Leading Creative Teams Virtually

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ABSTRACT

Title:

Leading Creative Teams Virtually

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The purpose of this dissertation is the study of the effect the leader's support of a positive social climate has on creativity through team work engagement. Additionally, the influence of the percentage of face-to-face communication between the leader and the team is examined. Data was collected from 332 participants with 60 participants working in creative industries. Results show that the leader's support of a positive social climate has a statistically significant effect on creativity in the team. Additionally, team work engagement is also positively influenced by the support of a positive social climate and mediates the effect. What is more, the results indicate that the percentage of face-to-face communication between the leader and the team has no significant effect on the relationship between supporting a positive social climate and creativity but has a positive effect on the relationship between supporting a positive social climate and team work engagement.

Key words: leadership, creativity, social climate, team work engagement, virtual communication

SUMÁRIO

Título:

Liderando Equipas Criativas Virtualmente

Autor:

Benjamin Berggold

O objetivo desta dissertação é estudar o efeito que o suporte do líder a um clima social positivo tem na criatividade, através do envolvimento em trabalho de equipa. Adicionalmente, é também examinada a influência da percentagem de comunicação cara-a-cara entre o líder e a equipa. Foram recolhidos dados de 332 participantes, sendo que 60 dos indivíduos trabalham em indústrias criativas. Os resultados mostram que o suporte do líder a um clima social positivo tem um efeito estatisticamente significativo sobre a criatividade da equipa. Além disso, o envolvimento em trabalho de equipa não só é influenciado de forma positiva pelo suporte a um clima social positivo, como também media o efeito. Por outro lado, os resultados indicam que a percentagem de comunicação cara-a-cara entre o líder e a equipa não tem qualquer efeito significativo na relação entre o suporte a um clima social positivo e a criatividade, mas tem um efeito positivo na relação entre o suporte a um clima social e o envolvimento em trabalho de equipa.

Palavras-chave: liderança, criatividade, ambiente social, envolvimento do trabalho em equipa, comunicação virtual

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A very special thanks to the best creative team there is – Offene Luft. Without it I would have never found my passion for working with creative minds, thus conduct research about this topic. I am very proud to be able to call myself a member of this team.

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CHAPTER 1: INTRODUCTION

1.1 Purpose of the Study

The study focuses on how leaders can promote creativity in creative teams considering communication problems arising from virtual communication with the leader. Another purpose of this dissertation is to see how the leader can promote creativity and inspire his/her team to ensure team effectiveness. First, the impact of the leader's support of a positive social climate in the team on creativity is examined. Second, the impact of the leader's support of a positive social climate in the team on creativity through team work engagement is examined. Finally, the main goal of the study is to assess the impact of the extent of virtual communication in the team on its creativity.

1.2 Importance of the Study

The importance of creativity in the dynamic, fast-paced, competitive work environment is indisputable especially for teams working in the creative industries. Companies see creativity as core necessity for success which is why they encourage creativity in the teams as much as they can (Ocker 2005). Creativity enhancing work environments are important to tackle today's more and more complex corporate environment (Ocker 2005). Additionally, the extent of virtualness in the team's communication plays an important role in promoting creativity. Especially in the team, collective creativity is difficult to sustain with virtual communication channels due to organizational, geographical and technological boundaries (Humala 2016). For this the strong, positive and competent presence of a leader is necessary to effectively lead creative talents (Humala 2016).

To solve this issue, the support social climate leadership function by Morgeson et al. (2010) is introduced. Leaders supporting a positive social climate in the creative team will empower team members through positive emotions to be more creative (Morgeson et al. 2010). Not only in face-to-face communication but also in the virtual work environment. Additionally, the study examines team work engagement as it is highly influenced by how much the leader supports a positive social climate.

1.3 Research Questions

The main research question that motivated this study was: How can leaders effectively lead and inspire their creative team through mainly virtual communication with the team? Additional sub questions emerged when the literature review was conducted:

1) Can leaders who especially support a positive social climate enhance creativity in the creative team?
2) Is team work engagement influenced by the leader's support of a positive social climate which in the end influences the creativity in the creative team?
3) Does the extend of virtual communication with the leader have an influence on the social climate, team work engagement and creativity in the creative team?

CHAPTER 2: LITERATURE REVIEW

2.1 Face-to-Face vs. Virtual Teams

In order to understand the difficulties of leadership in virtual teams it is necessary to look at the different needs when comparing face-to-face teams to virtual teams.

First, the definition of teams in general must be set. A team consists of "two or more individuals with specified roles interacting adaptively, interdependently, and dynamically towards a common and valued goal" (Salas et al. 2005, p. 559). However, teams also require teamwork which can be defined as "a set of interrelated thoughts, actions, and feelings of each team member that are needed to function as a team and that combine to facilitate coordinated, adaptive performance and task objectives resulting in value-added outcomes" (Salas et al. 2005, p. 562). This leads to the conclusion that effective team performance results from the successful integration of individual actions of each team member (Zaccaro et al. 2001).

Marks et al. (2001) propose two phases of team performance in a time-based framework related to goal accomplishment. These phases consist of teamwork processes which describe "interdependent team activities that orchestrate taskwork in employees' pursuit of goals" (Marks et al. 2001, p. 358) and transform team inputs to outcomes. First, the **transition phase** focuses on evaluation and planning activities. This phase includes three general processes: mission analysis to interpret and evaluate the team's mission, goal specification to identify and prioritize goals to accomplish the previously defined mission, and strategy formulation and planning to develop alternative approaches to accomplish the mission (Marks et al. 2001). Second, the **action phase** focuses on activities directly leading to goal accomplishment. Monitoring progress to optimize the workflow towards the defined goal, systems monitoring to track the team's resources and environmental conditions for mission accomplishment, team monitoring and backup responses to provide feedback and assist with or complete tasks for team members, and finally coordination activities to manage timing and sequence of interdependent actions of team members are the processes that are relevant in this phase (Marks et al. 2001).

In addition to the transition and action phase processes, Marks et al. (2001) introduce a third group of processes that should occur throughout both phases: **interpersonal processes**

including conflict management, motivation/confidence building and affect management. Conflict management consists of preemptive and reactive conflict management to prevent and solve team conflict to block it from interfering with the productivity of work. Motivating and confidence building is concerned with encouraging team members through generating collective confidence, motivation and cohesion in the team. Affect management regulates team member's emotions including social cohesion, frustration and excitement to account for task conditions, personal factors or situational factors (Marks et al. 2001).
The three types of processes' (transition, action and interpersonal) purpose is to enhance team effectiveness by focussing on team need satisfaction. The person who is actively involved in satisfying these team needs can be seen as the leader (Morgeson et al. 2010).

