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**From Strong to Weak and Everything In Between -
Unveiling the Potential of All Tie Strengths
in the Creativity Process**

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Abstract

Title	From Strong to Weak and Everything In Between - Unveiling the Potential of All Tie Strengths in the Creativity Process
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Authors	Anika Kreisbeck-Apert & Emily Stern
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Purpose	The aim of this thesis is to extrapolate how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase.
Methodology	Our qualitative study follows the interpretivist tradition and applies both an abductive and single case approach. We collected our data through eight semi-structured interviews held over the meeting platform Zoom.
Theoretical Framework	We examined two phases of the creativity process, namely idea generation and evaluation. We then discuss Granovetter's (1973) concept of tie strength and its two main camps advocating for either strong ties or weak ties for creativity. Lastly, we combine these two themes by presenting Perry-Smith's and Mannucci's (2017) creativity model that postulates a phase dependent involvement of strong and weak ties.
Conclusion	The developed tie-gradient representing the tie-strength-continuum along which multiple relationship-clusters can be allotted through comparison, provides a more nuanced view on tie strength. During idea generation, weak(er) ties are predominantly consulted, which does not preclude the inclusion of other tie strengths. During idea evaluation, we discovered a tie-cascade indicating that within a pre-selected group of eligible feedback givers, the strongest tie is consulted first before one gradually moves down the tie-gradient if additional feedback is required.
Key Words	Creativity, creativity process, tie-strength, continuum

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Table of Content

1	Introduction	1
1.1	Background	1
1.2	Research Problem and Purpose of this Thesis	3
1.1	Thesis Outline	5
2	Literature Review	7
2.1	Defining Creativity.....	7
2.2	Creativity as a Process.....	9
2.2.1	Idea Generation.....	9
2.2.2	Idea Evaluation	10
2.3	The Social Construction of Creativity: The Effect of Tie Strength on Creativity	11
2.3.1	Weak Tie Camp and Creativity.....	12
2.3.2	Strong Tie Camp and Creativity	14
2.4	A Phase Dependent Tie Involvement.....	15
2.5	Chapter Summary and Research Motivation	16
3	Methodology	19
3.1	Research Approach and Philosophical Grounding.....	19
3.2	Research Design and Process	21
3.2.1	Case Context	21
3.2.2	Data Collection	22
3.2.3	Data Analysis	26
3.3	Reflexivity and Methodological Limitations	28
3.4	Chapter Summary.....	29
4	Analysis	30
4.1	Closeness of Relationships.....	31
4.2	Idea Generation	34
4.3	Idea Evaluation.....	39

4.3.1	Involving Others	39
4.3.2	Pre-Selection of Feedback-Givers	40
4.3.3	Reasons for Involving Close(r) Relationships	42
4.3.4	Moving from Close(r) to Loose(r) Relationships	46
4.4	Chapter Summary.....	47
5	Discussion.....	49
5.1	Tie-Gradient	49
5.2	Idea Generation	52
5.2.1	Idea Generation without Tie Involvement	52
5.2.2	Idea Generation with the Involvement of Weak(er) and Strong(er) Ties	53
5.3	Idea Evaluation.....	54
5.3.1	Need for Diverse Perspectives from Knowledgeable and NDA-Covered Ties	56
5.3.2	Secondary Need for Support.....	59
5.3.3	Tie-Cascade.....	62
5.4	Chapter Summary.....	64
6	Conclusion	66
6.1	Theoretical Contributions.....	66
6.2	Practical Contributions	68
6.3	Limitations	69
6.4	Future Research.....	70
	Reference List.....	71
	Appendix A: Interview Guide.....	80

List of Figures

Figure 1: Ranking of relationship-clusters according to their perceived closeness.....	31
Figure 2: Frequency, length, and emotional attachment as levelers on a DJ mix-table	50
Figure 3: Tie-gradient	51
Figure 4: Pattern of involving different people in idea evaluation	55
Figure 5: Pre-selections in combination with the tie-gradient Own illustration.....	58
Figure 6: Expression of all three factors (psychological safety, honesty, accessibility) in combination, with the tie-gradient	62
Figure 7: Tie-cascade	63

List of Tables

Table 1: Overview of interviewees	23
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1 Introduction

It is Friday afternoon. Suze is sitting in the office hunched over her design. She is frustrated. The client just gave feedback on the current design. Unfortunately, it is not fully what the company had in mind. Now she has to discard the design and come up with new ideas. She takes a deep breath and puts down the pen. She is exhausted from trying to find the perfect idea the whole day. Suze even reverted to a new AI-technology everyone seemed to praise for its creativity. No luck. It could only spew out ideas that were not really what she was looking for. Moreover, in order for it to work she would need to know what to look for, as AI only responds to requests. However, Alice doesn't know what to do or ask of AI. Suze sighs exasperatedly. A glance at her watch tells her that it is almost 5 o'clock. Suze decides to stop stressing over her problem and packs up her things. It is of no use to be brooding over it and forcing her creativity to activate. She will not be able to come up with something anyway at this moment. While packing up her things, she realizes that she will now meet her friends for their weekly bike session. Suze values these sessions very much. Not only is it a way for her to clear her mind and physically exercise, it is also a big source of inspiration. Although not all her friends are working in her field, they still sometimes end up giving her the simplest but most effective solution to her work problem. With that in mind, Suze can leave the office a lot less stressed and even a little more hopeful. She might just find the solution within the next few hours.

1.1 Background

Creativity, an ominous phenomenon many authors have tried to capture, is often indicated to be of collective nature (Amabile, 1988; Perry-Smith & Shalley, 2003; Hargadon & Bechky, 2006; Perry-Smith, 2006; Perry-Smith & Mannucci, 2015; Schaefer, in press). Suze, one of our interviewees told us the above-mentioned story during her interview. As it introduces how actors might tackle problems in their creativity process by involving other people, we chose this story to introduce our thesis. Suze's situation suggests that sometimes having a creative intuition, namely the "fleeting, holistic and direct way of human knowing that gives rise to creative potential" (Hardman, 2021, p. 2), is not enough. It becomes clear that creativity does not happen with the snap of a finger, but is a rather complex process (Amabile, 1983; Amabile & Pratt, 2016; Baer, 2016; Cropley, 2016; Kim, 2019). Instead of trying to figure it out on her own, Suze consults other people, using them as a source of inspiration. For Suze, this feedback and support from her friends seem very crucial for getting her creativity rolling. Situations in the organizational context, similar to Suze's, will be the focus of this thesis. It is the way other

people, whether they be in closer or looser relationships with the idea generator, come into play in the creativity process during the idea generation and idea evaluation phase.

Over the past decades, creativity has been researched more intensively. The reason for this is the increasing need for innovation (Chesbrough, 2003; Anderson et al., 2014). Trends such as globalization, technology, and digitalization have made the corporate world ever-more complex, and more importantly ever-fast changing (Sveningsson & Sörgärde, 2013). As a result, businesses must be on top of change and flexible to adapt to the ever-new situations arising, thus staying competitive (Beer & Nohria, 2000). Therefore, innovation as such is now in high demand (Anderson et al., 2014). For this innovation to happen, many scholars point to creativity as a fundamental pre-requisite. (e. g. Amabile, 1988; Bassett-Jones, 2005; Yusuf, 2009).

In looking at creativity, we encounter the question of whether it is an individual or a collective process. Authors such as Barron and Harrington (1981) or McCrae (1987) consider creativity a question of personality traits. This, in turn, mirrors the notion of the lone creative genius (Schaefer, in press). In contrast to this, creativity is perceived as something that is produced by a collective (e. g. Amabile, 1983; 1988; Perry-Smith & Mannucci, 2015). Scholars argue that it is the interaction with others that facilitates creativity, especially in “social entit[ies], such as an organization” (Schaefer, in press, p. 100). In times when human creativity is being challenged by that of artificial intelligence (AI), this human interaction becomes especially important because “AI cannot replicate [...] personal interactions” (Biesner, 2023). Most scholars, thus, argue that AI will never fully replace humans’ creativity (du Sautoy, 2019; Lee, 2022). Unlike humans who creatively “think ‘outside of the box’” (Anantrasirichai & Bull, 2022, p. 590), AI can only do as it is told as described in Suze’s situation. Hence, AI cannot generate new transformative ideas (du Sautoy, 2019; Lee, 2022).

Bakhtin (1984) highlights the importance of personal interactions for creativity by arguing that an idea mainly comes from dialogue with others as it “wants to be heard, understood, and “answered” by other voices from other positions” (p. 88). Such dialogue may inspire to come up with new ideas, such as in Suze’s case, or provide feedback which helps to develop an idea towards the final implemented version (Perry-Smith & Mannucci, 2015). Thus, Hargadon and Bechky (2006) and Håkonsen Coldevin et al. (2019) postulate that the ownership of an idea can only be collective as the joint evolution of the idea makes it no longer clearly assignable who the originator or the original idea was.

1.2 Research Problem and Purpose of this Thesis

As depicted above, creativity plays a crucial role in our economy and remains important seeing as the ever-growing application of AI will not be able to replace the social side of creativity within the near future (du Sautoy, 2019; Lee, 2022; Biesner, 2023). Despite its importance, creativity as a concept remains rather ominous. Scholars have come up with a plethora of definitions of what creativity is (Schaefer, in press), whereby many have increasingly recognized the above-mentioned collective nature of the creativity process (e. g. Hargadon & Bechky, 2006; Perry-Smith & Mannucci, 2015; Håkonsen Coldevin et al., 2019; Schaefer, in press).

Current literature has been very adamant about the variety of influencing factors on creativity (Granovetter, 1973; Amabile, 1988; Krackhardt, 1990; Ibarra, 1992; Reagans & McEvily, 2003; Zhou et al., 2009; Rost, 2011; Amabile & Pratt, 2016; Perry-Smith & Mannucci, 2017). Following Schaefer's (in press) friction model, radical transformative ideas, that AI cannot replicate (Biesner, 2023), emerge from the productive dissonance between diverse people. In productive dissonance (Schaefer, in press), the peoples' differing opinions lead to disagreements which are, instead of being solved, embraced to jointly develop an idea that merges manifold perspectives. This interaction of diverse people during the creativity process is of great interest to us, and thus the focus of our thesis.

Diversity in this sense implicates that people have “differences [in] attitudes, beliefs, [...] [and] values” (Harrison et al., 1998, p. 98), or a different way of thinking (Ruef, 2002). However, diversity does not mean that people with different views cannot build close relationships (Kristof-Brown et al., 2005). Nevertheless, several studies have shown that the closer people become, the more likely they are to adjust to each other over time (e. g. Granovetter, 1983; Ibarra & Andrews, 1993; Hinds et al., 2000; Kossinets & Watts, 2009). Hereby, they adapt certain aspects from the other, such as ways of thinking and values (Cialdini & Goldstein, 2004; Schaefer, in press). Henceforth, the friction created by diverse opinions is reduced, thus decreasing the potential uncomfortableness evoked by friction. Yet, the potential for productive dissonance is diminished as well.

Consequently, if creativity is highly important for organizations and especially requires novel ideas, it would be counterproductive for people in an organization to be too similar (Schaefer, in press). Yet, organizations seem to promote a strong organizational culture and a shared corporate identity (Alvesson & Sveningsson, 2016). As described in the literature, individuals should identify with the culture and incorporate its values (Palmer et al., 2016). As a result,

individuals, as diverse as they might seem, become increasingly similar (Schaefer, in press). However, as elaborated above, the dissonance is then less likely to be invoked.

This seemingly contradictory juxtaposition of diversity and sameness of individuals' characteristics can also be found within the literature regarding ties between people and their impact on creativity. Scholars are very much divided in their opinion on the effect of weak and strong ties on creativity. Some argue that it is facilitated by loose relationships (weak ties), e. g. by exposing people to more diverse knowledge (e. g. Granovetter, 1973; Granovetter, 1983; Ibarra & Andrews, 1993; Perry-Smith, 2006). Others contrast that close relationships (strong ties) are beneficial for creativity (Sosa, 2011; Shalley et al., 2004) as it for example provides the required psychological safety (Krackhardt, 1990; Ibarra, 1992).

The goal of this thesis is not to establish which ties are superior in enhancing creativity. Instead, we build on Perry-Smith and Mannucci (2017), and elaborate on whether both weak and strong ties are of use in different phases of the creativity process. Hence, we aim to answer the following research question:

How and why do different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase?

This kind of research is important as it contributes to a deeper understanding of how social interactions influence creativity. Findings from this can contribute to the development of practical strategies, improving creativity processes, fostering innovation, and maximizing the potential for a fruitful idea generation and evaluation.

Our first finding suggests that all ties a person has need to be seen on a tie-strength-continuum, ranging from strongest to weakest tie. This implies that there are not only strong and weak ties, but rather that the strength of ties increases gradually. Therefore, we illustrate the tie-strength-continuum as a tie-gradient. Along this gradient, we allotted five relationship-clusters mentioned in our interviews ('Family and Friends', 'Team', 'Colleagues from neighboring departments', 'Clients' and 'Users'). This shows not only a ranking of tie strength among the clusters derived from the interviewees' comparison, but also nuances in tie strength within the clusters themselves. The illustration of the tie-gradient underscores these nuances and the blurring of clusters. Because of tie strength being the continuum with more than only the two postulated categories (strong and weak ties), we speak of strong(er) ('Family and Friends', 'Team') and weak(er) ties ('Colleagues from neighboring departments', 'Clients', 'Users').

