	-0.0031	0.0082
H4k	Distributive justice	CMC satisfaction	Team work engagement	0.3678	-0.3068	1.0423
CV	Team duration			Not available	-0.0006	0.0102

Table 11: Results hypothesis four (H4) with CMC satisfaction as moderator

5. Discussion

5.1 Main Findings

The purpose of this study was to examine the influence of justice perception on trust and team work engagement and how CMC competences enact as a moderator. The first hypothesis proposed that the more positive justice perception is, the higher is the trust within a team. Conversely, the aggregated variable justice perception, and the two specific justice perception dimension procedural and distributive justice were not significant. According to literature and prior studies this relation was already proven (Costa et al., 2009). Possible reasons for this divergence must lay in the very specific characteristics of the data set later specified in the limitations. After contemplating the aggregated trust variable, another reason could be sourced

in the sub variable propensity to trust, which is considered as a more inflexible personal trait and barely change after Sitkin & Pablo (1992). The low Cronbach's alpha reliability value[5] could be another reason, because the four propensity to trust questions are were already developed and tested by Costa & Anderson (2011). So, the scale must be reliable, which just can be undermined by the sample.

Though, the sub hypothesis stating the positive influence of interpersonal justice perception leading to higher trust was confirmed. Implicating that, when individual group members feeling the scale fair treated by their peers for example, that the fair treated people's trust is higher in their team colleagues (reciprocity of trust). This relation of interpersonal justice perception is in congruence with previous literature and its two main features that individuals want to perceive social interactions including dignity and respected (Brockner & Wiesenfeld, 1996; Tyler & Bies, 2015).

The second set of hypothesises two was almost complete supported. Positive justice perception, procedural justice and distributive justice perceptions had a positive effect on team work engagement. Inversely to the first set of hypotheses, interpersonal justice was the only variable not interacting with team work engagement. In accordance to previous studies, the justice perceptions variables should have been significant and affect team work engagement positively (Kim & Mauborgne, 1991, 1993; Korsgaard et al., 1995). Moreover, the broaden and build theory (Fredrickson, 2001) and mood linkage theory (Totterdell et al., 1998) showed both well the positive effects of positive emotions on team work engagement and are in this case triggered by the justice perceptions.

Moreover, cultural differences could have a huge impact since 80% of the survey participants are from Austria and Germany. Taking Hofstede's (2011) research on culture into consideration one can observe for both countries higher scores (Austria: 55/100, Germany: 67/100) in the individualism-collectivism dimension. This dimension describes the level at which individuals organize themselves into groups within a society. This means that individualistic countries sense their tasks more important than relations, which clearly can have impacts on trust and team work engagement. Countries with a low score count as collectivistic societies which value a maintenance of harmony and prefer making decisions in a group. Thus,

[5] The Cronbach's alpha measures the internal consistency of different items and how close are connected when they are grouped.

harmony can also be linked to positive emotions and mood and decision making towards justice perceptions.

Power distance is another of Hofstede's dimension and can be also a factor. The measurement explains to which extend a society accedes an imbalanced power distribution and execution. Strong hierarchies and supervisor directing their employees are a clear sign of those societies, which would harm team work engagement and discourage people to immerse and connect them into the team. The results of hypothesis one and two mirror the low scores of the two key countries Austria (11) and Germany in the power distance dimension.

Within the set of the third hypothesis just the derived hypothesis (interpersonal justice perception affects trust with CMC satisfaction as a moderator) was possible to test but did not result in a significant outcome. The same applies for the last set of hypotheses which were tested in all possible logical combinations without any hypothesis supported.

A reasonable explanation is that wrong proposals were made beforehand and that CMC competences do not have this strong influence as assumed. The low mean age of 31.63 years could give additional support. This age is young enough that survey participants already grew up with CMC devices and are already familiar with the three main skills CMC motivation, CMC knowledge, and CMC skills. This explanation would be also in consensus with Hovick, Meyers, & Timmerman (2003) and McCown, Fischer, Page, & Homant (2001) who stated in their studies that CMC are a tool for individuals to manage their social contacts and relations. Conversely, the results are in contrast to the CMC competence model developed by Spitzberg (2006) and his postulate of requiring all three CMC competences in order to be effective. Another clue was given by Chidambaram (1996) who indicated that it is harder for teams to bond without seeing each other physically and just working to for a finite period. Unfortunately, it is not possible to state a clear assigned reason for the insignificance of both moderated hypotheses with the given data. Hence, the next section is contemplating the limitations and future research possibilities.

5.2 Limitations and further Research

Notwithstanding the input of this study, there are some limitations regarding the origin of the sample and the aggregated teams examined. The foremost limitation is the number of teams in our sample (111 individuals within 34 teams). Despite the circumstance that the number of

teams were sufficient to execute the analysis, the results and inductions should be considered cautiously. Thus, the sample could have been bigger.