Second, the difference between face-to-face teams and virtual teams must be explained. Researchers move away from defining face-to-face teams as the traditional teams and from considering virtual teams its opposite. Instead the focus nowadays is on the "virtualness" of a team (Martins et al. 2004). Virtual teams are defined as teams which use technology in different shapes and varying intensity across locational, temporal and relational boundaries to achieve to effectively engage in teamwork. The teams are able to choose the technology used to complement or completely remove face-to-face interactions (Martins et al. 2004). The different technologies vary in media richness and synchronicity. The extent of media richness depends on how much information is shared, e.g. videoconferencing is very high in media richness, as not only text but also the person's face with its expressions and its surroundings is shared whereas e-mail is lower. The extent of synchronicity depends on the timing in which information is shared, e.g. telephone calls are high in synchronicity whereas e-mail is lower as the recipient receives the information the moment the call happens and does not have to check for e-mails. How much a team uses these technologies defines their extent of its virtualness (Martins et al. 2004). As pure face-to-face teams are rare nowadays as all organizational teams are virtual to some extent (Martins et al. 2004), the study focuses on the extent of virtualness in the teamwork rather than on face-to-face compared to virtual teams.

However, depending on the extent of virtualness and the use of computer-mediated communication specific advantages and disadvantages arise.

Johnson et al. (2009) examined the effects of using computer-mediated communication on team outcomes and conclude that members of teams with high virtualness experience lower

levels of **affective commitment** to their teams. Furthermore, using computer-mediated communication more than 90% of the time marks a tipping point for positive mood, task effectiveness, nontask effectiveness and affective commitment (Johnson et al. 2009). Although team members who work virtual spend more time on task than sharing off-task information, individuals' affective experiences can affect work performance in the form of higher absenteeism and weaker organizational citizenship behavior (Johnson et al. 2009).

The effects of **diversity** in the context of geographic, functional and organizational dispersion may be more or less salient than in context of predominant face-to-face interactions (Martins et al. 2004). For example, without visual communication there may not be stereotyping as demographic characteristics are less noticeable (or not noticeable at all) with telecommunication or e-mail. Additionally, asynchronous communication may allow for more minority participation as the possibility to participate is not time-bound hence every team member is able to give input, compensating for the existence of more dominant/talkative members. Nonetheless, low media richness may lead to difficulties in understanding especially when other team members are different in culture and personality from oneself (Martins et al. 2004).

The **group size** may also affect virtual teams differently than face-to-face teams because technology can be used to prevent the negative effects such as process losses and production blocking of larger groups (Leenders et al. 2003; Valacich et al. 1992). In the idea generation process this can happen due to (1) group members not sharing their ideas immediately because they think they are not relevant at the time and then forgetting about it, (2) group members waiting to verbalize an idea hence focusing solely on remembering the idea instead of generating new ideas and (3) group members listening to other members speak may hinder them from generating new ideas (Valacich et al. 1992). The number of ideas generated increases with the group size in virtual teams in contrast to face-to-face teams as higher diversity in knowledge and skills can be reached with a bigger group size without compromising for the above mentioned process losses (Valacich et al. 1994).

Another advantage of virtual teams is that individuals with the needed **knowledge, skills and abilities** can be easily brought together not dependent on their locations (Gibson & Cohen 2004).

The **type of task** can influence the effectiveness of the team's decision making, e.g. ambiguous tasks may be more difficult for virtual teams as the length of time needed to complete it increases, hence it is important to examine the compatibility of the task with virtual teams (Martins et al. 2004).

Regarding the previously defined team processes (transition, action and interpersonal), in the **transition phase** developing a shared mission may be more difficult for virtual teams as it is harder to define a common purpose due to lower member interaction even though it is critical for the team's effectiveness (Martins et al. 2004). However, rich computer-mediated communication is found to enhance the ability to plan, exchange ideas and reach consensus which is particularly important for the three mentioned transition processes (mission analysis, goal specification and strategy formulation and planning) (Martins et al. 2004).

In the **action phase**, mostly communication and participation issues emerge in virtual teams. Both dimensions are important for virtual teams to ensure team effectiveness. However, within creativity research, it was found that both very low and very high interaction among virtual team members can be harmful (Martins et al. 2004). Additionally, trust issues play an important role in the team monitoring and backup process in virtual teams as the computer-mediated work environment hinders individuals to convey trust, in contrast to face-to-face interaction (Jarvenpaa & Leidner 1999). This is mainly due to the previously discussed difficulties of building affective commitment in the team.

Concerning **interpersonal processes**, virtual teams mainly struggle with conflict, uninhibited behavior, informality of communication, interpersonal trust and group cohesiveness (Martins et al. 2004).

According to Mortensen & Hinds (2001) **conflict** is more likely to occur in virtual teams than in face-to-face groups because it is more difficult to build functioning relationships without informal spontaneous opportunities to connect. However, having a group identity within virtual teams reduces the amount of conflict (Mortensen & Hinds 2001). What is more, a collaborative conflict management style leads to more satisfaction with the decision making process, better perceived decision quality and promotes participation in the virtual teams (Paul et al. 2004).

Uninhibited behavior such as swearing, insults and name-calling is more likely in virtual teams than in face-to-face groups (Martins et al. 2004). Especially in e-mail communication research found greater self-absorption and uninhibited behavior (Sproull & Kiesler 1986).

Even though **informal communication** may be lower in virtual teams compared to face-to-face teams due to lower media richness and synchronicity (Martins et al. 2004), members of virtual teams are also more likely to ask more direct and intimate questions and get into "deeper" conversations than face-to-face team members (Tidwell & Walther 2002). This can lead to a better communication flow and more tension release than in face-to-face teams (Martins et al. 2004).

Interpersonal trust is especially important in virtual teams because of its potential to make up for the negative consequences geographic distribution can have in psychological intimacy (Martins et al. 2004). Time, communication intensity and handling technical and task uncertainty are the important determinants of trust (Ratcheva & Vyakarnam 2001). Additionally, research has shown that trust positively influences job satisfaction and working relationships especially in virtual teams (Martins et al. 2004).

Finally, higher **group cohesiveness** (i.e. a member's attraction to the group) is found to be higher in face-to-face groups than in virtual teams. However, high group cohesiveness ultimately leads to greater satisfaction and effectiveness in virtual teams (Martins et al. 2004).

Although these challenges are also difficult to manage for face-to-face teams virtual teams need to focus more carefully as they have limited resources to mitigate them (Martins et al. 2004). All these factors require distinct management for virtual teams which the leader needs to consider.

2.2 Team Leadership

The successful integration of individual actions of each team member can be supported with effective team leadership. Zaccaro et al. (2001) argue that "effective leadership processes represent perhaps the most critical factor in the success of organizational teams" (p. 452).

According to Morgeson et al. (2010) there are four sources of leadership in teams conceptualized along the structural dimensions of locus of leadership and formality of leadership: (1) Internal and formal leadership, (2) external and formal leadership, (3) internal and informal leadership and (4) external and informal leadership. For the purpose of this study the focus is on the formal and internal leader to examine his/her influence on the team with the team knowing that the leader is formally assigned and part of the team. Examples given are “team leaders” and “project managers” (Morgeson et al. 2010).

However, independent of the source of team leadership, enhancing team effectiveness is the goal of every leader which can be facilitated through 15 leadership functions. They can be arranged in two phases of the project’s lifecycle: the transition phase and the action phase (Morgeson et al. 2010).