This finding had implications for our further analysis of the involvement of different tie strengths during idea generation and idea evaluation.

Since weak(er) ties are considered to have more differing perspectives from one's own, we found them to be primarily, but not exclusively, involved in the idea generation phase to draw inspiration from this divergence. In addition, we found either no ties to be consulted, namely during research, or occasionally strong(er) ties, with the latter being mainly sought out for getting inspiration from outside the work context. Thus, we conclude that during the idea generation phase all tie strengths might be involved, although weak(er) ties play a predominant role.

During idea evaluation, we encountered that a tie-cascade is followed, wherein the strongest tie within a pre-selected group of eligible feedback givers is consulted first before one gradually moves down the tie-gradient if additional feedback is required. Before choosing who to ask for feedback during the idea evaluation phase, we identified a pre-selection that precedes this choice. Hereby, a tie's knowledge is assessed as well as if they have signed the same NDA, making it legally possible to talk to that tie. Only after that pre-selection, the tie strength comes into play as then the identified tie-cascade is applied. This cascade indicates that the strongest tie within that sample group is consulted first, as they provide the highest levels of psychological safety, accessibility, and honesty. Should the feedback from the strongest eligible tie not be sufficient, the feedback-seeker gradually moves down on the tie-gradient, asking the next weakest tie within the pre-selected group of eligible feedback-givers. Consequently, despite one first consults the strongest eligible tie for feedback, other tie strengths are not excluded from the idea evaluation phase.

Our results show that contacts scattered across the whole tie-gradient are involved during idea generation and idea evaluation, which in turn increases the creativity of the people, and thus the quality of the idea itself. This is why organizations need to know that it is not enough to just have a strong corporate culture and team structures, implying strong(er) ties. There must be opportunities for establishing weak(er) ties as well. This ultimately helps both the creativity of individuals and companies to flourish.

1.3 Thesis Outline

This thesis comprises of six chapters which together aim to answer the research question of *how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase*. Within the first chapter the overall topic of creativity was introduced and the problematization of this thesis as well as the research question were

outlined. The second chapter aims to give a more detailed insight into the current literature. Hereby, we start broadly by discussing what creativity is. This is followed by the definition of the two phases of the creativity process in focus, namely idea generation and idea evaluation. Further, we present the two camps within the literature regarding the effect of tie strengths on creativity (strong and weak tie camp). Finally, we present the research of (Perry-Smith & Mannucci, 2017) who postulate a phase dependent involvement of strong and weak ties. It follows the third chapter which elaborates on the methodological approach taken in this thesis. Hereby, the philosophical grounding of our thesis, the research design, and the research process are highlighted. Further, we address the data collection and data analysis. In the fourth chapter, we present and interpret our empirical findings. In the fifth chapter, we will discuss our findings with the previously presented literature. Hence, we compare our findings with prior work, challenging and, possibly, adding to their results. This thesis concludes with a summary of our findings in the sixth chapter. Thereby, the theoretical contribution and practical implications are highlighted. Lastly, limitations of this work are depicted and recommendations for future research are provided.

2 Literature Review

To discuss the topic of how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase, we first conduct a literature review. First, we highlight what has already been explored in terms of creativity processes whereby we focus on the two phases idea generation and idea evaluation. Following this, we elaborate how creativity is shaped by interactions with different people (social construction). We juxtapose two different camps regarding the effects of ties on creativity. In the final step, we bring together the creativity process and the tie effects on creativity by presenting Perry-Smith's and Mannucci's (2017) model which proposes a phase dependency of tie involvement.

2.1 Defining Creativity

To be able to define creativity, it is important to address the common assumption that creativity and innovation can be used as synonyms, thus implying sameness. Both concepts are, indeed, part of the innovation process (Sarooghi et al., 2015). Thereby, creativity is regarded as the exploration phase (Etzkowitz et al., 2023) in which new ideas and inventions are generated and further developed (Amabile et al., 1996; Baer, 2012). Innovation follows creativity as it is the implementation of these ideas (Rosing et al., 2011; Sarooghi et al., 2015), hence constituting the exploitation phase (Etzkowitz et al., 2023). Thus, creativity is a fundamental pre-requisite for innovation (Bassett-Jones, 2005). The concepts creativity and innovation are, consequently, inextricably connected, yet not the same. For this thesis we aim our attention at the creativity part of the innovation process, namely the generation and development of novel ideas. In the following, we elaborate on different perspectives on this sub-process.

Creativity is a concept that has gained a lot of attention over the past years. Due to the increased interest, a plethora of definitions has arisen. The complexity of defining creativity is depicted by Shneiderman (2000) who groups the literature into three different perspectives on creativity, namely inspirationalist, structuralist, and situationalist. For *inspirationalists*, creativity appears randomly and inexplicably in sudden moments (Shneiderman, 2000). Friedrich August Kekulé described how inspiration thus appears from the subconscious (Japp, 1898). Scholars who try to understand this individual process behind these “dream-given insights” consider “preparation and incubation” as crucial (Shneiderman, 2000, p. 116). The second camp, the *structuralists*, approaches creativity as a process of problem solving with idea generation and evaluation as conscious activities (Osborn, 1963; Mayer, 1992; Plsek, 1997; Nguyen & Shanks, 2009). The focus is on the “rational, systematic and structured” (Nguyen & Shanks, 2009, p.

657) studying of prior work (Shneiderman, 2000), thus, the exploration and evaluating of potential solutions. (Shneiderman, 2000). Lastly, *situationalists* take the social construction of creativity into account (Boden, 1991). Therefore, they highlight the “social and intellectual context” (Shneiderman, 2000, p. 117), thus the influence of people during the creativity process (Shneiderman, 2000). For situationalists collaboration and communication become key aspects in the creativity process as they facilitate the idea to prosper (Nguyen & Shanks, 2009; Schaefer, in press).

Our review above shows that creativity is a rather vague concept. Scholars have different understandings of creativity, analyze different aspects and thus contribute to the complexity of understanding creativity. Consequently, it is not surprising that authors cannot agree on one uniform definition. Schaefer (in press), however, argues that “a conclusive definition of creativity is neither feasible nor desirable, as it would limit a broader understanding of the complexity and multi-dimensionality of creativity” (p. 29). Thus, following his argumentation, this thesis uses his conception of creativity as something that “sensitizes [...] to situations which are characterized by individuals and groups of individuals, who generate, develop and evaluate [...] ideas continuously within an organizational context over time” (p. 30). Two aspects that can be derived from this conception.

Firstly, creativity is a process (Schaefer, in press). As with the definition of creativity, authors also disagree on how many phases this process consists of and what these phases should be called (e. g. Wallas, 1926; Amabile, 1983; Osborn, 1963; Shneiderman, 2000). In the next section (2.2) we present the different understandings of the two phases idea generation and idea evaluation, derived from Schaefer’s (in press) conception of creativity.

Secondly, the creativity process is socially constructed (Schaefer, in press). As Elisondo (2016) elaborates organizational creativity is constructed by social interactions “on the basis of the existent resources and knowledge in the community” (p. 196). As proposed by situationalists, this implies that creativity involves both direct and indirect interactions with other people, as it “does not exist in a vacuum” (Elisondo, 2016, p. 194). The question of how different forms of relationships impact creativity is a highly discussed topic for which scholars have so far provided contradicting theories and evidence. Therefore, we present the current literature on effects of tie strength on creativity in section 2.3. Since the focus of our thesis is on the involvement of different tie strengths in the creativity process, we primarily adopt the perspective of the *situationalists*.

2.2 Creativity as a Process

Creativity as a process is “the sequence of thoughts and actions that leads to a novel, adaptive” product (Lubart, 2001, p. 295). In the multitude of various process models, many of these creativity processes (e. g. Osborn, 1957; Osborn, 1963; Amabile et al., 1996; Busse & Mansfield, 1980) are based on the 4-stage model developed by Wallas (1926). Other scholars challenge Wallas’ (1926) linear process model by highlighting the dynamics and iterative characteristic of the process (e. g. Eindhoven & Vinacke, 1952; Ghiselin, 1952).

This thesis focuses on the phases idea generation and idea evaluation. This is due to the fact that within our given context, the problem is mostly pre-determined by the client and, thus does not require much creativity to be formulated. Therefore, we decided not to include the problem-definition, as included by some scholars (e. g. Basadur et al., 1982; Runco & Chand, 1995) in our thesis. Further, other process models add other phases after idea evaluation (e .g. Amabile, 1988; Stein, 1974), which are, according to our definition of creativity, part of the innovation process. Hence, we do not focus on those phases either.

In the following, we present how different authors describe what we define as idea generation and idea evaluation. *Idea generation* is the phase in which an idea is brought to life and conceptualized (Schaefer, in press). This idea is then analyzed, evaluated, and further developed in the *evaluation phase* until a final product is created (Schaefer, in press). We introduce varying perspectives on these two phases to provide a comprehensive understanding of their characteristics and lay out a wide-ranging foundation for the later discussion of our empirical findings.

2.2.1 Idea Generation

The idea generation is sometimes described as an unconscious and individual cognitive process (Wallas, 1926; Suler, 1980). Wallas (1926) portrays that the person coming up with an idea tries not to “voluntarily or consciously think on a particular problem” (p. 86). He explains that this may be either through focusing mentally on other issues, or through taking a break from any cognitive task. Baer et al. (2021) describe this as the wandering of the mind. Wallas (1926) continues that in this stage “a series of unconscious and involuntary [...] mental events may take place” (p. 86). He further explains that ideas appear with an “instantaneous [and unexpected] ‘flash’” which results from a multitude of “trains[s] of association” (pp. 93-94). However, other scholars disagree with the unconscious notion of idea generation, considering it as a conscious process. Hereby, existing knowledge and ideas are recombined to develop a

novel idea (Campbell, 1960; Osborn, 1963), which might be “any random combination” (Simonton, 2011, p. 163).

Furthermore, there are contradictions in whether idea generation is perceived as an individual or collective effort. Campbell (1960) postulates that ideas are generated without taking the environment’s opinions into consideration. In contrast to this stands Basadur’s (1994) idea generation phase which he considers to include divergent thinking. This goes back to Guilford (1956; 1961) who established the concept of divergent and convergent thinking. Divergent thinking is about coming up with various ideas that are different from prior knowledge and previous solutions, while incorporating a variety of perspectives (Guilford, 1966; 1967; Schaefer, in press). Amabile (1988) agrees with (Basadur, 1994), highlighting that during idea generation, the acquisition of new knowledge is most important, thus creative skills, such as divergent thinking and handling novel knowledge, are necessary.

Consequently, it is shown that the idea generation can be both conscious (Osborn, 1963; Campbell, 1960; Basadur, 1994) or unconscious (Wallas, 1926; Suler, 1980). Thus, inspiration can come as a sudden epiphany (Wallas, 1926), from logically re-combining prior knowledge (Campbell, 1960; Osborn, 1963), or from acquiring new knowledge and perspectives (Amabile et al., 1996; Basadur, 1994).

2.2.2 Idea Evaluation

The idea evaluation is considered as a conscious phase in which generated ideas are evaluated according to their appropriateness to solving the initial problem by applying logics and norms (Wallas, 1926). The phase also includes the adaption of those ideas based on reoccurring feedback from the environment (Noy, 1969; Suler, 1980) to reach the final solution to be implemented (Osborn, 1963; Basadur et al., 1982; Basadur, 1994). Finally, different variants of an idea are weighted up against each other until one is chosen (Campbell, 1960). Amabile (1988) adds to this conscious evaluation of ideas that domain-skills, namely skills and technical knowledge received through domain-specific education, that are highly important.

Basadur (1994) emphasizes that, in opposite to idea generation, convergent thinking is most prominent during idea evaluation. Guilford (1966; 1967) considers convergent thinking the thought process that aims to reach one single solution, which is usually the most rational. Hereby, “logical and analytical strateg[ies]” are applied (Schaefer, in press, p. 142). In this course, it is assumed to be only natural that people have varying perspectives on the idea (Runco & Chand, 1995). This can be connected to Boltanski’s and Thévenot’s (2006) concept of *orders of worth*, which represent fundamental higher order principles people maintain social

structure and justify social actions with. In his friction model, Schaefer (in press) transferred this concept to the creativity process. Hereby, he describes that people hold different orders of worth according to which they assess an idea. Hence, he continues, as different people apply different orders of worth, dissonance is created. Instead of trying to dissolve the emerging discourse and choosing one of the perspectives as superior, the dissonance can be used productively by appreciating it as a chance for reaching a higher-quality result. It is this productive dissonance that creates a synthesis with which the best ideas come to life.