Moreover, all the data were gathered at one point, making it impossible to investigate the dynamics of trust, development of team work engagement, CMC competence behavior and effect of a longer group unity. Although the complications and hurdles of collecting longitudinal research are renowned, the positive outcome could outweigh all the efforts and exterminate some shortcomings.

Subsequent, all participants are connected to mine or my colleagues network, which could have biased the results, due to an implicit preselection of participants

Additionally, the fact to which extend true variance is given and not just common method variance is prevailing is difficult to assess. All items were asked with a 7-point Likert scale and participants complaint about the very long questionnaire (which was also shortened in advance due to the conjoint data collection). Hence, it cannot be guaranteed that participants answered with full honesty, attention, and sufficient care. Plus, participants it must be assumed that people answered the items according how they want to be noticed and what is appropriate (especially for the variables trust and team work engagement).

To counter balance these issues, further surveys should contain also objective data collection measures. Moreover, a tailored not shared questionnaire could obtain more concise results, but probably also would take longer to attain a sufficient number of participants. Unfortunately, was the control variable team duration not insignificant during all regressions.

As also already stated before, almost 80% of the participants were from Austria and Germany which created a very cultural homogenic sample. Different cultural backgrounds could lead to different results. Subsequently, to gain more precise results regarding CMC competences following four context dimensions (Spitzberg & Brunner, 1991) can be also add to a future survey: chronological, cultural, environmental, functional, and relational. The virtuality could reveal insights in connection to the usage of different CMC means.

5.3. Implication for Practice

So as to, apply this study in practice the supervisors and subordinates need to be aware of the presented concepts. Leventhal's (1976, 1980) six-point agenda for introducing, achieving, and maintaining fairness can serve as a starting point. Followed up by regular employee (one-on-one) and team conferences in order to incorporate every team member and creating a cultivating environment of trust and team work engagement. Prior to making these adjustments

it is always reasonable to think about what skills, characters and tasks should be performed within the team to avoid problems and increase team effectiveness when a team is set up.

6. Conclusion

By taking everything into consideration, it has been shown that justice perception has a positive impact on trust and team work engagement. Nonetheless, CMC was not moderating the relation between justice perception and trust, and team work engagement. Probably, due to the already incorporated usage of CMC and CMC competences in our everyday (work) life.

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Appendices

STUDY QUESTIONNAIRE				
Item	**Dimension**	**Description**	**Scale**	**Source**
Variable: Trust				
Q3_1	Propensity to Trust	Most people in this team would not hesitate to help a person in need.	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree 5- Somewhat agree 6- Agree 7- Strongly agree	Costa & Anderson, 2011
Q3_2		In this team most people speak out for what they believe in.		
Q3_3		Most people will act as "Good Samaritans" if given the opportunity.		
Q3_4		People usually tell the truth, even when they know they will be better off by lying.		
Q3_5	Perceived trustworthiness	In this team people can rely on each other.		
Q3_6		We have complete confidence in each other's ability to perform the task.		
Q3_7		In this team people keep their word.		
Q3_8		In this team people look for each other's interests honestly.		
Q3_9	Cooperative behaviors	In this team we work in a climate of cooperation.		
Q3_10		In this team we discuss and deal with issues or problems openly.		
Q3_11		While taking a decision we take each other's opinion into consideration.		
Q3_12		Most people in this team are open to advice and help from others.		
Q3_13	Monitoring behaviors	In this team people watch each other very closely. **(R)**		
Q3_14		In this team people check whether others keep their promises. **(R)**		
Q3_15		In this team most people tend to keep each other's work under surveillance. (R)		
Variable: Virtuality				
Q5		Regarding the communication between **team members**, please state the proportions of communication channels used in your working environment. Split up a 100% on the mentioned channels. *Please note that the sum must be 100%.* 1- Face-to-Face 2- Video Conference 3- Telephone Conference 4- What's App 5- Voice Mail 6- Fax 7- E-mail 8 - Other (please mention which)	100% has to be split up on the mentioned channels	Dennis, Fuller & Valacich, 2008
Variable: Justice				
Q6_1	Procedural justice: The following items refer to the procedures used to arrive at your (outcome). To what extent:	Have you been able to express your views and feelings during those procedures	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree 5- Somewhat agree 6- Agree 7- Strongly agree	Thibaut & Walker (1975); Leventhal (1980); Bies & Moag (1986); Shapiro et al. (1994)
Q6_2		Have those procedures been applied consistently		
Q6_3		Have those procedures been free of bias		
Q6_4		Have those procedures been based on accurate information?		