The transition phase is the starting point of every project a team needs to finish and enables future effectiveness. In this phase the leader (1) composes the team, (2) defines the mission as well as (3) expectations and goals, (4) sets up a structure and plan, (5) trains and develops the team, (6) ensures the team is ready for impactful events on team functioning through sensemaking and finally (7) gives feedback to enhance adaptability (Morgeson et al. 2010).

After completion of the transition phase the team is prepared for the action phase where activities that directly contribute to accomplishing its goals take place. In this phase the leader (8) monitors the team, (9) manages team boundaries to its larger organizational context, (10) challenges the team to find the best way to accomplish the work, (11) performs team tasks, (12) solves problems, (13) provides resources for the team, (14) encourages team self-management and (15) supports the social climate (Morgeson et al. 2010).

The previously defined advantages and disadvantages of virtual teams also influence the leadership functions:

In the transition phase the leader needs to carefully consider group size and diversity of the virtual team, however, he/she may be able to access a larger pool of possible knowledge, skills and abilities when (1) composing the team. Additionally, the leader has to keep the difficulties of (2) defining a mission (due to lower member interaction) and its importance in mind. During functions (3) to (7) especially communication and participation issues may arise.

In the action phase the types of tasks require different support from the leader. Here also affective commitment, communication and participation need to be promoted by the leader in all functions. Especially the (15) support social climate function requires special attention as conflict, uninhibited behavior, informality of communication, interpersonal trust and group cohesiveness can hinder the leader in successfully engaging in this leadership function.

2.3 Leading Creative Teams

2.3.1 Creative Teams

For the purpose of the research question it is important to precisely define what "creative teams" are and which teams can be considered as creative.

Creative teams operate in the creative industries which produce symbolic goods (i.e. ideas, experiences, images). In contrast to ordinary goods, the value of symbolic goods depends on the user's perceptions and the creation of original content. This value may or may not translate into financial return. This uncertainty limits the potential for wealth and job creation in the creative industries as "value" does not necessarily mean "commercial value". Additionally, producers of symbolic goods are not primarily motivated by financial outcomes (Bilton & Leary 2002).

With the integration of the definition of symbolic goods, this paper will focus on businesses in the symbolic goods production as opposed to material manufacturing. Furthermore, the cultural production rather than the cultural distribution is focussed. This definition leads to small, individualistic and risky creative businesses (e.g. a music band fits the definition but not a major record label such as EMI). This especially includes the following businesses: design businesses, film and photography production companies, the music industry and entertainment agencies (Bilton & Leary 2002).

2.3.2 Leaders Supporting a Positive Social Climate Enhance Creativity

To ensure and sustain a creative work environment the literature suggests social aspects as the most important enabler for creativity (Humala 2016; Lepsinger & DeRosa 2015; Ocker 2005).

The “broaden-and-build theory of positive emotions” by Fredrickson (2004) further supports this claim. Positive emotions broaden the individual’s attention and thinking, decrease emerging negative emotions, strengthen their resilience and personal resources, trigger upward spirals for future success and promote self-fulfilment (Fredrickson 2004). Fredrickson (2004) concludes that “when positive emotions are in ample supply, people take off. They become generative, creative, resilient, ripe with possibility and beautifully complex” (p. 1375). Following Barsade's (2002) research on the “ripple effect” an individual’s emotions and moods are transferred among people in a group, a phenomenon known as group emotional contagion. What is more, positive emotional contagion improves cooperation, decreases conflict and increases task performance in teams (Barsade 2002). Totterdell's (2000) findings further confirm this idea with the examination of the moods and subjective performances of professional sports players. Especially when the players were happier and engaged in collective activity the mood linkage was greater (Totterdell 2000). Kelly & Barsade (2001) take it one step further by introducing processes which attempt to deliberately influence or harmonize with the affect of other group members (e.g. affective impression management). However, “these processes combine individual-level affective experiences of group members to form the affective composition of the group” (p. 112) regardless if they are coming from emotional contagion or are deliberately introduced (Kelly & Barsade 2001). Finally, Grawitch et al. (2003) highlighted the importance of positive mood and autonomy for creativity in teams. The main finding was that positive mood increased the originality of ideas leading to higher creativity in the team (Grawitch et al. 2003).
Combining the theories leads to the conclusion that the leader can promote creativity by focusing on positive emotions.

Morgeson et al. (2010) propose the “support social climate” team leadership function where leaders support a positive social climate of the team and thereby enhance team effectiveness. The social climate is defined as the psychological well-being of team members and their positive relationships in the workplace. The leader has to be able to solve conflicts, build cohesion, set the team climate, demonstrate consideration and empower team members to ensure positive team emotions (Morgeson et al. 2010).

To put it in a nutshell, when the leader supports a positive social climate in the creative team and promotes positive emotions, the team can unfold their creativity better. This leads to the first hypothesis:

(H1) Leaders supporting a positive social climate enhance creativity in the creative team.

Figure 1 | H1

2.3.3 Team Work Engagement Mediates the Effect

To fully understand the effect of the leader's support of a positive social climate in the team to enhance creativity, it is important to introduce team work engagement as mediator. Team work engagement is defined "as a shared, positive and fulfilling, motivational emergent state of work-related well-being" (Costa et al. 2014, p. 5). It consists of three affective and cognitive dimensions (Costa et al. 2014):

- **Team vigour** defined as the willingness and persistence to work even in difficult situations.
- **Team dedication** defined as the shared strong involvement, significance and enthusiasm in work.
- **Team absorption** defined as the shared focused attention on work.

The social climate in the team influences the team work engagement as the psychological well-being of team members and their positive relationships in the workplace influence a shared, positive and fulfilling, motivational emergent state of work-related well-being in the team. What is more, creativity is positively influenced by team work engagement. Willingness and persistence to work, shared strong involvement, significance and enthusiasm in work, and shared focused attention on work are important to ensure positive emotions in the work environment which is necessary to promote creativity.

Therefore, the following hypothesis will be tested:

(H2) Leaders supporting a positive social climate in the creative team have a positive effect on the team work engagement, which in turn has a positive effect on the creative team's creativity.

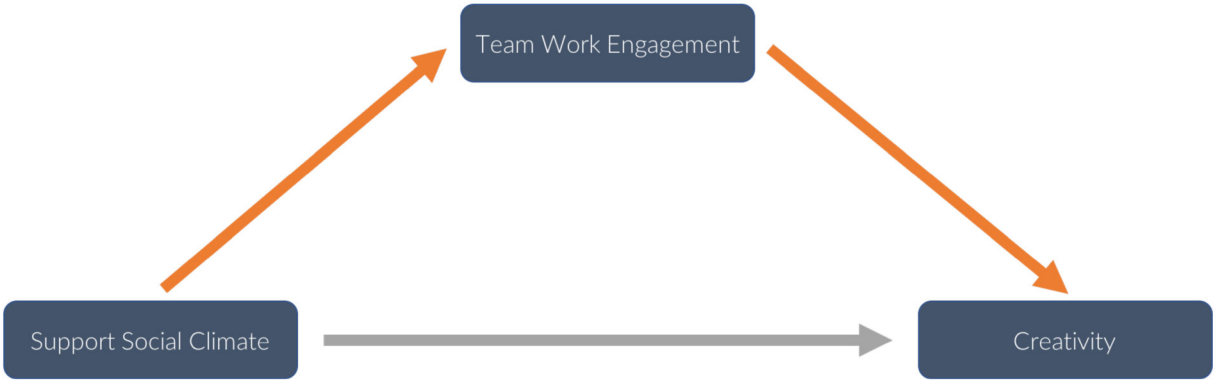

Figure 2 | H2

2.3 Leading Creative Teams Virtually

According for the specificities of virtual teams, Lepsinger & DeRosa (2015) introduce a framework for effective virtual leadership known as the RAMP model: (1) Relationships, (2) Accountability, (3) Motivation and (4) Process. The RAMP model illustrates why virtual teams often fail and on which dimensions leaders need to focus to ensure virtual team effectiveness (Lepsinger & DeRosa 2015):