Subsequently, the idea evaluation is commonly considered as a conscious and collective phase (Wallas, 1926; Campbell, 1960; Osborn, 1963; Suler, 1980; Basadur et al., 1982; Amabile, 1988; Basadur, 1994). Thus, it is important to work in teams to facilitate the finding of solutions through discussions with colleagues (Shneiderman, 1998a; 1998b).

From this overview, we can state that the idea generation, in which people come up with novel ideas, is described by some scholars as a conscious and collective phase, and by others as an unconscious and individual phase. However, the idea evaluation, which is said to be the evaluation and development of ideas, is commonly perceived as a conscious and collective phase in which feedback is of tremendous importance. It is noteworthy that some scholars describe the two phases as an iterative process (e. g. Campbell, 1960; Basadur et al., 1982). Although this might have implications for how and why different tie strengths come into play in the creativity process, we do not elaborate on this in our empirical findings and discussion due to the scope of our thesis.

These descriptions of the two phases, taken from different creativity process models, contain, at most, indications that different people are to be involved (e. g. Suler, 1980; Amabile, 1988; Shneiderman, 2000). However, they do not consider the closeness in relationships between the people who are consulted. This closeness is elaborated upon in the next section.

2.3 The Social Construction of Creativity: The Effect of Tie Strength on Creativity

As mentioned above, creativity is a socially constructed process highlighting its collective nature (Schaefer, in press). In this regard, the strength of relationships between the involved people displays one contradictorily discussed factor influencing the creativity process. Granovetter (1973) conceptualizes this as tie strength. In the tie-literature, various definitions of tie strength exist (Marsden & Campbell, 2012; Retzer et al., 2012). However, we base our work on Granovetter's (1973) definition of tie strength as the "combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services

which characterize the tie” (p. 1361). He describes a long-lasting, close relationship with emotional attachment as a strong tie. Hence, family members, close friends, and coworkers are considered as strong ties (e. g. Granovetter, 1973; Granovetter, 1983; Perry-Smith & Shalley, 2003; Perry-Smith & Mannucci, 2017). In contrast, occasional contact over a shorter period of time with less emotional engagement characterizes a weak tie (Granovetter, 1973). Thus, acquaintances, former colleagues, or online connections are categorized as weak ties (e. g. Granovetter, 1983; Perry-Smith & Shalley, 2003; Perry-Smith & Mannucci, 2015). Those two categories can be described as two ends of a tie-strength-continuum with a variety of possible intermediate positions (Granovetter, 1973).

Over the past years, various scholars have researched the effects of different tie strengths on creativity. Despite the acknowledgement of tie strength being a continuum, literature frequently emphasizes the significance of strong and weak ties, but tends to overlook other levels on the continuum. Only few scholars add the effects of intermediate ties as a third category (e. g. Dodds et al., 2003; Retzer et al., 2012; Etzkowitz et al., 2023). Retzer et al. (2012) place intermediate ties in the middle of the continuum, hence implying medium tie strength. They found them to facilitate the access to novel knowledge from external sources and enable access to the local networks of highly connected members within the network. Most other scholars define intermediate ties as only a slight gradation to strong or weak ties (e. g. Dodds et al., 2003; Etzkowitz et al., 2023).

As current literature mainly focuses on the effects of strong and weak ties, their contradictory postulations of these two camps are elaborated upon in the following sections. We start by illuminating the weak tie camp (WTC) whose representatives emphasize the strength of weak, and weakness of strong ties. This, we contrast with the strong tie camp (STC) which highlights the facilitating effects of strong and hindering effects of weak ties on creativity.

2.3.1 Weak Tie Camp and Creativity

Scholars of the WTC accentuate that weak ties expose people to different knowledge which facilitates creativity, while strong ties inhibit it. In his social network theory, Granovetter (1973) elaborates that weak ties promote information and knowledge-sharing. People within a social cluster (bounded with strong ties) are more likely to share a similar background, knowledge, way of thinking, etc. (e. g. Granovetter, 1983; Ibarra & Andrews, 1993; Hinds et al., 2000; Kossinets & Watts, 2009). Weak ties are regarded to connect different social circles, hence exposing people to more diverse knowledge (Granovetter, 1973). Since creativity is

highly dependent on knowledge exchange (Amabile, 1988), weak ties are considered to enhance creativity. Strong ties, on the other hand, are viewed to share redundant knowledge (Granovetter, 1973; Perry-Smith & Mannucci, 2015) which is associated with limited creative behavior (Amabile, 1988; Baer, 2012). Nevertheless, exposure to distinct knowledge is not necessarily exposure to useful knowledge (Perry-Smith & Mannucci, 2015). Knowledge obtained from weak ties carries the risk of being too distant from the domain knowledge which makes it difficult to comprehend (Nooteboom et al., 2007). Hence, to unfold the creative potential of weak ties, new knowledge needs to be connected to the domain and offer new ways of thinking about the respective problem (Amabile, 1988).

Moreover, weak ties are said to be more beneficial for creativity as they do not bear the risk of group conformity as strong ties do (Perry-Smith & Mannucci, 2015). Conformity can be defined as “changing one’s behavior to match the responses of others” (Cialdini & Goldstein, 2004, p. 606). This means, people in strong groups (strong ties), especially friends and family (Ruef, 2002), tend not to voice their opinion, ideas or doubts to remain part of the group or to express unity (Hollander, 1958; Kaplan et al., 2009). Such conforming behavior can be prevented by e. g. encouraging open discussion and dissent, or appointing a devil’s advocate (Janis, 1982). To be novel, an idea has to deviate from the current standard (Schaefer, in press). Therefore, conformity resulting of strong ties might keep team members from expressing their creative ideas (Perry-Smith & Mannucci, 2015). Further, the evaluation of an idea also requires a broad range of diverse opinions and orders of worth which are then discussed in an, ideally, productive dissonance (Schaefer, in press). Hence, conformity would interfere this process as well. Subsequently, weak ties enhance creativity as they do not entail tendencies to conform with other’s opinions (Perry-Smith & Mannucci, 2015) and, therefore, allow for more experimentation (Ruef, 2002).

Another postulated disadvantage of strong ties in the context of creativity is the time investment. Strong ties require more time to be build and maintained (Boorman, 1975). Due to this, scholars argue that it is more efficient to employ weak ties in sharing knowledge (Reagans & McEvily, 2003) and that one can access more sources of knowledge within the same time (Granovetter, 1973; Granovetter, 1983). Beyond that, help seeking comes with the expectation of reciprocity which means that the help seeker is expected to return help at a later point in time (Mueller & Kamdar, 2011). This implies (later) cost of additional time investment (Perry-Smith & Mannucci, 2015) which is higher in strong ties since the norm of reciprocity is greater here than in weak ties (van Osch & Bulgurcu, 2020).

Subsequently, due to exposure to diverse knowledge, lower risk of conformity and lower levels of required time investment, the representatives of the WTC speak in favor of weak ties as facilitator for creativity. Perry-Smith (2006) postulates that individuals should, therefore, establish various weak ties in order to be more creative.

2.3.2 Strong Tie Camp and Creativity

Although the notion of weak ties being beneficial for creativity has gained increasing support, there is another, less represented, perspective that emphasizes the advantages of strong ties.

Firstly, strong ties improve intrinsic motivation which is said to be essential for creativity. According to Amabile (2011) “[p]eople are most creative when they feel motivated primarily by the interest, enjoyment, satisfaction, and challenge of the work itself” (p. 136), hence intrinsically motivated. When people work together with strong ties, their intrinsic motivation was found to be intensified (Sosa, 2011; Shalley et al., 2004) and people tend to support each other more (Tortoriello & Krackhardt, 2010).

Beyond that, strong ties create trust and psychological safety, which is crucial for employee’s creativity. Empirical research found that the existence of strong ties is correlated to higher trust amongst group members (Krackhardt, 1990; Ibarra, 1992). This, in turn, facilitates the creativity process as it encourages people to voice their ideas and opinions and makes them more willing to listen to others (Chua et al., 2012). In a psychologically safe environment, mutual trust and respect lead to a feeling of not being judged for expressing ideas or doubts, asking questions, or admitting mistakes (Edmondson, 1999). This is of particular importance when it comes to the idea evaluation. To engage in productive dissonance, people need to express their own opinions and beliefs, even though, or maybe especially when this creates friction (Schaefer, in press). Furthermore, psychological safety stimulates a higher willingness to take risks (Edmondson, 1999). Since radical transformative ideas are unconventional and often distinct from the current standard (Schaefer, in press), psychological safety also motivates people to express more disruptive ideas that deviate from existing norms. Hence, by promoting trust and psychological safety, strong ties are considered to enhance creativity.

Lastly, strong ties foster knowledge sharing which is fundamental during the generation and evaluation of ideas. Especially tacit and complex knowledge is said to be transferred more efficiently via strong ties (Hansen, 1999; Reagans & McEvily, 2003). Furthermore, knowledge received from strong ties is recognized as more credible due to the higher trust in such relationships (Levin & Cross, 2004). This trust not only facilitates the incorporation of complex

information, it also increases the likelihood that the holders of such knowledge will share it (Hansen, 1999).

Consequently, the STC provides a different perspective on the influence of ties on creativity. The highlight the beneficial effects of intrinsic motivation, psychological safety on open discussions and efficient knowledge sharing which, in turn, enhances creativity.

2.4 A Phase Dependent Tie Involvement

One can conclude that there are plausible arguments that both tie strengths have facilitating effects on creativity. Respectively, some of the more recent research is moving away from such black-and-white thinking to a more nuanced understanding that focuses on different phases of the creativity process. In this section, we combine the WTC and STC perspective with the process perspective by presenting scholars who see the strength of both tie strengths.

A process model that brings forward this nuanced understanding of how different tie strengths might be used during the creativity process was developed by Perry-Smith and Mannucci (2017). Unlike the above-mentioned process models that, if at all, only mention including people in general (e. g. Suler, 1980; Amabile, 1988; Shneiderman, 2000), Perry-Smith and Mannucci (2017) differentiate between weak and strong ties that get involved during different phases of the creativity process. Their creativity process comprises of four phases: *idea generation*, *idea elaboration*, *idea championing* and *idea implementation*. As the latter two phases neither aim at coming up with an idea (*idea generation*) nor evaluating and developing it (*idea elaboration*), we only focus on the first two. This is due to our previous elaborated definition of creativity as the coming up with and development of new ideas, which takes place before the implementation (innovation). Perry-Smith and Mannucci (2017) suggest the existence of certain needs in each phase which determine varying levels of desired participation from contacts. This is in line with the findings of Kijkuit and van den Ende (2007) who emphasize that both tie strengths come into play during different phases of the creativity process. However, they do not develop a new process model, but base their findings on existing phases.

During idea generation, weak ties are considered to be more valuable (Perry-Smith & Mannucci, 2017). In this phase, weak ties expose people to diverse knowledge which has more potential to trigger new ideas (Kijkuit & van den Ende, 2007). Since weak ties are related to less conformity, the person asked for help is less likely to comply with taken-for-granted assumptions, thus the inspiration is potentially broader (Kijkuit & van den Ende, 2007).

Hereby, a plethora of weak ties is more favorable than only a few (Perry-Smith & Mannucci, 2017).

When it comes to idea evaluation, the emphasis shifts to strong ties as these serve the need for support (Perry-Smith & Mannucci, 2017). Strong ties help voicing one's ideas and sharing one's opinion because of their higher levels of psychological safety (Perry-Smith & Mannucci, 2017). Hence, strong ties assist narrowing down the initial idea and diverse information that was sought by weak ties, to finally filter out relevant elements (Kijkuit & van den Ende, 2007). Subsequently, the idea can be developed further so that it suits the (organizational) context (Kijkuit & van den Ende, 2007). For this, a smaller number of strong ties is preferred and most valuable (Perry-Smith & Mannucci, 2017).

Consequently, these scholars postulate that it is not one tie strength that is generally more beneficial for creativity, but that they are more appropriate for different phases, according to "the characteristics of the phase and the associated need" (Perry-Smith & Mannucci, 2017, p. 72).

Other scholars also acknowledge a phase dependency of different tie involvement. However, they consider weak ties to facilitate the exploration phase, while strong ties are beneficial for the exploitation phase (e. g. Burt, 2000; Capaldo, 2007; Michelfelder & Kratzer, 2013; Barrie et al., 2019; Etkowitz et al., 2023). This differentiation does not take the phases idea generation and idea evaluation into consideration, but rather represents our distinction between creativity (exploration) and innovation (exploitation) (see section 2.1). Due to our focus on idea generation and evaluation, these authors represent the WTC when it comes to examining the effect of tie strength on creativity.

2.5 Chapter Summary and Research Motivation

In this chapter we provided an overview of the literature that is relevant for our thesis. We have started by delineating creativity from innovation. Creativity is the essential process of coming up with (idea generation), developing and assessing (idea evaluation) novel ideas, thus preceding innovation. Idea generation is seen as either an individual and unconscious phase, or collective and conscious. Idea evaluation, on the other hand, is considered a collective effort in which feedback plays a crucial role.