Q6_5	Distributive justice The following items refer to your (outcome). To what extent:	Does your (outcome) reflect the effort you have put into your work		
Q6_6		Is your (outcome) appropriate for the work you have completed		
Q6_7		Does your (outcome) reflect what you have contributed to the organization		
Q6_8		Is your (outcome) justified, given your performance		
Q7_1	Interpersonal justice The following items refer to (the authority figure who enacted the procedure). To what extent:	Has (he/she) treated you in a polite manner		
Q7_2		Has (he/she) treated you with dignity		
Q7_3		Has (he/she) treated you with respect		
Q7_4		Has (he/she) refrained from improper remarks or comments		
Variable: Team Engagement				
Q8_1		While we are working we feel bursting with energy.	1-Never 2-Rarely 3-Occasionally 4-Sometimes 5-Frequently 6-Usually 7-Everytime	Costa, Passos & Bakker (2014)
Q8_2		While we are working we feel strong and vigorous.		
Q8_3		We are enthusiastic about our work.		
Q8_4		Our work inspires us.		
Q8_5		When we get up in the morning we feel like going to work.		
Q8_6		We feel happy while we are working.		
Q8_7		We are proud of our work.		
Q8_8		We get immersed in the work.		
Q8_9		We get carried away when we are working		
Variable: Segmentation (7) vs Integration (1)				
Q10_1	Segmentation Preferences	I don't like to have to think about work while I am at home.	1-Never 2-Rarely 3-Occasionally 4-Sometimes 5-Frequently 6-Usually 7-Everytime	Kreiner (2006)
Q10_2		I prefer to keep work life at work.		
Q10_3		I don't like work issues creeping into my home life.		
Q10_4		I like to be able to leave work behind when I go home.		
Q10_5	Segmentation Supplies	My workplace lets people forget about work when they're at home.		
Q10_6		Where I work, people can keep work matters at work.		
Q10_7		At my workplace,people are able to prevent work issues from creeping into their home life.		
Q10_8		Where I work, people can mentally leave work behind when they go home.		
Q10_9	Work-home Conflict	The demands of my work interfere with my home and personal life .**(R?)**		
Q10_10		The amount of time my job takes up makes it difficult to fulfill home responsibilities.**(R?)**		
Q10_11		Things I want to do at home do not get done because of the demands my job puts on me.**(R?)**		
Q10_12		My job produces strain that makes it difficult to fulfill home duties**(R?)**		
Q10_13		Due to work-related duties, I have to make changes to my plans for home activities.**(R?)**		
Q10_14	Job Satisfaction	Generally speaking, I am very satisfied with this job.		
Q10_15		I frequently think about quitting my job. **(R).**		
Q10_16		Generally speaking, I am very satisfied with the kind of work I do on my job		
Variable: CMC Competence				
Q31_1	Motivation	I enjoy communicating using computer media.	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree	Spitzberg (2006)
Q31_2		I am very motivated to use computers to communicate with others.		
Q31_3		I look forward to sitting down at my computer to write to others.		
Q32_1	Satisfaction	I am generally satisfied with my communication encounters.		
Q32_2		I enjoy my interactions with others.		

Q32_3		I feel good about my conversations.	5- Somewhat agree 6- Agree 7- Strongly agree	
Variable: Smartphone Usage				
Q19_1		Today, I used my smartphone intensively during after work hours for work-related purposes.	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree 5- Somewhat agree 6- Agree 7- Strongly agree	
Q19_2		Today, I felt obliged to respond to work-related messages during the evening hours.		
Q19_3		Today, I checked my work-related email until I went to sleep.		
Q19_4		Today, when my smartphone blinked to indicate new messages, I couldnot resist checking them.		
Variable: Social Norms				
Q15_1	Supervisor expectations	My supervisor expects me to respond to work-related messages during my free time after work	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree 5- Somewhat agree 6- Agree 7- Strongly agree	Derks, D., van Duin, D., Tims, M., & Bakker, A. B. (2015)
Q15_2		I feel that I have to respond to messages from my supervisor immediately during leisure time		
Q15_3		When I don't answer my email during my free time, my supervisor clearly shows that he/she does not appreciate it		
Q15_4		In our organization, it is the norm to always respond to messages immediately.		
Q15_5	Norms colleagues : Behavior	My colleagues mail regularly in the evenings.		
Q15_6		I often receive emails from my colleagues during the weekend		
Q15_7		When I send an email to colleagues during the weekend, most colleagues react the same day		
Q15_8	Normative pressure:	If I do not answer my mail during off job hours, I get comments from my colleagues.		
Q15_9		If I do not respond to emails from my colleagues, my position in the group is threatened		
Q15_10		My colleagues expect me to respond to work-related messages during my free time after work		
Variable: Leader				
Q22		I am the leader of this team.	1- Yes 2- No	
Variable: Demographics				
Q16		Nationality		
Q17		What is your team's sector of activity?		
Q33		Please indicate in months for how long you have been working with your team:		
Q18		Age		
Q26		Sex	1- Male 2- Female	
Q28		Please indicate if you have children and if so how many:	1. No child 2. 1 child 3. 2 children 4. 3 children 5. more than 3 children	
Q29		What is your civil status?	1. Single 2. Living with a partner/married 3. divorced	
Variable: Teamcode				
Q30		Please indicate your assigned teamcode:		
Variable: End / Voucher Email				
Q21		Enter e-mail for draw		