1) When co-workers work in the same physical place, it is easier to develop functioning relationships with the help of informal spontaneous opportunities to connect.
2) Observation of virtual employees is more difficult as virtual leaders have fewer opportunities to hold them accountable.
3) The isolation of virtual team members can lead to the loss of sight of why their individual contributions matter. This damps the motivation.
4) Different time zones, difficulties with technology and other factors can lead to misunderstandings in virtual teams. Common processes may be unique to a specific company or culture.

When leading creative teams virtually with little to no face-to-face contact it can be difficult to sustain creativity. For the leader it is important to focus on "intrinsic motivation, passion at work, communal and individual flourishing, engagement, the ability to safely express one's own voice and try something that may fail, and create a feeling that everyone's contribution is valued" (Humala 2016, p. 48). For this a strong and positive presence is needed which cannot be achieved through virtual channels (Humala 2016). This is due to the two concepts introduced previously: media richness and synchronicity. When media richness and synchronicity of the used computer-mediated communication channels are low it is more difficult for the leader to build affective commitment, and promote communication and participation. This happens because less communication about non-work-related issues which could build identification takes place – as discussed in (1) relationships in the RAMP model. Additionally, it is more difficult to perceive when a team member is demotivated and to intervene - as discussed previously in (2) accountability in the RAMP model.

Additionally, the interpersonal processes in the team may suffer and this may lead to issues with conflict, uninhibited behavior, informality of communication, interpersonal trust and group cohesiveness. Regarding the leadership functions, especially the support social climate function is influenced by the absence of the strong and positive presence of the leader due to low media richness and low synchronicity. This can be due to various reasons. First, it is more difficult to react to inhibited behaviour when it occurs because low synchronicity hinders the leader to counter immediately. Second, it is more difficult to express and perceive affect in low media richness as less symbol sets, such as visual communication like nodding the head, are possible (Dennis et al. 2008).

Additionally, the leader needs to promote collective creativity as opposed to a single persons' creativity. While a single persons' creativity can be unfolded through virtual channels, combining them to create more powerful collective creativity is difficult without the strong and positive presence of the leader especially when organizational, geographical and technological boundaries exist (Humala 2016).

Ocker (2005) examines the inhibitors of creativity in virtual teams. Especially dominance, domain knowledge, downward norm setting, lack of shared understanding, time pressure and technical difficulties hinder the development of creativity in virtual teams (Ocker 2005). Although these inhibitors may also occur in face-to-face teams, virtual teams tend to empower

them. This is due to the previously discussed communication and participation issues and the lack of affective commitment in virtual teams. In the worst-case scenario, this can lead to the loss of individual and collective creativity in the team. It is consistent with the RAMP model and strengthens its significance.

All of the mentioned challenges for creativity in virtual teams and respectively their virtual leader lead to the conclusion that the physical presence of the leader is important to ensure a creative work environment. The physical presence of the leader is necessary to create a work environment for the team to be creative: it allows, for example, for spontaneous opportunities to connect and develop affective commitment, or may function as a bridge between individual contributions and the other team members. The more virtual a team the less possibilities for the leader to ensure a creative work environment because of the above-mentioned reasons: functioning relationships, accountability, motivation and differing processes. In a more face-to-face team the leader can focus on these inhibitors and overcome them, however, the more virtual the team the more difficult it gets without the leader's physical presence.

Therefore, the following hypothesis will be tested:

(H3) The relationship between supporting the social climate and creativity through team work engagement is moderated by the degree of face-to-face communication with the leader, in such a way that the higher the percentage of face-to-face communication by the leader, the stronger the relationship between supporting the social climate and team work engagement, and between supporting the social climate and creativity.

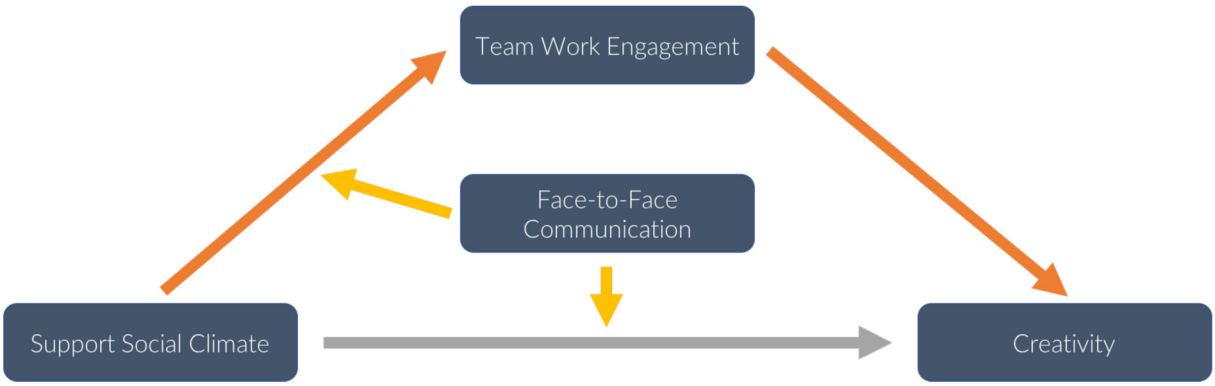

Figure 3 | H3

CHAPTER 3: METHODOLOGY

3.1 Participants

For the execution of this study, a total of 332 respondents answered the questionnaire. All members answered the questionnaire individually and anonymously. The majority (59.4%) of the respondents were female. The average age was 32.05 with a Standard Deviation of 11.12. The time employees worked in their teams ranges from approximately 2 weeks to 37 years (M: 4.6 years; SD: 6.9 years). More than half of the people have a university degree (52.4%), 34% are post-graduates, 11.1% have a high school degree, 1.5% with basic education and .3% completed primary school. The main work sectors are tourism, health, marketing & architecture with in total 60 participants from creative industries.
Six master students from the Católica-Lisbon School of Business and Economics' dissertation seminar *Team Effectiveness* were sending out the questionnaire via Qualtrics and got in total 332 responses.

3.2 Measures

In order to test the hypotheses of the paper, a survey was created, together with my team of 6 students of Católica-Lisbon School of Business and Economics.

The survey was created in English and afterwards translated in Portuguese. The link to the survey was addressed to team members by either email, over social media channels or hand delivery. For the two hypotheses, (1) testing on how the influence of the leader's support of a positive social climate impacts creativity in the creative team and (2) how virtual communication may influence the outcome as a moderator, the relevant variables are: Creativity, Support Social Climate leadership function, percentage of Face-to-Face communication between the team and the leader and belonging to a Creative Industry.