Following that, we turned to the social construction of creativity. Herby, we presented two opposing camps which can be identified in the literature when it comes to assessing the effect of tie strength on creativity. The WTC emphasizes the positive effects of weak ties seeing a

higher exposure to more diverse knowledge, less risks of conformity and less time investment. The STC on the other hand postulates creativity-enhancing effects of strong ties by arguing that these especially increase intrinsic motivation, trust and psychological safety, and facilitate knowledge sharing amongst people.

We finally, merged the process perspective with the social construction of creativity (effect of tie strength) by presenting Perry-Smith's and Mannuccis's (2017) research. It suggests that according to the need in specific creativity phases, different tie strengths come into play. Thus, weak ties are favorable for the idea generation while the idea evaluation benefit from strong ties.

As the WTC and STC contradict each other in their findings, the current literature leaves a research gap we aim to contribute to solve. Perry-Smith and Mannucci (2017) offer an angle which does not favor one tie strength, but emphasizes that both can be of advantage during different phases of the creativity process. This approach has not yet received extensive attention in literature. Thus, we intend to build on their research to extend the understanding of a possible phase dependent tie involvement during the creativity process.

Deriving from this, we aim to explore

How and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase.

To answer this question, we investigate, (i) how different people act when being creative, (ii) who they consult in their creativity process and (iii) how they understand and give reason to their actions. With the first question (i) we explore how creativity is enacted as a process and which of the presented characteristics of each phase can be found in the interviewees' creativity processes. The second question (ii) provides us with answers to which tie strength is consulted during which phase of the process. Thereby, we do not aim to establish which tie strength is superior when it comes to enhancing creativity. Instead, following Perry-Smith and Mannucci (2017), we aim to find out whether both weak and strong ties are of use during the phases idea generation and idea evaluation. We want to assist in progressing from an either-or-thinking to a more nuanced view on how creativity is socially constructed and how the different advantages of each tie strength can be of use during creativity processes. To go beyond those findings, the last question (iii) helps us to establish why those specific ties come into play at a specific time. Hence, we not only aim to find out who is involved, but also what the need or reasoning behind this consultation is.

With our findings, we contribute to the creativity literature by broadening the existing literature on the effects of different tie strengths on creativity. This helps to better understand what may flourish creativity and to provide a clearer picture to the context in which different tie strengths may be of specific advantage. Beyond that, these findings have managerial implications, hence adding value to management practices.

3 Methodology

The upcoming chapter delineates the fundamental methodology of our thesis. First, we introduce our overall research approach and elaborate the underlying ontology and epistemology. Additionally, we summarize the research context, and describe how we collected and analyzed our data. Ultimately, we discuss matters related to the limitations of our research.

3.1 Research Approach and Philosophical Grounding

This thesis aims to explore how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase. We investigate, how different people act when being creative, who they consult in their creativity process and how they understand and give reason to their actions. The enacted creativity process is highly dependent on the executing person and the context (Shalley & Gilson, 2004) which is why we deem a qualitative research approach to be appropriate for this thesis. Qualitative research enables us to explore and understand specific phenomena at their place of origin and broaden this meaning to more general terms (Rennstam & Wästerfors, 2018). Further, it allows us to achieve deeper insights into the phenomenon itself than quantitative research would (Bell et al., 2022). The latter is more appropriate for providing a more superficial overview and establishing if-then-relationships between variables (Abend, 2008). Rather than if-then-relationships, we are keen to understand the phenomenon of tie strength during the creativity process from the actor's perspective. Thus, qualitative research is more suitable for our thesis (Styhre, 2013).

Our research follows the interpretivist tradition which provides implications for the underlying ontological and epistemological assumptions (Prasad, 2018). While ontology refers to the nature of the social world (e. g. is there an objective reality or is reality subjectively interpreted?) (Bell et al., 2022), epistemology theorizes about the nature of knowledge (e. g. is knowledge gained through acquisition or experience?) (Hislop et al., 2018). Interpretivist traditions draw on interpretivism (Prasad, 2018) which assumes reality to be subjective and takes the social construction of reality as point of departure (constructionism) (Bell et al., 2022). The *verstehen*, especially of taken-for-granted-phenomena and unconscious processes, are focal point of this tradition (Prasad, 2018). Therefore, it is in contrast to positivism which claims an objective reality (Bell et al., 2022). The social construction of reality is a key element of our study as we aim to understand the interviewees actions and how they interpret their own reality, needs and behaviors. With an interpretivist tradition we acknowledge that there is no singular truth, but rather multiple understandings of creativity which enables us to understand the phenomenon in more depth.

Within the interpretivist traditions we categorize our study as symbolic interactionism. According to Prasad (2018), this tradition suggests that objects and events do not possess an inherent meaning, but that individuals assign meaning to them through social interactions. Thereby, she continues, words, events, objects, and actions convey meaning used by individuals to understand social reality. For example, a light bulb for one person can simply be a source of light, while for another it is a symbol of creativity and new ideas. Similar to the light bulb, creativity might have a different meaning for each of our interviewees. This may result in different individual creativity processes and hence, a variety of ways in which and why different tie strengths come into play during the idea generation and idea evaluation phase. We explore whom people consult in idea generation and idea evaluation and how they understand these actions themselves. Hereby, we intend to reveal the individual construction of reality in the individual's creativity process. As people have different constructions of reality and phenomena, there are "endless negotiations (implicit and explicit)" (Prasad, 2018, p. 22) ongoing in which individuals or groups discuss their reality constructions. Thereby, they construct social reality together and reach negotiated orders. When analyzing the interviews and consolidating the answers, we found recurring patterns representing current negotiated orders.

Finally, one can distinguish between three major approaches (inductive, deductive and abductive) in qualitative research (Kennedy & Thornberg, 2018; Bell et al., 2022). Bell et al. (2022) describe how induction takes the research as point of departure which results in new theories and concepts. They juxtapose it to deduction in which existing literature is used to build hypothesis which are then confirmed or rejected by conducting studies. In taking an abductive approach, we combine both induction and deduction. We, thus, take the existing literature and theory as starting point (deduction) which enables us to understand our empirical findings to a larger extent by relating them to previous research (Bell et al., 2022). Simultaneously, we are open to unexpected outcomes that allow us to shed light on the phenomenon of the influence of tie strength on creativity from a different perspective. Putting this into a larger context and deriving generalities, we add on to the current literature (induction) (Bell et al., 2022). This critical dialogue between existing literature and empiricism allows for more *verstehen* and re-interpretation of the existing assumptions (Alvesson & Kärreman, 2007).

3.2 Research Design and Process

Following our research question of how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase, it is appropriate to conduct the study in a singular context. Such a single case analysis allows for real-life experiences leading to a rich understanding of the phenomenon (Bhattacharjee, 2012). It enables us to explore the phenomenon in more depth than it would be the case when comparing different organizations (Bhattacharjee, 2012).

In the following, we provide information on the organization we conducted our research at, as well as our sampling process. After that, we explain how we collected our data with semi-structured interviews and how we analyzed them.

3.2.1 Case Context

We conducted our study at THETA, a multinational company. We chose THETA as pseudonym for our research company. This name was randomly chosen to guarantee anonymity to both the company and the interviewees. With more than 19,000 employees in more than 40 countries, THETA provides engineering, design, digital and advisory services. Since THETA as a whole is a large company, we decided to limit the context of research to a smaller part of the company. Therefore, we conducted our study within the division EMAN (pseudonym).

We chose EMAN as it is a division which people easily consider as highly creative. EMAN is a 180-person strong division specializing on providing design services in various sections, such as Industrial Design, Automotive Design, or UX Design. EMAN has five offices worldwide. However, our research was executed in the Gothenburg (Sweden) office. The division is organized into the above-mentioned sections. Hence each employee is assigned to a specific field of work in which they have their team and supervisor. EMAN, on its website, presents itself to have a user-focused approach and the ability to build end-to-end services and products. Further, they highlight that they aim to break down the silos between different areas of expertise to create the best possible solution for the client. Hereby, they emphasize the collective nature of their creative work as they promote interaction, often in informal settings such as a traditional Swedish Fika.

Clients are able to either contract a single section or to have various sections involved in fulfilling their request. Therefore, depending on the extent of the contract, different client-consultant-constellations exist. Working practices range from Research Consultants working 100% at the client's site with no other EMAN colleagues involved, to team structures within a

section working for one client, to larger projects involving various people from different sections. Furthermore, the contract length varies from about three months to several years. However, shorter contract periods are most common. It is important that most contracts are based on a non-disclosure agreement (NDA) which has implications to what extent project participants may talk to outsiders (within and outside EMAN) about project related issues, the client and the project itself.

We had the opportunity to interview people from different sections, roles and positions which granted us a rich insight into different realities and creativity processes. Not only focusing on one single variable (profession, section or role) prevents that overlapping findings (negotiated orders) are only due to standards and habits within the respective variable. For example, one team could focus heavily on problem solving by working closely together, resulting in mainly strong ties (team members) being involved in the creativity process. This, however, does not provide a rich understanding of the phenomenon as it might be different in other teams. However, we did not have to discuss the overarching context anew in each interview because it is consistent in all EMAN sections. With the limited time available for each interview, the given context allowed us to focus our attention on the creativity process itself, hence leading to a more nuanced understanding of the phenomenon.

3.2.2 Data Collection

Sampling

After having narrowed down the topic of our master thesis, we contacted various organizations to conduct our research with. Since our topic is about creativity, we considered it to be essential that the main work of our interviewees entails creative work. People working in routine jobs, often do not recognize the creative part of their work (Schaefer, in press). Hence, it would have been more difficult for the interviewees to refer to creative situations and their behavior in those. Therefore, we decided to only contact organization which define themselves as working creatively and being innovative. After having three initial interviews with different organizations whom we presented the topic, the time frame and the demand of number of interviewees to, the division EMAN within THETA was the best fit.

In the next step, we agreed on the subsequent actions with Linda (pseudonym), our contact from EMAN.

As we wanted to gain a rich and versatile insight into creativity processes, our selection criteria for interviewees were deliberately wide-ranging, so that we did not limit the selection of interviewees to a particular profession, hierarchical position, age group, or the like. Linda

requested a short pitching-text which she sent to the whole division. We shortly presented ourselves and the research question without adding any findings from the literature to not bias potential interviewees. Everyone who was interested could reach out to Linda who forwarded us the contacts to schedule interviews. We are aware that this approach is to some extent a snowball sampling which does not guarantee complete randomness (Bell et al., 2022). However, as Linda deemed it more appropriate to contact the entire division rather than specific employees herself, we considered the limited randomness to be on an acceptable level. Finally, we were provided with 10 volunteers for our interviews. We scheduled interviews with eight of them because the remaining two did not respond to our continuous contact. We elaborate on this in more detail in the limitations (section 3.3). An overview including the pseudonyms and role (interviewee / contact person) can be found below in Table 1. The jobs, teams, hierarchical positions and other demographic factors of our interviewees vary. As this information are not relevant for our findings, we do not include them in the table to guarantee more anonymity.

<u>Name (pseudonym)</u>	<u>Role</u>
Linda	Contact person
Sven	Interviewee 1
Olaf	Interviewee 2
Anna	Interviewee 3
Elsa	Interviewee 4
Suze	Interviewee 5
Hans	Interviewee 6
Kristof	Interviewee 7
Jasmin	Interviewee 8

*Table 1: Overview of interviewees
Own illustration*

Semi-structured interview

By applying symbolic interactionism, our study falls into the interpretivist tradition. In this tradition, conducting in-depth interviews, alongside observations, is perceived as an eminently useful method of collecting data for the purpose of *verstehen* (Prasad, 2018). Through conversations, the interviewer is enabled to gather information about the interviewee's experiences, emotions, and ways of understanding reality (Kvale & Brinkmann, 2009). The interviews we conducted at EMAN provided us with a more nuanced picture of the complex

and multidimensional reality as opposed to just handing out a survey and receiving written answers (Mason, 2002). In addition to interviews, observations would have allowed us to observe the participants' behavior in their natural environment resulting in findings that are "rich and uncontaminated by self-report bias" (Sekaran & Bougie, 2016, p. 126). However, the high time commitment of observations (Sekaran & Bougie, 2016), the limited timeframe of our thesis and the availability of the organization prohibited additional observations. Despite that, our interviews provided us with a rich picture of how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase.

For our interviews, we chose a semi-structured approach. This provides a certain structure and guideline throughout the whole interview while allowing the interviewer to ask additional questions according to the interviewee's answer (Kvale & Brinkmann, 2009). Hence, the interaction can evolve, and each interview varies (Bryman, 2016). We developed an interview-guideline containing ten main questions which were categorized in four overarching themes. To give interviewees the opportunity to report what they thought was relevant and to express their experiences without being biased by predefined answer-options, we asked open questions (Kvale & Brinkmann, 2009). Thus, we mainly applied how- and in-what-ways-questions and asked for specific examples to gain a more holistic picture. Thereby, we encouraged an open dialogue and ensured that we were not steering the interview in the direction of our own assumptions (Kvale & Brinkmann, 2009). However, we have prepared various (24) follow-up questions which were asked when we needed to guide the interview back to the topic of our research question.

Further, the semi-structured approach enabled us to learn from interview to interview. Hence, we re-formulated questions that were more difficult to grasp. In subsequent interviews we used the insight from previous interviews to focus on themes that surprised us the most. Thus, by adapting and adding new follow-up questions, we gained various perspectives on these surprising themes. Hereby, we followed the approach of seeing the interviewer as a traveler, who has a map for discovering certain areas, but is open to being guided by the findings, instead of just mining common understandings or hypothesis (Kvale & Brinkmann, 2009). This is in line with our abductive research approach.

We collected our data from eight interviews which we held from end of March to beginning of April 2023. Most interviews lasted between 55 and 60 minutes, but especially the later interviews sometimes went up to 10 minutes beyond that time. Since we are non-Swedish speakers conducting a study in a Swedish company, we had to hold the interviews in English. Thus, the interviews were held in the nonnative language both for the interviewees and the

interviewers (us). We are conscious of the fact that this could lead to difficulties in expressing oneself in detail or misinterpretations (Winchatz, 2006). However, most of the interviewees were not Swedish themselves and English is the prevailing language used at work. As we complete our studies in English, we are able to express ourselves and gather academical knowledge in this language as well.

Due to geographical distance and the fact that the interviews were too far apart in time, face-to-face interviews were not possible. We are aware that personal interactions help grasping emotions and spontaneous (non-verbal) reactions better which creates trust and leads to increased sharing of experiences (Vogl, 2013). Moreover, misunderstandings can be better clarified and the subtext during the interview can be easier read in person (Vogl, 2013). To not lose these advantages, we conducted our interviews using the meeting platform Zoom. By having videocalls, we were still able to observe and react to facial expressions and gestures, hence creating a situation similar to face-to-face interviews (Bell et al., 2022). Nevertheless, we partly had an unstable internet connection during our interviews, thus the disadvantages of not conducting the interviews face-to-face could not be fully eliminated.

We started the interviews by presenting ourselves and our research question to reduce the initial distance (Mason, 2002). We only briefly mentioned our research interest leaving out our thoughts or findings in the literature to not bias the interviewees. This allowed them to address the topics that are relevant to them. We then assured the interviewees that all their answers will be treated confidentially and that their names and client / project information, if mentioned, will be anonymized. This was important to give them a sense of security and to allow them to talk openly about their experiences (Yin, 2009). We also obtained the approval of recording the interview to facilitate the transcription and be able to pay full attention to the interview (Bryman, 2016). After that, we started the main phase of the interview in which we were guided by our pre-defined main questions. Finally, we reserved time for the interviewees to ask their questions about the thesis, and our thoughts and opinions.

During the interviews, we divided our responsibilities in so far that one person guided the interview by asking the questions, focusing on the *whats* (see section 3.2.3) and the other focused on non-verbal expressions and observing the scene, focusing on the *hows* (see section 3.2.3). Thus, each interviewer only had to focus on one aspect which made it possible to capture most themes and social clues (Bryman, 2016).

3.2.3 Data Analysis

The recorded interviews were transcribed to have a basis for our analysis. We approached the analysis by applying Rennstam's and Wästerfors' (2018) process of sorting, reducing and arguing. In the analysis, we not only focused on the message and content the interviewees transferred – the *what's* of the interview (Gubrium & Holstein, 1997). As one of us always focused on the non-verbal expression, we also included noteworthy observations. Thus, we noted *how* the interviewee transferred their message, including pauses in flow of speech for thinking, speech pace, or emphasis on certain words (Gubrium & Holstein, 1997). This consideration of the *what's* and the *how's* enabled us to grasp the full range of the interview which allowed for a comprehensive interpretation (Gubrium & Holstein, 1997; Rennstam & Wästerfors, 2018).

The sorting as coding (Rennstam & Wästerfors, 2018) was done in two main steps. First, we began by reading the transcripts repeatedly. Hereby, we noticed reoccurring topics interviewees had mentioned. This first-order coding mainly extracted elements of the interviewee's answers and did not, yet, provide deep analytical findings (Bell et al., 2022). We conducted this first-order coding individually to allow for different thoughts and distinct codes. Thereafter, we presented and discussed our first-order codes. We moved to the second-order coding by comparing and consolidating our initial codes, and developing new codes through restructuring (Bell et al., 2022). Our analysis benefited from this two-step approach as we individually came up with different findings the other, sometimes, did not identify. When discussing our coding, we aimed to synthesize our different viewpoints, hence, we found ourselves in a productive dissonance (Schaefer, in press). We used the tool NVivo for our coding which allowed us to assign different codes to each interview, modify single codes, merge, or restructure them. Thus, it assisted our whole iterative coding process.

As we are not able to include all our findings into this master thesis, we had to reduce our data categorically (Rennstam & Wästerfors, 2018). In our discussion about which categories we should focus on, we stuck to our abductive approach. As Strauss and Corbin (1997) emphasize, prior knowledge, in our case from our undergraduate education, work experience and the current master program, is something researchers bring to their studies. Rather than denying this fact, we embraced it by recognizing our prior knowledge as something that enriches our analysis. However, we continuously endeavored to engage in open discussion with the material to allow for surprises. In the following, we present the codes that stand out most from our analysis and explain why we chose specific ones to be the subject of our analysis.

We roughly grouped our findings into three main-codes, namely ‘creativity definition’, ‘tie involvement during creativity process’ and ‘creativity mediating factors’. With the first main-code, we attempted to capture the various definitions of creativity each interviewee provided. The reason we did not include these codes as a main finding is that this topic is already highly researched. Furthermore, it does not contribute predominantly to our research question of how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase. Moreover, we used questions that led to these codes primarily to ease into our interviews.

Within the second main-code, we placed all indicators for how the creativity process at EMAN usually looks like. Hereby, it became apparent that there are more phases present than just idea generation and evaluation. Nevertheless, our definition of creativity does not include the implementation of an idea (innovation process) nor the problem definition (set by client) prior to idea generation. As a result, these sub-codes were excluded from our analysis as well. For both idea generation and evaluation, we added the sub-codes of tie strength (strong and weak) and the respective activities in which these ties were involved. Hereby we were faced by the challenge of clearly clustering the contacts and activities into either strong or weak ties. This implied a more nuanced view on tie strength and creativity which we did not encounter in the literature. Therefore, we decided to base our analysis on these findings.

The last main-code was titled ‘creativity mediating factors’. Hereby, we aimed to capture what factors might influence the decision to include different tie strengths in the creativity process, such as organizational culture, leadership or personality. Although this was of high interest to our initial research motivation, it became clear that the content of these sub-codes was exceeding the scope of our thesis. Consequently, we decided not to touch upon this matter during our analysis.

When arguing for our findings, we engage in discussion with the existing literature based on our empirical findings. To provide a comprehensible discussion, we follow the excerpt-commentary unit, each consisting of a standardized four-element-structure of analytical point, orientation, excerpt(s) and analytical comment (Emerson et al., 1995). This allows us to uncover specific phenomena while simultaneously interpreting them (Rennstam & Wästerfors, 2018).

3.3 Reflexivity and Methodological Limitations

Despite all careful choices of the methodology, it is not free of limitations. Therefore, authors call for more reflexivity, especially when it comes to qualitative research (e. g. Alvesson, 2003; Alvesson & Sköldbberg, 2018; Schaefer & Alvesson, 2020). According to Alvesson and Sköldbberg (2018), this reflexivity is a result of the interplay between carefully interpreting the data and reflection of the researcher. Firstly, one should not assume the findings to be representative for everything outside the research context. As this fact is an essential component of the interpretivist traditions, we are highly aware that our findings are not unrestrictedly transferable to other contexts. Secondly, Alvesson and Sköldbberg (2018) emphasize that working in a pair facilitated such a reflexivity. We found us continuously challenging the other's interpretations. With that we became aware of our blind spots which we probably would have not uncovered individually. Having a trustful relationship made it possible and easier to be very open in this regard. However, we need to respect the fact that we both grew up in the same country, which implies a more similar culture and upbringing. Hence, we cannot guarantee that no blind spots remained uncovered. Hence, we are also subject to the disadvantages and benefits of strong ties (friendship), both in our collaboration and in our own creativity.

Further, Schaefer and Alvesson (2020) request careful source critique. Especially intra source critique is described to be crucial when it comes to working with one source, as it is the case in our thesis. Before and during our interviews as well as in the coding process, we reflected on the specific background (position, experiences, etc.) of each interviewee. This enabled us to critically consider whether the participant might have hidden motives which made them engaging in 'corporate talk' (Schaefer & Alvesson, 2020). Additionally, we conducted the interviews sequentially. This in combination with insightful questions (Schaefer & Alvesson, 2020) provided us the opportunity to learn during the research project ourselves. This helped us "to get preliminary ideas and move ahead with emerging theory building but also to increase the chance of assessing the empirical material in terms of its value and meaning" (Schaefer & Alvesson, 2020, p. 41). Consequently, we were able to include two of Schaefer's and Alvesson's (2020) demands regarding intra source critique. However, due to the limited time frame and availability of the interviewees, we were not able to conduct repeated interviews in different contexts, which is their third component of intra source critique to check for time- and space-consistency.

Finally, it is important to note that interviewees might not be completely honest in their answers as they are afraid that the quotes used could be traced back to them with negative consequences

(Bell et al., 2022). Therefore, it was important to ensure anonymity (Yin, 2009) which we did various times during the interviews. Nevertheless, we cannot assure that this fully mitigates the above-mentioned risk.

Despite these formal limitations, we also need to reflect on practical issues. First, the time frame for our thesis was very limited. We narrowed down the topic and approached possible organizations in December 2022. However, due to the ongoing term with different courses, we were not able to fully focus on the thesis until mid-March 2023. A longer time span would have allowed us to dive even deeper into the existing literature, to conduct more interviews, and to add up on surprising findings which we only realized in the final coding. Secondly, we had some difficulties communicating with our research company. When meeting for the first time, we were assured that we would easily interview up to 15 employees. However, after our pitch, there were only ten employees volunteering from which only eight answered us in the further course to schedule an interview. Despite numerous emails, we were not able to schedule the two remaining interviews as we never received any answer. After the initial phase, it was also very challenging for us to keep in contact with Linda. Again, despite repeated requests, we have received no more responses and thus no more interviewees. As we conducted our research in a service area, the organization's focus is always on the client. Understandably, we did not have priority which meant that we were not able to conduct interviews to the intended extent. We tried to compensate this with stretching out the interview time as much as possible to get the most out of the interviews we conducted.

3.4 Chapter Summary

In this chapter, we elaborated why we chose qualitative research with its accompanying interpretivist view which proposes that reality is socially constructed. Additionally, drawing from symbolic interactionism, we believe that individuals continuously assign meaning to objects, actions, events, and negotiate their personal interpretations through social interactions. Employing an abductive approach, we considered existing theories and frameworks, while simultaneously challenging them with our own empirical findings. We presented our case, by introducing EMAN as a creative service division within THETA. Further, we described our data collection, which involved conducting eight semi-structured interviews. Additionally, we described our coding process and how we reduced the data, leading to a focus on the main-code 'tie involvement during creativity process'. Lastly, we highlighted our methodological limitations, thus underscoring the importance of maintaining reflexivity throughout our thesis.

4 Analysis

We now turn to the analysis of the empirical material by elaborating how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase. Based on our interviews, we subdivide the interviewee's relationships, they involve during their creativity process, into five different relationship-clusters according to their level of closeness. These five relationship-clusters could be stacked on top of each other, based on the comparison made by interviewees, to indicate a range from closest to loosest relationship. Moreover, our empirical findings provide evidence for the idea generation phase which they referred to as ideation. During this phase, contacts with whom interviewees had looser relationships were primarily sought out for inspiration. Nevertheless, this did not obviate the involvement of contacts with closer relationships, to gain a perspective from outside the work-context. Finally, the analysis of the idea evaluation phase, which was mainly the act of giving and receiving feedback, disclosed a pattern according to which contacts were selected and asked to provide feedback. Interviewees described a pre-selection assessing which of all contacts simultaneously has the knowledge needed for relevant feedback, and is covered by the same NDA. This leads to a pre-selected group of eligible feedback-givers, from which those with the strongest relationship are consulted first due to higher levels of sense of safety, honesty and accessibility.

To frame our findings it is noteworthy, that when talking about their overall creativity process, most interviewees described it as something generally collective. As Jasmin mentioned:

“The project is so huge, so, that it's not like a one-person task. It's impossible to do that”.

Olaf, working in different field, agreed:

“You never design a car alone. You can have some details, but you need to work in [a] group”.

Although some interviewees answered that they see creativity as something individual (e.g. Sven, Elsa, Kristof) the undertone of the interviews was that it is practically impossible to not include others.

In the following section, we first elaborate how these involved relationships constitute five different relationship-clusters in order to make the connection between these clusters and their involvement during the creativity process.