Creativity was measured using Jiang & Zhang's (2014) scale. Participants answered using a 7-point scale (1 = *strongly disagree*; 7 = *strongly agree*), according to their level of agreement with the items. The survey items can be organized in three categories:

- Team Creative Thinking with the three items “we often communicate and exchange creative ideas with each other”, “we can complement and improve each other’s creative ideas and problem solving” and “we can integrate a creative project at the team level effectively”.
- Team Creative Action with the three items “team members can effectively co-operate and interact with each other”, “team members can exchange creative knowledge without obstacle” and “team leaders can arouse the members’ creative enthusiasm through various means”.
- Team Creative Outcome with the three items “the team can realize creative outcome fluently”, “the team can realize creative outcome with high quality” and “the team can realize creative outcome with great economic and social value”.

A tenth item was used which is not part of the categorization but in accordance with the original scale: “Team members are questioned by expressing their personal opinions”.

The **Support Social Climate** variable was measured based on Morgeson et al.'s (2010) functional approach to understanding leadership structures and processes. Participants answered using a 7-point scale (1 = *strongly disagree*; 7 = *strongly agree*), according to their level of agreement with the items: the leader “engages in actions that demonstrate respect and concern for team members”, “looks out for the personal well-being of team members” and “does things to make it pleasant to be a team member”.

To measure the percentage of **Face-to-Face Communication** between the team and the leader was asked participants to distribute a total sum of 100% amongst the 9 communication channels (Dennis et al. 2008), according to the respondent’s perception of the usage of media type in his/her team when communicating with the leader. The initial items include “Face-to-Face”, “Videoconference”, “Telephone Conference”, “What’s App”, “Voice Mail”, “Fax”, “E-mail” and “Other” in which additional items such as “Facebook”, “Slack” and “Skype” were mentioned by participants. For the purpose of this paper the focus is on the percentage of face-to-face communication between the leader and the team. The face-to-face communication’s mean is 54.21 with a standard deviation of 24.95.

Team Work Engagement was measured with Costa et al.'s (2014) 9 items scale: “While we are working we feel bursting with energy.”, “While we are working we feel strong and vigorous.”, “We are enthusiastic about our work.”, “Our work inspires us.”, “When we get up

in the morning we feel like going to work.", "We feel happy while we are working.", "We are proud of our work.", "We get immersed in the work.", "We get carried away when we are working." Participants answered using a 7-point scale (1 = *Never*; 7 = *All the time*), according to their level of agreement with the items.

The **Creative Industry** variable was created as a simple "Yes" or "No" question based on Bilton & Leary's (2002) definition of the creative industries: "Do you work in a creative industry, i.e., does your company primarily produce symbolic goods for which the value is dependent on the user's perceptions as much as on the creation of original content (design businesses, film or music production companies etc.).?". In total, 60 of 332 participants of the survey are working in creative industries.

Variable Scale	Number of items	Chronbach's Alpha
Creativity	10	.89
Support Social Climate	3	.86
Team Work Engagement	9	.95

Table 1 | Individual and aggregated Chronbach's Alpha for each study variable

3.3 Data Analysis

The collected data was analysed using the SPSS Statistics software and was conducted using simple regression analysis and mediation and moderation analyses. In order to test the first hypothesis (H1) a simple regression with the dependent variable Creativity and the independent variable Support Social Climate was used. The second hypothesis (H2) was tested with simple mediation extending the simple regression from the first hypothesis with Team Work Engagement as mediator. Then, the third hypothesis (H3) was tested with a moderated mediation, extending the simple mediation from the second hypothesis with the percentage of Face-to-Face Communication with the leader as moderator. The simple regression and the simple mediation were done including first all the participants in the dataset, second only the participants who work in creative industries and third only the participants who do not work in creative industries. The variables were centered before used in the moderation analyses. The moderation and mediation analyses were executed following Preacher & Hayes' (2004) Process Macro for SPSS. This is an analysis tool which allows the

estimation of indirect and/or conditional effects and of their significance. This macro uses bootstrapping - a nonparametric resample procedure that estimates the indirect or conditional effect on each of a number n of samples created from the data.

CHAPTER 4: RESULTS & DISCUSSION

4.1 Results

The following table (Table 2) shows the mean ($\bar{x}$) and standard deviation (σ) of each variable as well as the correlations between all the variables.

	$\bar{x}$	SD	Correlations			
			1.	2.	3.	4.
1. Creativity	5.44	.88	1			
2. Support Social Climate	5.67	1.08	.526**	1		
3. Team Work Engagement	5.16	1.06	.604**	.505**	1	
4. % Face-to-Face Communication	54.21	24.95	.056	.051	.003	1

Table 2 | Descriptive statistics and correlations ($p < 0.05$; ** $p < 0.01$)

The regression analysis for H1 confirms the hypothesis and shows that the leader's support of a positive social climate increases creativity in the team (Table 3), both from creative (Table 4) and non-creative industries (Table 5).

	Independent variable	Dependent variable	R^2	F	B	SE	Sig.	β
H1	Support Social Climate	Creativity	.277	120.345	.534	.049	.000	.526

Table 3 | H1 Regression Analysis Result ($p < 0.05$; ** $p < 0.01$)

	Independent variable	Dependent variable	R^2	F	B	SE	Sig.	β
H1	Support Social Climate	Creativity	.252	18.571	.451	.105	.000	.502

Table 4 | H1 Regression Analysis Result - Creative Industry ($p < 0.05$; ** $p < 0.01$)

	Independent variable	Dependent variable	R^2	F	B	SE	Sig.	β
H1	Support Social Climate	Creativity	.272	93.614	.535	.055	.000	.521

Table 5 | H1 Regression Analysis Result – Not Creative Industry (p < 0.05; ** p < 0.01)

In order to test the indirect effect of the Support Social Climate variable on Creativity through Team Work Engagement (H2), a mediation analysis was conducted. The results show that the Support Social Climate function has an indirect effect on Creativity through Team Work Engagement (Table 6), both from creative (Table 7) and non-creative industries (Table 8). Therefore, the second hypothesis H2 is supported. The mediation analyses were performed with a bootstrapping of 5000 samples and significance tested for a 95% confidence level.

				Bootstrapping (5000 samples) Percentile 95% Bias		
	Independent variable	Mediator	Dependent variable	Indirect Effect	Lower CI	Upper CI
H2	Support Social Climate	Team Work Engagement	Creativity	.2256	.1578	.3083

Table 6 | H2 Mediation Analysis Result (p < 0.05; ** p < 0.01)

				Bootstrapping (5000 samples) Percentile 95% Bias		
	Independent variable	Mediator	Dependent variable	Indirect Effect	Lower CI	Upper CI
H2	Support Social Climate	Team Work Engagement	Creativity	.3835	.2412	.5784

Table 7 | H2 Mediation Analysis Result – Creative Industry (p < 0.05; ** p < 0.01)

				Bootstrapping (5000 samples) Percentile 95% Bias		
	Independent variable	Mediator	Dependent variable	Indirect Effect	Lower CI	Upper CI
H2	Support Social Climate	Team Work Engagement	Creativity	.1924	.1050	.3150

Table 8 | H2 Mediation Analysis Result – Not Creative Industry ($p < 0.05$; ** $p < 0.01$)

In order to test the moderating effects of the percentage of face-to-face communication with the leader on the team work engagement mediated relationship between the support social climate function and creativity, a moderated mediation analysis was conducted. The moderated mediation analysis was performed with a bootstrapping of 5000 samples and significance tested for a 95% confidence level.

The results show that the third hypothesis (H3) is not supported as 0 is between the lower and upper CI (Table 9). Therefore, there is no significant moderation by the degree of face-to-face communication with the leader in the relationship between supporting the social climate and creativity through team work engagement. However, the percentage of face-to-face communication with the leader significantly moderates the relationship between the support social climate function and team work engagement (Table 10).

					Bootstrapping (5000 samples) Percentile 95% Bias		
	Independent variable	Mediator	Moderator	Dependent variable	Interaction	Lower CI	Upper CI
H3	Support Social Climate	Team Work Engagement	% Face-to-Face Communication	Creativity	.0001	-.0028	.0030

Table 9 | H3 Moderated Mediation Results ($p < 0.05$; ** $p < 0.01$)

					Bootstrapping (5000 samples) Percentile 95% Bias		
	Independent variable	Mediator	Moderator	Dependent variable	Interaction	Lower CI	Upper CI
H3	Support Social Climate	Team Work Engagement	% Face-to-Face Communication	Creativity	.0042	.0003	.0081

Table 10 | H3 Moderated Mediation Results – Moderation on TWE ($p < 0.05$; ** $p < 0.01$)

4.2 Discussion

Regression analysis' results support the first hypothesis H1. Leaders supporting a positive social climate in the team enhance creativity. As previously discussed, this result can be explained by the broaden-and-build theory of positive emotions by Fredrickson (2004) combined with Barsade's (2002) research on the "ripple effect" and group emotional contagion. Positive emotions lead to more creativity not only individually but also collectively in the team. When the leader supports positive emotions through the support social climate leadership function introduced by Morgeson et al. (2010), the collective creativity in the team increases. However, there is no difference between teams working in creative industries and teams not working in creative industries concerning the relationship between supporting a positive social climate and creativity. Therefore, the leader's support of a positive social climate is not only important in creative teams as it always leads to higher creativity in the team, regardless of its industry. Nonetheless, creativity may be more important for creative teams as non-creative teams.

The second hypothesis H2 is also supported by the mediation results. Leaders supporting a positive social climate in the team have a positive effect on team work engagement, which in turn has a positive effect on the team's creativity. This positive indirect effect from the support social climate function to team work engagement can be explained by the effect of a positive social climate in the team. The effect creates a state of psychological well-being of team members and their positive relationships which in turn leads to a shared, positive and fulfilling, motivational emergent state of work-related well-being in the team. This results in an increase in team work engagement which in the end increases the collective creativity in the team. Again, there is no difference between teams working in creative industries and teams not working in creative industries concerning the relationship between supporting a positive social climate and creativity mediated by team work engagement. Therefore, the leader's support of a positive social climate, hence, increase of the team work engagement, is not only important in creative teams as it always leads to higher creativity in the team, regardless of its industry. However, creativity may be more important for creative teams as non-creative teams.

The third hypothesis H3 is not supported by the moderated mediation results. The relationship between supporting the social climate and creativity through team work engagement is not moderated by the degree of face-to-face communication with the leader. There is no significant influence by the degree of face-to-face communication on the effect of the leader supporting a positive social climate on creativity in the team. However, there is a significant positive influence by the degree of face-to-face communication on the direct effect of the leader supporting a positive social climate on team work engagement. This means that a leader supporting a positive social climate with a higher degree in face-to-face communication (a proxy of lower virtualness), team work engagement would increase more than when the support social climate function is considered alone. Reasons supporting the findings can be found in the literature.

Johnson et al. (2009) concluded that teams with high virtualness experience lower levels of affective commitment which is necessary to ensure team work engagement. Lower levels of affective commitment can affect work performance in the form of higher absenteeism and weaker organizational citizenship behavior which in turn results in lower team work engagement.

Diversity in the context of geographic, functional and organizational dispersion of more virtual teams may lead to difficulties in understanding team members of different cultures and personalities in virtual communication due to low media richness (Martins et al. 2004). This can hinder the leader to ensure team work engagement as it may be more difficult to develop a feeling of togetherness in the team.

Regarding the team processes (transition, action and interpersonal), in the transition phase developing a shared mission is important to create a shared, positive and fulfilling, motivational emergent state of work-related well-being. The mission may be more difficult to develop whit a high degree of virtual communication due to lower member interaction (Martins et al. 2004). In the action phase communication and participation issues arising from virtual communication may hinder the development of team work engagement. However, the most significant influence on team work engagement comes from the interpersonal processes. Conflict is more likely to occur with virtual communication because it is more difficult to build functioning relationships between the leader and team members without informal spontaneous opportunities to connect reducing team work engagement as it can damp the positive work environment. Also, uninhibited behavior happens more often in virtual communication, again reducing team work engagement due to possible conflict emerging

from it. Finally, Martins et al. (2004) found group cohesiveness to be lower with more virtual communication in teams which is an integral part of team work engagement as this can be seen as the foundation of both, a positive social climate and team work engagement.

Also the RAMP model by Lepsinger & DeRosa (2015) supports the findings. Relationships are developed with informal spontaneous opportunities to connect which is more likely to happen in less virtual teams. This is important for affective commitment in the team which is necessary for team work engagement. Additionally, the observation of virtual employees is more difficult which may lead to the loss of the leader's ability to recognize low team work engagement and act on it. This is especially important for team vigour as it is a behavioural component of team work engagement. Therefore, it is easier to perceive from the leader when there is more face-to-face communication in the team. For example, hearing an excited tone of voice is more likely to lead to more engagement in the team. Also, social cues in visual communication like nodding the head may create a friendlier work environment leading to higher team work engagement. However, these behavioural influences are not as relevant for creativity as for team work engagement. Team work engagement is modelled whereas creativity is not modelled. What is more, the isolation of virtual team members can lead to the loss of sight of why their individual contributions matter and damp their motivation ultimately leading to lower team work engagement. Finally, as previously discussed, diversity can lead to misunderstandings in the process and damp team work engagement.

Reasons for the percentage of face-to-face communication between the leader and the team not influencing the relationship between the leader's support of a positive social climate and creativity in the team are that communication channels may not be relevant to enhance creativity. The focus on supporting a positive social climate may result in different actions from the leader depending on the chosen communication channels but in the end, has the same outcome regardless if more face-to-face communication or virtual channels were used.
Team work engagement is a team construct. Therefore, it may be possible that individuals need to experience the same social cues from the leader at the same time through face-to-face communication. This may not be true for creativity as here the synchronicity of the chosen communication channel may be more important than the difference between face-to-face and virtual communication. The importance of synchronicity for creativity can be found in a better support of brain storming processes which results in higher collective creativity. With asynchronous communication brain storming processes in the team are more difficult to

conduct as input from other team members is not received immediately which can lead to confusion in developing new ideas as team members are not up-to-date and keep thinking and brain storming about out-dated ideas. Additionally, even though for the leader it is important to promote collective creativity as opposed to a single persons' creativity it is also important to consider that creativity itself is generated from individuals. The communication of creativity to others is only secondary. Therefore, the choice of more face-to-face or more virtual communication may not have an impact on creativity.