4.1 Closeness of Relationships

Based on how the interviewees described the closeness of their relationships in comparison to each other, we created a ranking of relationship-clusters from closest to loosest. From the five relationship-clusters, 'Family and Friends' is the closest, followed by 'Team', 'Colleagues from neighboring departments' and 'Clients'. Finally, the cluster 'Users' is the loosest. Figure 1 illustrates this ranking with the closest cluster on top.

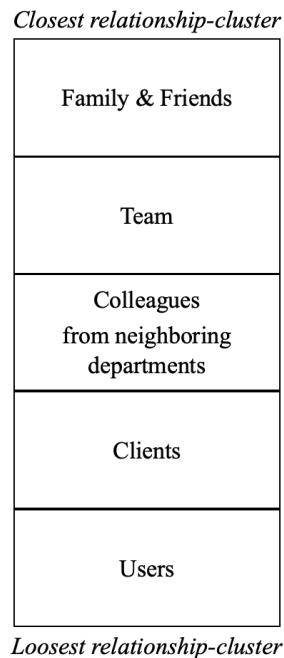


Figure 1: Ranking of relationship-clusters according to their perceived closeness
Own illustration

When comparing the relationships, most interviewees referred to three factors as points of reference, namely the frequency of interaction, the length of the relationship and the emotional attachment.

Olaf mentioned the “*routine*” he has with his friends and family indicating a certain frequency of interaction. Kristof, when talking about his client-relationship, adds:

“[Y]ou don't talk about life [with your clients]. So, you're not as close to them personally.”

This indicates a certain sense of emotional involvement in the other person's life, namely the clients' life. Lastly, especially when talking about the closeness to clients the length of projects was always mentioned. As Anna stated:

"[T]he clients, we have a close relationship with [...]. The project has been going on for 11 years."

This depicts how the length of a relationship also serves as point of reference when describing a relationship. How the closeness of each relationship-cluster is described is elaborated on below.

'Users'

Despite the partly regular interaction, the relationship with the users was considered as the loosest of all that were mentioned. Their role in the creativity process, as Hans mentioned, is to "validate" the assumptions made by EMAN's employees. Anna highlighted this in the following quote:

"Because we don't talk to the same users too often. So, we try to get a lot of voices when we do our research so we don't steer the product's, you know, direction".

Therefore, although the relationship-cluster 'Users' is often present in the work of some interviewees, it is only a "short term" (Anna) relationship as the aim is to receive a diverse insight from many and not just one user.

'Clients'

When it comes to 'Clients', two different levels of closeness can be identified. Most of the interviewees work on a project-basis with the client and do not reside at the client's site. Kristof described his relationship to the clients in this situation as follows:

"My client is very much my client. And I don't sit with them, you don't talk about life. So, you're not as close to them personally".

Due to the project-related cooperation with the same client, these relationships are closer than those with 'User', but still not of long duration or of high personal attachment and therefore still on the looser end of the relationship-cluster-ranking.

However, for those who work at the client's site, the relationship is closer. Elsa described her experience:

"I try to be part of the team rather than being an external. But in the same time, I try to position myself as an outsider [...]."

It is the geographical closeness and the involvement in the client's daily work that creates this frequent and close interactions. Consequently, even within the 'Client'-cluster there are variations regarding the perceived relationship-closeness. Those who stay on-site with the client have a closer relationship to them than those who stay off-site.

'Colleagues from neighboring departments'

Although there are frequent interactions with 'Clients', interviewees still considered themselves somewhat closer to their colleagues from neighboring departments on a personal level. Hans explained his reasoning:

"[At] the end of the day, they [client] can terminate my contract whenever they feel they need to."

He continued that although he values the connection with the clients, *"the ones here at [EMAN] are more long-term and more profound"*. This also highlights the higher emotional and interpersonal relationship.

'Team'

Notwithstanding the absence of regular collaboration on projects, internal relationships and especially those within the team are on an even higher interpersonal level. Elsa described how those relationships are also maintained outside working hours:

"[T]he team lead and manager [...] try to do after work times to just have lunch together."

This indicates that beyond the work hours, team members make an effort to establish and maintain personal relationships, leading to more closeness. It is noteworthy that those interviewees who work with their EMAN team on a project have an even closer relationship with their team members than those who work individually with the client. Thus, as in the 'Client'-cluster, there are also different degrees of closeness in the 'Team'-cluster.

'Family and Friends'

Some interviewees stated that they include their friends and family in their creativity process and imply that this is the closest relationship to them. Olaf explained that he consults his friends and family “[b]ecause they are closer.” Thus, in comparison to the other relationships mentioned, this relationship is considered to be the closest. When referring to his relationships with friends, Sven elaborated:

“I have a few very close friends. And then I have a whole bunch of people that are my like wide friends, people I get along with”.

This indicates that also within the closest relationships-cluster there are nuances in closeness.

After our presentation of the different relationship-clusters and their ranking in closeness (see Figure 1), we elaborate in the following sections how and why these different relationship-clusters come into play during the phases of idea generation and idea evaluation.

4.2 Idea Generation

The way interviewees draw inspiration to generate a new idea is very different. In the following, six different approaches are depicted. We begin with ideation from mind wandering, which is succeeded by inspiration from research. It follows the elaboration on inspiration from ‘Colleagues from neighboring departments’ and ‘Team’. This section ceases with the inspiration from ‘Family and Friends’.

Idea generation through mind wandering

Multiple interviewees mentioned that sometimes ideas would just pop up in their head without conscious effort or involvement of others. This unconscious idea generation happens when they let their mind wander. In order to get the mind to actively roam freely they “take a break”, as Elsa described. Sven called this his “waiting” during which he “go[es] into nature” and is “not focusing on the problem”. Others, like Suze, described this active process of taking a break as “clean[ing] the brain.” For that, Suze reverts to pursuing her hobbies:

“Maybe after work we're going for the long bike ride, observing the landscape would also help me to just clear off everything and find a solution.”

With this approach, they actively get their mind to wander aiming for sudden epiphanies coming from the unconscious. However, those sudden epiphanies can also appear randomly without purposefully engaging in mind wandering. Jasmin described this as follows:

“[W]hen you just take a walk around somewhere, walk in the city when you take a shower, cooking something and then they [ideas] just come to you.”

In those situations, the mind is occupied with something else and thus not focusing on the problem the person is trying to solve. It seems that in these moments the interviewees suddenly ‘find’ their solutions. Consequently, when generating ideas in this way, it can be summarized as a more individual process in which the respective person tries to get or just has a sudden epiphany for a novel idea. Thus, they do not consult any relationships which are asked to support this process.

Inspiration from research

An important part of the idea generation was referred to as research. In the words of Elsa:

“Sometimes it is [a] simple keyword research, opening Google, images to get some visual inspiration. At the moment, it's really reading reports, reading trends, doing background discovery research on the company that I work with to get that sort of inspiration.”

For many, the internet provides a crucial source of inspiration, as it is “*the quickest source*” (Kristof). Common platforms are “*Google, [...] YouTube, video platforms. And social media*” (Jasmin). However, not all mainly turn to the internet to find inspiration. Suze elaborated:

“[M]y default source of creativity and my inspiration is always art. So, I would go to the museums and that's some kind of magic that I feel.”

Similar to her, Kristof described how he finds inspiration from more “tangible things”:

“I would like to go out and see real things, go to a furniture fare, [and] go to a material library”.

In contrast to mind wandering, the interviewees do not distract themselves with off-topic activities. Instead, they choose to engage in topic-related activities to confront themselves with problem-oriented stimuli. As these quotes state, this kind of inspiration is an individual activity.

Instead of involving others, the interviewees go out into the field (online or analogue) to become inspired. Even if they are stimulated by other people's ideas, products, art, etc., they do not actively interact with the creators of these, hence not making it a collective process. However, regardless of how helpful research seems to be for inspiration, there remain things that are not searchable, as exemplified by Olaf's quote:

"It's interesting because some things you can do research and just get the answer in the time. But a lot of things [...] you just do with the experience."

He described this experience as coming from his colleagues. Thus, there are limits to this form of inspiration, as not everything can be learned / found by research but must be experienced for oneself or in interaction with others, as we elaborate now.

Inspiration from 'Users'

Some interviewees approach idea generation by taking inspiration from opinions of users. Anna explained her reasoning behind that:

"Because... [then] I get to understand more what they need; not just a wish list, but what the problems is that they want to solve [...], and [...] what issues they face."

Hans agreed that involving users "can also [bring] about [a] deeper understanding about some problem." Subsequently, the user's experience can both serve as a starting point for what the problem is, and, as Anna stated, inspire the developers to create a solution that solves these exact problems and makes the user's experience an even better one. This inclusion of what was previously described as the loosest relationship (section 4.1) thus, supports the acquisition of diverse knowledge and experience, namely the user's view. This knowledge could be more difficult to acquire from other relationships, as they might lack the experience as end users of the products or might be too close or involved in the topic to give an unsolicited opinion. Thus, the interviewees need to reach out to these loosest relationships to get the desired user perspective.

Inspiration from 'Colleagues of neighboring departments'

Due to the fact that different perspectives from one's own are needed, people who do not belong to the own team are also involved in the idea generation. Our interviewees mentioned that it is the diversity in thinking that makes their results more creative. Interestingly, these different

perspectives seem to come from those around them, that they do not work together with on a regular basis. Hans explained:

“It is good to bring in also some people that you might not work daily with, but they have a bit of an open mind.”

This often includes people from other sections. Suze described her approach:

“I am forcing myself to meet people who are doing different things [...], to listen and learn from people who are [...] doing different stuff [...].”

Kristof further explained that these different sections allow for insights that might even be *“more user-focused [...] [or] very feasible.”* Apart from a more practical solution, the involvement of people from different backgrounds leads to a lower risk of being stuck in the same way of thinking as it provides another perspective than one is used to. Suze elucidated:

“It's so nice to hear these opinions, because you can be so easily brainwashed by your own designer-friends [...] [because] you admire the same things.”

Subsequently, differences in ways of thinking stemming from different backgrounds allow for opening one's mind and, thus potentially more creative ideas to arise. However, due to the given context of NDAs it is often purely for inspiration rather than finding concrete solutions to the problem at hand.

Inspiration from 'Team'

Another way of getting inspired is to take advantage of the experience and knowledge about the subject matter which is often provided by those that work closer with oneself. Although most of the interviewees primarily work with their clients on a daily basis and often sit at the client's workspace, their EMAN team remain an important source of inspiration. Anna highlighted that connection as follows:

“It's also talking to colleagues, get inspired by other projects, see if they have come up with solutions to problems that are similar. Or if they have nice design solutions.”

As with involving 'Colleagues from neighboring departments', NDAs limit the sample group of who can be consulted for getting inspired. Still, team members are involved to benefit from

their experience with similar projects or the same client without talking about the specifics of the project. Further this collaboration provides especially professional experience and knowledge which is beneficial to come up with ideas that are feasible and meet comprehensive (design) specifications.

Inspiration from 'Family and Friends'

Finally, despite the fact that NDAs are often used with clients, some interviewees still revert to asking friends and family for inspiration because they aim to get work-unrelated viewpoints. As Kristof put it:

"Sometimes it's healthy to talk to people outside your working circle. Somebody with a fresh perspective."

This indicates that sometimes, it is important to step outside the accustomed environment to be confronted with new insights. It was specified that this "[c]ould come from friends" (Jasmin) or "even your family" (Olaf). The reason that they are preferably consulted is twofold. First, they are more accessible. Olaf explained:

"Because they are easier to talk [to]. [...] Because we have the routine, you have dinner and you get the ideas with them."

However, for Sven it is the trust that is the deciding factor:

"I might also consult them [friends] if it's a general question. Because I trust them a lot because we're close."

In this way, friends and family members become a source of inspiration. The interviewees mentioned that they would sometimes gain surprisingly simple solutions to specific problems (Ula) or user-oriented inspiration from talking to friends and family (Olaf). Hence, also the closest relationships provide diverging perspectives, especially when they are from another profession or work field. The prevailing trust and accessibility facilitate the involvement of these relationships.

Leaving out 'Clients' in idea generation

It is to note that the interviewees did not mention to seek inspiration from their clients. This is due to the nature of their work-relationship in which our interviewees are employed to come up with the creative ideas and provide inspiration themselves. This was depicted by Elsa:

“I feel I need to [...] bring inspiration to them. Rather than relying on to them being up to date with what's happening because they don't really have time to do that”.

As this overview shows, it was not possible to identify one relationship-cluster that is exclusively involved in idea generation. Further, interviewees highlighted that they combine various approaches. The main need during this phase of the creativity process is to get a broader view of the problem and benefit from different perspectives. That is why approaches range from involving no one (mind wandering or research) to looser relationships (‘Users’ or ‘Colleagues from neighboring departments’) to closer relationships (‘Team’, ‘Family and Friends’). However, all interviewees referred to involving no one or looser relationships, while only fewer reported to involve closer relationships. Further, involving looser relationships (‘Users’ and ‘Colleagues from neighboring departments’) was always the first thing interviewees mentioned when talking about sources of inspiration. This was explained with looser relationships being more likely to provide more diverse knowledge and, thus, fulfill the prevailing need in idea generation. Accessibility and trust led to ‘Family and Friends’ being involved when it comes to inspiration outside the work-environment.