CHAPTER 5: CONCLUSIONS & LIMITATIONS

5.1 Conclusions

Finally, the main findings of this study can be concluded. First, leaders supporting a positive social climate in the team enhance creativity regardless of the sector of activity of the team. Second, the leader's support of a positive social climate has a positive effect on team work engagement which in turn enhances creativity. Third, when leaders support a positive social climate with a higher degree in face-to-face communication between the leader and the team, team work engagement would increase more than when the support social climate function is considered alone.

5.2 Practical Implications

Several practical implications for the real world can be drawn from the results of this study. First, leaders should be trained and focused on supporting a positive social climate and high team work engagement in the team to be able to create a creativity friendly work environment. A practical example would be a leader who actively keeps track of his employees' emotional well-being by engaging in informal personal communication and thereby ensuring a shared, positive and fulfilling, motivational emergent state of work-related well-being in the team. This will ultimately lead to higher creativity.

Second, depending on the extent of virtual communication between the leader and the team different strategies apply for the leader to support a positive social climate and enhance creativity. The leader needs to be trained to be able to carefully adapt to the extent of virtual communication to still be able to inspire his/her team and ensure a creative work environment. For this Spitzberg's (2006) research on computer-mediated-communication competence with a special focus on personal relationships can be used to understand the difference in communication and to identify the right media choice. For example, creative teams may focus on media channels with high synchronicity to promote collective creativity and support brain storming processes.

5.3 Limitations & Further Research

Apart from this study's contributions, it also contains several limitations that need to be mentioned. First, the sample size of participants of creative teams (n=60) was considerably low compared to the survey's overall participants (n=332). Additionally, some of the participants working in creative teams worked only on temporary projects for a short time. More data on established creative teams should have been included so that the results would have had better practical implications. Future research can address this matter by collecting data from a more extensive sample size with more permanent creative teams.

Second, it is not guaranteed that participants answered in full disclosure and honesty, and took enough time to reflect and answer their exact opinion. Also, the survey measured the team members subjective perceptions, whereas a more objective measurement could benefit the validity of the results. What is more, the data was collected all at the same time and within the same time period. However, it would be interesting to see how participants' answers vary across time and in different situations.

Third, the virtualness of the participants' work environment was measured solely by distributing a total sum of 100 percent to different communication channels. This is only based on the perception of the participants. A more complex measurement on multiple dimensions would have brought more reliable and deeper insight into participants' extent of virtualness. Possible considerations would be the extent of synchronicity and asynchronicity in communication. Future research can address this matter by introducing new concepts to measure virtualness.

Finally, creativity was measured and seen as one dimension, although, creativity is often a process with various stages. An idea for future research could be to examine these stages on its own to develop leadership strategies designed for specific stages of the creative process.

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APPENDICES

Appendix 1:

STUDY QUESTIONNAIRE				
Item	**Dimension**	**Description**	**Scale**	**Source**
Variable: Creativity				
Q1_1		We often communicate and exchange creative ideas with each other	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree 5- Somewhat agree 6- Agree 7- Strongly agree	Jiang & Zhang, 2014
Q1_2		We can complement and improve each other's creative ideas and problem solving		
Q1_3		We can integrate a creative project at the team level effectively		
Q1_4		Team members are questioned by expressing their personal opinions		
Q1_5		Team members can effectively co-operate and interact with each other		
Q1_6		Team members can exchange creative knowledge without obstacles		
Q1_7		Team leader can arouse members' creative enthusiasm through various means		
Q1_8		The team can realize creative outcome fluently		
Q1_9		The team can realize creative outcome with high quality		
Q1_10		The team can realize creative outcome with great economic and social value		
Variable: Transition Processes				
Q1_11		We identify the key challenges that we expect to face		Mathieu & Marks, 2006
Q1_12		We ensure that everyone on our team clearly understands our goals		
Q1_13		We develop an overall strategy to guide our team activities		
Variable: Adaptation				
Q2_1		Taking creative action to solve problems for which there are no easy or straight forward answers.	1- Never 2- Rarely 3- Occasionally 4- Sometimes 5- Frequently 6- Usually 7- All the time	Marques-Quinteiro, Ramos-Villagrasa, Passos, & Curral (2015)
Q2_2		Finding innovative ways to deal with unexpected events.		
Q2_3		Adjusting and dealing with unpredictable situations, shifting focus, and taking reasonable action.		
Q2_4		Devising alternative plans in very short time as a way to cope with new task demands.		
Q2_5		Periodically updating technical and interpersonal competences, as a way to better perform the tasks in which you are enrolled		
Q2_6		Searching and developing new competences to deal with difficult situations.		
Q2_7		Adjusting personal behaviour to accommodate other team members' characteristics.		
Q2_8		Improving interpersonal relationships by finding each team member's needs and aspirations		
Q2_9		Remaining calm and behaving positively under highly stressful events.		
Q2_10		Maintaining focus when dealing with multiple situations and responsibilities.		
Variable: Team Leadership: transition phase functions				
Variable: function: establish expectations and goals				
Q3_1	Transition Phase	Communicates what is expected of the team.	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree 5- Somewhat agree 6- Agree 7- Strongly agree	Morgeson, DeRue e Karam (2009)
Q3_2		Ensures that the team has clear performance goals.		
Q3_3		Communicates expectations for high team performance.		
Variable: Function structure and plan				