4.3 Idea Evaluation

After the interviewees came up with an idea, they mentioned getting feedback from various people to develop their idea towards its final implementation. Hence, apparently feedback is an important activity of idea evaluation which we discuss in the following.

4.3.1 Involving Others

While the idea generation is considered to entail both individual and collective activities, the further development of an idea is unanimously perceived as a collective effort. The main reason for this is, just as in the prior phase, to get different perspectives on the subject matter. This was highlighted by Ula:

“At work we are big teams. So, we never do things by ourselves. [...] [D]iverse opinions and mindsets, they really facilitate your creativity processes.”

The collectiveness was often not even stated directly by the interviewees. However, when referring to further developing ideas, they used vocabulary (especially the pronoun ‘we’) which highlights the involvement of others. As Sven put it:

“We cannot just pick something. We have to polish it.”

This also underscores that it is a necessity to include others. Hence, working on an idea is not carried out independently, but in interaction with others. Despite that, some interviewee’s perception of creativity remains as something generally individual. Hans, for example, considers “[t]he act of being creative, [as] very individual.” Yet, he continuously used the pronoun ‘we’ when describing actions of his idea evaluation. This displays how this collective activity often happens naturally and not necessarily with a conscious decision for involving others.

Despite the positive effect of diverse perspectives on the ideas’ quality, interviewees also acknowledged potential conflicts that might arise from contrasting views, thus threatening own preferences and pride. The latter was emphasized by Elsa:

“The creative process is painful and it's not easy [because] we are different.”

However, this disagreement is not necessarily perceived as something unfavorable, but rather as something that naturally arises and that one should be open towards. Jasmin elucidated that:

“You don’t need to agree with everyone all the time” because “think[ing] about those opinions that you don't like help[s] you.”

This demonstrates that the interviewees can engage in the discourse arising from diverse perspectives when being “open to feedback [and] set[ting] away your pride” (Anna). Thus, not trying to convulsively stick to one’s own opinion and idea, and not trying to find only one ‘right’ solution, increases the quality of ideas. Therefore, open-mindedness and humbleness are crucial prerequisites for actors when receiving feedback.

4.3.2 Pre-Selection of Feedback-Givers

As we have elaborated, the feedback process is a collective effort. However, our interviewees have many relationships which, in theory, could be asked for feedback. We found two important criteria that constitute a pre-selection narrowing down the sample of eligible feedback-givers, namely a knowledge and NDA coverage.

As people seek feedback mainly because they want to gain various perspectives, the first criterion for deciding who to consult is the knowledge others have about the subject matter. Our interviewees mentioned:

“I can choose who I want to get feedback from. And I often choose the one that I think has the greatest knowledge about the particular project.” (Anna)

“I usually try to go to someone with longer experience than me.” (Sven)

What emerges from this is that the closeness of relationships is secondary to knowledge and experience when seeking feedback. Thus, people assess the expertise of the whole range of their close and loose relationships in the respective area. The relationship *“doesn't really matter at that point”* (Jasmin). Hence, the assessment of the knowledge acts as one of the two pre-selection criteria determining the sample group that is considered to potentially provide feedback.

However, despite the general relationship-independence of this pre-selection, we found that different relationship-clusters are more likely to be knowledgeable in different contexts. When it is required to get precise, professional feedback, our interviewees mainly referred to consulting their team. This was elaborated by Jasmin:

“The feedback that I got from my own small team [...] is really relevant to what I ask for. [...] [B]ecause they understand the whole context of the work. But the feedback from [...] the people with the looser relationship they're less relevant because they may not know the whole picture [...].”

Unlike looser relationships, team members are more informed about what the others are working with, and what the other's previous approaches have been to solve a problem due to their regular, sometimes even daily interaction. Further, they usually work with the same, or at least a related project, thus they have the required knowledge and experience to provide professional feedback.

On the other hand, when asking for more general feedback, e. g. about the overarching impression or usability of the idea, especially 'Clients' or 'Users' are contacted. Kristof illustrated:

“I ask the client to know whether or not they like it aesthetically, or if it's the direction they want to go, does it fit your brand right?”

Thus, it must be acknowledged that 'Clients' or 'Users' are of particular value because of their distance from the processes and their broader view. Therefore, depending on the feedback

needed (professional or general), the assessment of knowledge may lead to certain relationship-clusters being more likely to be consulted as they tend to have that required knowledge.

The second important criterion that further restricts the selection of contacts is the existence of NDAs between EMAN and its clients. This leads to the situation that Sven reported:

“I cannot pick whoever I want.”

Elsa and Jasmin elucidated the effects this has on who they ask for feedback:

“[U]nfortunately you can't [talk to whoever you want] if it's a secret project. Then you have to reach out more to the client's side [...].” (Elsa)

“I cannot talk to my friends, but I have to talk with my own team because they [are also] confidential.” (Jasmin)

The NDAs coverage presents the pre-selection criterion of who people are legally allowed to consult for feedback. Elsa's emphasis of the word ‘*unfortunately*’ displayed that this is sometimes perceived as limiting and may exclude those who would have been their primary feedback-givers. Subsequently, the NDA coverage act as the second pre-selection criterion narrowing down the amount of potential feedback-givers. Yet again, the consideration of the relationship's closeness is secondary to this selection.

What follows is a pre-selected group of relationships that are simultaneously knowledgeable and covered by the same NDA. All those relationships who do not fulfil either one or both criteria, are considered as unqualified to provide feedback in the respective situation. As the closeness in relationships is not considered during these selections, it is possible that either representatives of all relationship-clusters can be found in this selected group of people, or whole categories are excluded through this pre-selection.

4.3.3 Reasons for Involving Close(r) Relationships

After having identified who is eligible to provide feedback, we recognized a pattern, that especially close(r) relationships were asked first. This stands in contrast to the main involvement of loose(r) relationships during idea generation (section 4.2). When speaking about his main feedback source, Sven answered:

“I would say my friends or my closests. [...] We do consult each other a lot.”

In his statement, he highly emphasized the words ‘a lot’, highlighting the frequency of such consultations. Suze agreed:

“[D]uring the development, I would say... These are the people I have close relationship[s] with.”

This pattern was found in all interviews. Subsequently, people that the interviewees feel close(st) to, were asked first to provide feedback on an idea. This is further underscored by the fact that most interviewees mentioned these feedback sources first when we asked who they involve when working on an idea.

We identified three main reasons for this strong emphasis of close(r) relationships, namely psychological safety, honesty, and accessibility. Each is elaborated upon in the following paragraphs.

Firstly, close(r) relationships provide a higher sense of safety which lowers the restraint to ask other people for feedback, or to share one’s own ideas and doubts. This was illustrated by Sven:

“[I]t's [asking friends for feedback] because I know they will respond friendly when I approach them. And I also know that they will not [...] say I'm stupid for having these questions.”

This implies something like a barrier that hinders people from approaching others to discuss their uncertainties and to ask for feedback. In the case of close(r) relationships, the actors know each other on a more personal level which makes them more accustomed to each other. Based on that, they feel safer, as they are able to estimate responses in so far that they will be met on eye-level and can engage in a constructive discourse.

This safety is not (as) present in weaker relationships. In those, the interviewees reported to feel more insecure which is described by Kristof:

“It can be quite intimidating to talk to somebody who you don't know very well. And then the more you get to know them, the more you're like ‘I think I could ask you this question.’”

Hereby, it is emphasized that the process of getting closer to each other lessens the restraint of approaching others which makes it more likely to ask for feedback. Consequently, there is a

higher sense of safety and trust amongst close(r) relationships which makes it easier to approach them for feedback.

Secondly, the trust and sense of safety present in close(r) relationships cause actors to be more honest when providing feedback. Anna highlighted this in her interview:

“I have a few that I'm close to [the team]. We feel comfortable with each other, so we can give honest critique. [...] And it's also easier [...], because they know that I don't take this personal [...]. Like ‘The product should be good. Just give it to me. Honest. Straightforward. Not sugar coated.’”

It becomes clear that a close and trustful relationship makes it easier for people to share their honest opinion. As the excerpt from Anna’s interview showcases, this seems to be especially the case when working with team members, where a professional attitude (appreciating the need for controversial and honest feedback for a high-quality end-product) is highly emphasized. Honesty is eminently relevant when feedback from a different viewpoint is given due to the potential disagreement. As the person seeking feedback requires sincerity, they tend to reach out to close(r) relationships, expecting a higher likeliness of this very sincerity.

However, we found that the closest relationships bear the risk of conformity stemming from trying to avoid hurting the other’s feelings. The interviewees elaborated:

“[M]y mom since forever, she would never say that something looks bad.”
(Suze)

“With close friends, I have to make sure we are still good friends after. And also I might know that some topics are sensitive to them. So, I might [...] try to not step on their feet and say more what they wanna hear.” (Sven)

This showcases that those within the closest relationship-cluster might “*make you less direct*” (Hans). In those relationships, people are more aware of each other’s weak spots and care about their emotions. Thus, people might tend to be less direct and give answers they assume the person seeking for feedback wants to hear. This is of disadvantage to developing an idea, as no new insights are gained and the previously mentioned need for diverse opinion is not fulfilled. Therefore, having an extremely close relationship could also impede the feedback.

When it comes to loose(r) relationships, people tend to be less honest and less willing to share knowledge gaps. Such potential issues, e. g. with colleagues from neighboring departments, were illustrated by Anna:

“I think that [...] [t]hey try to be as honest as possible, but sometimes they don't really have the knowledge necessary to give an honest answer. And instead of saying it, they try to hide it. [...] That's a problem.”

As the quote shows, in looser relationships, there is less trust and sense of safety which makes people less willing to share their uncertainties or knowledge gaps. This might lead to the situation in which they want to give genuine feedback on the idea itself but are unwilling to admit that they lack knowledge which makes an honest feedback very unlikely.

The final reason we found for why close(r) relationships are asked first for feedback, is their accessibility. This argument consists of two parts. To start with, close(r) relationships are more present, hence accessible to be asked for feedback. Elsa described this as follows:

“We meet twice a week. We are not required to attend, but anyone who needs help can attend those meetings or someone who just wants to attend. And usually most of my team members try to attend. [...] [I]t's the time for sharing and it's the time where you could actually raise a question.”

What is highlighted is that especially the regularity of these interactions results in a higher accessibility of the contacts which makes it easier to ask them for feedback. Further, the excerpt emphasizes that within the team, colleagues actively create this environment of being accessible by attending these meetings voluntarily. However, one needs to acknowledge that this openness and making oneself accessible is something highly ingrained in EMAN's and the team's culture which were described as “*quite friendly and open*” (Elsa). Hence, this accessibility might be particularly high at EMAN due to the prevailing culture.

In addition, it is also more likely to have informal interactions with close(r) relationships in which unsolicited feedback is provided. When speaking about working with her team, Suze stated that she often receives feedback from “*people passing by your desk. [...] [It's the] natural feedback you get from crossing by*”. This can, again, be related to the openness of the organizational culture and the regularity in which teams interact with each other. Further, as

most teams also work physically closely together, those spontaneous interactions in which feedback is given are more likely to occur. Those (informal) interactions are less likely with physically distant people, such as with colleagues from other departments.

The accessibility of relationships also encourages people to look for feedback also beyond the work environment. Hans emphasized this when explaining why his partner is a steady feedback source:

“[It’s] because [...] she’s the one nearest to me. So, we would often be together [...]. If others were also that much around, it would maybe be another one to talk to.”

It becomes clear that in this case, not the closeness of the relationship itself is the decisive factor determining that these close(r) relationships are asked for feedback. Instead, it is solely the frequency of interaction, which is generally higher in close(r) relationships.

4.3.4 Moving from Close(r) to Loose(r) Relationships

The previous sections elaborated how a sense of safety, honesty and accessibility explain why close(r) relationships are preferably chosen to be involved in the feedback process. From this, we identified a pattern according to which the relationships are asked for feedback in the idea evaluation phase. In the first step, people consult their closest relationship who is both knowledgeable and covered by the same NDA. When this feedback is not sufficient, or more feedback is required, the actors move down to the next looser relationship-cluster, such as neighboring departments or ‘Clients’. One illustrative situation was presented by Jasmin:

“[W]hen we [the close team] cannot settle that discussion within four of us, we have to take it to the bigger team [...] to help making the decision as well as to get some opinions from them.”

This delineates that looser relationships are considered for giving additional feedback when closer relationships (e. g. ‘Team’) cannot reach a synthesis or requires further opinions.

Jasmin further elaborated that she also involves looser relationships when having found a synthesis in the team, but requiring final feedback and approval:

“[W]hen we think we got the best idea, we talk to the people within the design lead [outside our team]. If everything goes right, then we pitch the idea to the client.”