Q3_4		Defines and structures own work and the work of the team.		Morgeson, DeRue e Karam (2009)
Q3_5		Works with the team to develop the best possible approach to its work.		
Q3_6		Identifies when key aspects of the work needs to be completed.		
Variable: provide feedback				
Q3_7		Reviews relevant performance results with the team.		Morgeson, DeRue e Karam (2009)
Q3_8		Provides positive feedback when the team performs well.		
Q3_9		Provides corrective feedback		
Variable: Team Leadership: support social climate				
Q3_10	Action Phase I	Engages in actions that demonstrate respect and concern for team members.		Morgeson, DeRue e Karam (2009)
Q3_11		Looks out for the personal well being of team members		
Q3_12		Does things to make it pleasant to be a team member.		
Variable: Team Leadership: action phase functions				
				Morgeson, DeRue e Karam (2009)
Q3_13		Requests task-relevant information from team members.		
Q3_14		Notices flaws in task procedures or team outputs		
Q3_15		Monitors team and team member performance.		
Q3_16		Reconsiders key assumptions in order to determine the appropriate course of action.		
Q3_17		Contributes ideas to improve how the team performs its work.		
Q3_18		Challenges the status quo.		
Variable: function: solve problems				
Q3_19		Implements or helps the team implement solutions to problems.		Morgeson, DeRue e Karam (2009)
Q3_20		Participates in problem solving with the team.		
Q3_21		Helps the team develop solutions to task and relationship-related problems.		
Varia2le: function: perform task				
Q3_23	Support social climate	Will "pitch in" and help the team with its work		Morgeson, DeRue e Karam (2009)
Q3_24		Will "roll up his/her sleeves" and help the team do its work		
Q3_25		Intervenes to help team members get the work done		
Variable: function: encourage self-management				
Q3_26		Encourages the team to be responsible for determining the methods, procedures, and schedules with which the work gets done.		Morgeson, DeRue e Karam (2009)
Q3_27		Urges the team to make its own decisions regarding who does what tasks within the team.		
Q3_28		Encourages the team to make most of its own work-related decisions		
Variable: Team identity				
Q4_1		**I** think my group has little **t**o be proud of. **(R)**	1- Never 2- Rarely 3- Occasionally 4- Sometimes 5- Frequently 6- Usually 7- All the time	Ellemers, Kortekaas & Ouwerkerk, 1999
Q4_2		I feel good about my group.		
Q4_3		I have little respect for my group **(R)**		
Q4_4		I would rather not tell that I belong to this group **(R)**		
Q4_5		I identify with other members of my group		
Q4_6		I am like other members of my group		
Q4_7		My group is an important reflection of who I am		
Q4_8		I would like to continue working with my group		
Q4_9		I dislike being a member of my group **(R)**		
Q4_10		I would rather belong to the other group **(R)**		
Variable: Transactive Memory Systems				
Q4_11		I am comfortable accepting procedural suggestions from other team members		Lewis, 2003
Q4_12		I trust that other members' knowledge about the project was credible		
Q4_13		I am confident relying on the information that other team members bring to the discussion		
Q4_14		When other members give information, I want to double-check it for myself **(R)**		
Q4_15		I did not have much faith in other members' "expertise" **(R)**		
Q4_16		Each team member has specialized knowledge of some aspect of		

		our project		
Q4_17		I have knowledge about an aspect of the project that no other team member has		
Q4_18		Different team members are responsible for expertise in different areas		
Q4_19		The specialized knowledge of several different team members is needed to complete the project deliverables.		
Q4_20		Our team works together in a well-coordinated fashion		
Q4_21		Our team had very few misunderstandings about what to do		
Q4_22		Our team needs to backtrack and start over a lot **(R)**		
Q4_23		We accomplished our tasks smoothly and efficiently.		
Q4_24		There is much confusion about how we will accomplish the tasks **(R)**		
Variable: Trust				
Q5_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
Q5_2		In this team most people speak out for what they believe in.		
Q5_3		People usually tell the truth, even when they know they will be better off by lying.		
Q5_4	Perceived	In this team people can rely on each other.		
Q5_5		We have complete confidence in each other's ability to perform the task.		
Q5_6		In this team people keep their word.		
Q5_7	Monitoring behaviours	In this team people watch each other very closely. **(R)**		
Q5_8		In this team people check whether others keep their promises. **(R)**		
Q5_9		In this team most people tend to keep each other's work under surveillance. **(R)**		
Q5_10	Cooperative behaviors	In this team we work in a climate of cooperation.		
Q5_11		While taking a decision we take each other's opinion into consideration.		
Q5_12		Most people in this team are open to advice and help from others.		
Variable: Relationship Conflict				
Q6_1		Are there personal conflicts between team members?	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree 5- Somewhat agree 6- Agree 7- Strongly agree	Jehn, 1995
Q6_2		Is there friction between team members?		
Q6_3		Are personal conflicts evident?		
Variable: Task Conflict				
Q6_4		Is there a conflict of ideas exist between team members?		Jehn, 1995
Q6_5		Is there a confrontation of opinions about the decisions to be made?		
Q6_6		Do team members disagree about the content of decisions?		
Variable: Team Work Engagement				
Q6_7		While we are working we feel bursting with energy		Costa, Passos & Bakker, 2014
Q6_8		While we are working we feel strong and vigorous		
Q6_9		We are enthusiastic about our work		
Q6_10		Our work inspires us.		
Q6_11		When we get up in the morning, we feel like going to work.		
Q6_12		We feel happy while we are working.		
Q6_13		We are proud of our work		
Q6_14		We get immersed in the work.		
Q6_15		We get carried away when we are working		
Variable: Effectiveness Perception				
Q7_1		My team is effective.	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree 5- Somewhat agree 6- Agree	
Q7_2		My team has a good performance.		
Q7_3		My team has high quality performance.		
Q7_4		My team is successful in the tasks.		

			7- Strongly agree	
Variable: Team viability				
Q7_5		I would not hesitate to participate in another task/project with the same team.		Standifer, Halbesleben and Kramer's (2009, unpublished data)
Q7_6		If possible, I would switch to another team. **(R)**		
Q7_7		If I had the opportunity, I would rather work with a different team, instead of working with this one.**(R)**		
Q7_8		This team would work well in future projects.		
Variable: Satisfaction				
Q8_1		Team you are in	1- Strongly dissatisfied 2- Dissatisfied 3- Somewhat dissatisfied 4- Neither satisfied nor dissatisfied 5- Somewhat satisfied 6- Satisfied 7- Strongly satisfied	
Q8_2		Team functioning		
Q8_3		Relationship climate among members of your team		
Q8_4		All in all, and considering every aspect of your participation in the team you would say you are		
Variable: Multicultural Experiences				
Q9_1		I travel outside of my country	1- Never 2- One to two times in my life 3- Three or more times 4- Regularly	Narvaez & Hill, 2010
Q9_2		I speak fluently	1- One language 2- Two languages 3- Three languages 4- more than three languages	
Q9_3		I have lived in a different community (with a very different culture from my own).	1- Never 2- One to two months 3- Three to six months 4- Six months 5- Six to nine months 6- Nine to twelve months 7- More than one year	
Q9_4		I correspond currently with people from other countries.	1- Never 2- One country 3- Two to three countires 4- More than three countries	
Q9_5		I have friends from cultural-racial-ethnic backgrounds different from my own.	1- Zero 2- One 3- Two 4- Three 5- Five or more people	
Q9_6		I have had courses in intercultural communication.	1- None 2- One course 3- Two courses 4- Three or more courses	
Q9_7		I work with people with cultural-racial ethnic backgrounds different from my own	1- Strongly disagree 2- Disagree 3- Somewhat disagree 4- Neither agree nor disagree 5- Somewhat agree 6- Agree 7- Strongly agree	
Q9_8		I enjoy media and art from different cultures		
Q9_9		I pay attention to news about the world beyond my country		
Variable: Synchronicity Team				
Q10_1		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%.*	100% has to be split up on the mentioned channels	Dennis, Fuller & Valacich, 2008

		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)		
Q10_2		Regarding the communication **between the team and the team leader**, 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: Demographics				
Q11_1		Age		
Q11_2		Nationality		
Q11_3		Sex	1 – Male 2 – Female	
Q11_4		How long have you worked with this team		
Q11_5		I am the leader of this team	1 – Yes 2 – No	
Q11_6		Sector of Activity		
Variable: Creative industry				
Q11_7		Creative industry	1 – Yes 2 – No	