The design lead was described as a looser relationship than the small team, Jasmin usually works in. The client represents the loosest relationship in this example. After having had feedback sessions with the closest eligible relationship-cluster (the team), further feedback is required to deliver the idea to the client. Hence, looser relationships (design lead) have to be consulted. Thus, another perspective is taken into consideration. After having reached a synthesis and approval for the idea on this level, another step towards even looser relationships (the client) is taken. These have to give the final feedback and ultimate approval.

Thus, after having assessed who is an eligible feedback-giver (section 4.3.2), the involvement of different people depends on the closeness of one's relationship with them. Hereby, one gradually moves from the closest to the weakest eligible relationship-cluster.

4.4 Chapter Summary

To briefly summarize, our empirical findings presented us evidence regarding varieties in closeness of relationships and involvement of contacts with different relationship strengths during the two phase, idea generation and idea evaluation. From the interviews we derived five relationship-clusters, namely 'Family and Friends', 'Team' 'Colleagues from neighboring departments', 'Clients' and 'Users'. Through comparison, these relationship-clusters were stacked on top of each other, implying a ranking from closest to loosest relationship.

With this finding, the idea generation phase was analyzed. Hereby, we established that people either consult no ties for coming up with an idea, or turn to almost all relationship-clusters for inspiration, although the clusters predominantly sought out are 'Colleagues from neighboring departments' or 'Users'. Reason for this collective approach is namely the need for diverse knowledge, views, or ways of thinking, which was found to be highest in the two mentioned relationship-clusters.

Lastly, the analysis of the idea evaluation phase indicates a pre-selection process independent of closeness in relationships which narrows down the group of potential feedback-givers. Hereby, the criteria for pre-selection are knowledge, and NDA coverage. Once the group of eligible feedback-givers was determined, all interviewees first sought feedback from the closest relationship within that sample group. Reasons for that are higher levels in sense of safety, accessibility, and honesty. If the feedback is not sufficient, interviewees reported to move down

to the next closest relationship-cluster within the pre-selected group of eligible feedback-givers to receive additional feedback.

5 Discussion

To develop a deeper understanding of the empirical material we examined above, we discuss our results in this chapter within the framework of our research question of how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase. Hereby, we refer to our literature review and evaluate how our findings correspond to established concepts.

We first outline how the closeness of relationships represents a gradient of different tie strengths moving from the strongest to the weakest tie (section 5.1). Hereby, the current division into strong, weak, and intermediate ties is not sufficient to classify the allot relationship-clusters on the tie-gradient. Instead, an allocation on the tie-gradient can only be done by comparing the individual relationship-clusters to each other.

Following this, we discuss how especially no ties or weak(er) ties are of importance in idea generation, whereby the latter provide the most diverse perspectives (section 5.2). However, we found that to some extent ties of all strengths play a role during this phase.

Finally, we discuss our findings concerning idea evaluation (section 5.3). We elaborate on how the need for diverse perspectives is also predominant in this phase which explains the collective nature of idea evaluation. The identified pre-selection criteria of knowledge and NDA coverage, which determine the sample group of eligible feedback-givers, is presented. Individuals seeking feedback use this group as a baseline and turn first to the strongest eligible tie. When additional feedback is required, they gradually move down the tie-gradient towards weak(er) ties. As reasons for this, we identified the factors psychological safety, honesty and accessibility which are more pronounced in strong(er) ties.

5.1 Tie-Gradient

From our empirical findings we were able to derive how the interviewees view their various relationships in comparison to each other. Thus, in Figure 1 (section 4.1) we stacked the different relationship-clusters ‘Family and Friends’, ‘Team’, ‘Colleagues from neighboring departments’, ‘Clients’ and ‘Users’ on top of each other. This indicates a ranking from the closest to the loosest relationship as it was described in the interviews. The closeness of relationships alludes to what Granovetter (1973) describes as tie strength which constitutes of the three factors frequency of interaction, length of that relationship and emotional attachment. Our interviews confirmed the relevance of those factors when defining the closeness of a relationship, hence the strength of a tie. However, we discovered that the strength of a tie does not always entail all three factors being at the same level. For example, we found that in a

closer relationship one can have less frequent interactions over a long period of time with high emotional attachment. Thus, similar to a DJ's mix table, the three deciding factors can be described as levelers that each indicate the expression of one respective factor (see Figure 2). Together, they make out the strength of a tie.

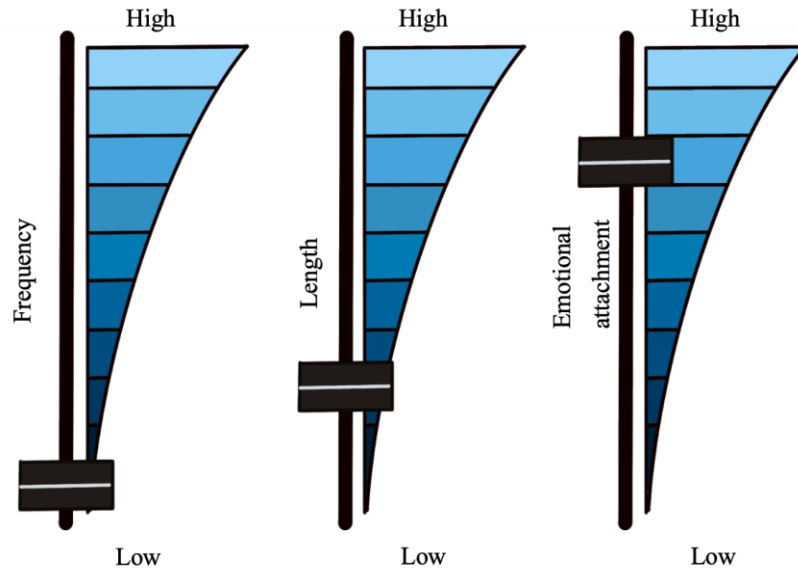


Figure 2: *Frequency, length, and emotional attachment as levelers on a DJ mix-table*

Own illustration

If all three levelers are at their highest, the tie is the strongest, as in our cluster of ‘Family and Friends’. If all three levelers are at their lowest, the tie is considered the weakest, namely ‘Users’ in our context. However, the three clusters ‘Team’, ‘Colleagues from neighboring departments’ and ‘Clients’ are neither the strongest nor the weakest ties. Here, the levelers are somewhere between the highest and lowest amplitude. The possible varieties in amplitude of all levelers indicate a plethora of tie strengths between the two maxima. We, thus, agree with Granovetter (1973) and other scholars (e. g. Zhou et al., 2009; Perry-Smith & Mannucci, 2017) that tie strength is a continuum ranging from strongest to weakest tie. However, we cannot agree with grouping family members, close friends, and coworkers under the umbrella-term strong ties (e. g. Granovetter, 1973; Granovetter, 1983; Perry-Smith & Shalley, 2003; Perry-Smith & Mannucci, 2017), and acquaintances, former colleagues, or online connections under weak ties (e. g. Granovetter, 1983; Perry-Smith & Shalley, 2003; Perry-Smith & Mannucci, 2015). Instead, we found that there are differences in the closeness of the relationship between them, thus constituting multiple relationship-clusters. Therefore, those clusters cannot only be found at the two ends of the tie-continuum but are distributed along it. Although authors (e. g. Granovetter, 1973; Shalley & Gilson, 2004; Perry-Smith & Mannucci, 2015; Perry-Smith &

Mannucci, 2017) postulate tie strength as being a continuum, there is, nevertheless, no uniform solution on how to allocate a tie on the continuum based on the amplitude of each leveler.

Due to that, we were only able to place the three remaining relationship-clusters along the tie-continuum by having the interviewee’s detailed description of how strong or weak they assess each tie compared to one another. Since the assessment of tie strength is highly individual, just like the construction of reality, there may be differences in perceived tie strength within each relationship-cluster. To exemplify, for some, the tie to a friend might be as close as to family members, while for others, friends might be slightly weaker in tie strength insinuating potential nuances within the relationship-cluster. This underscores the view of tie strength being a continuum (e. g. Granovetter, 1973; Shalley & Gilson, 2004; Perry-Smith & Mannucci, 2015; Perry-Smith & Mannucci, 2017).

Subsequently, we decided to assign each relationship-clusters a span on the tie continuum, instead of pinpointing each single tie to a specific position. Thereby, we encompass all slight deviations in tie strength in each relationship-cluster. We have to recognize, however, that these clusters only display a rough categorization of different ties. For illustrating that, we conceptualized a tie-gradient (see Figure 3). Hereby, we extend the ranking of relationship-clusters (see Figure 1) by placing a tie continuum (color-gradient rectangle) next to it. It clarifies where the different relationship-clusters are allocated regarding their tie strength. In our illustration, we use a color gradient to visualize the blending of categories and their blurry boundaries.

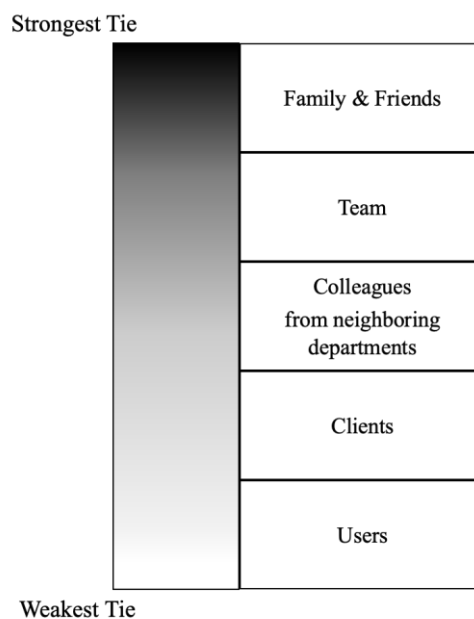


Figure 3: Tie-gradient
Own illustration

This tie-gradient represents a more differentiated perspective on ties calling for more in-depth research. As our findings show that without a uniform solution on how to allocate a tie on the continuum, ties can only be mapped on the continuum through comparison to each other. For example, one can only allot a friend on the tie-gradient by having indicators that in direct comparison a family member is considered to be a stronger tie, while a colleague is considered to be a weaker tie. This calls for future research to find out whether a clear allocation on the tie continuum can be made, e. g. by the amplitude of Granovetter's (1973) three characterizing factors, or whether a clear allocation will continue to be possible only by comparison, since the classification of tie strength is subjective.

When researching the effects of tie strength on creativity, scholars tend to stick to categorizing ties into strong, weak, or intermediate, despite acknowledging the continuum depicted in Figure 3 (e. g. Shalley et al., 2004; Kijkuit & van den Ende, 2007; Zhou et al., 2009; Rost, 2011; Perry-Smith & Mannucci, 2017). We challenge this oversimplified categorization. From our findings it is evident that a more detailed gradation into multiple relationship-clusters is possible. Henceforth, people of all relationship-clusters scattered across the whole tie-gradient (not only strongest and weakest ties), might come into play during different phases of the creativity process. Thus, we move away from a more static perception to a more fluid one.

Applying the tie-gradient on the creativity process has implications for how and why different tie strengths come into play during the idea generation and idea evaluation phase. How this tie-gradient and the five tie-clusters come into play during those phases is elucidated in the following sections.

5.2 Idea Generation

When talking about generating an idea, our interviewees mentioned the importance of inspiration. In this section, we elaborate on how we merged different conceptions of the current literature on idea generation. We found that this phase is both individual and unconscious (section 5.2.1), but also collective and conscious (section 5.2.2). Finally, in line with Perry-Smith and Mannucci (2017) we derived that mainly those ties on the weaker end of the tie-gradient are sought out to inspire due to their diverging perspectives and ways of thinking.

5.2.1 Idea Generation without Tie Involvement

Several interviewees described that they would have sudden epiphanies from the unconscious which provides them with a suddenly generated idea without involving anyone. In consensus

with Wallas' (1926) incubation phase, it was stated that occupying the mind in other ways facilitates these epiphanies. The interviewees explained that most often ideas would appear in their mind when they were not cognitively active, e. g. while showering, taking a walk or being in nature. This supports Wallas' (1926) statement that taking a break would trigger these "instantaneous [and unexpected] 'flash[s]'" (Wallas, 1926, pp. 93-94). This part of idea generation is an unconscious and individual process without any tie being involved.

Moreover, researching about clients, trends or just seeking illustrative inspiration from images and videos was said to be an important part of most interviewees' idea generation. Many authors (e.g. Wallas, 1926; Osborn, 1963; Amabile et al., 1996) define these activities as a conscious process and as crucial for coming up with an idea. Our findings support this view. This activity of studying prior work alludes that there are, again, no ties involved.

5.2.2 Idea Generation with the Involvement of Weak(er) and Strong(er) Ties

The findings from our research further indicate that tie strengths from across the whole tie-gradient are involved during idea generation to gain different viewpoints. This is in accordance with what Basadur (1994) refers to as divergent thinking. Although most authors (e. g. Granovetter, 1983; Ibarra & Andrews, 1993; Hinds et al., 2000; Kossinets & Watts, 2009) argue that during the idea generation phase weak ties are more beneficial for divergent thinking, we found that contacts of various tie strengths are involved.

Notwithstanding, our findings are more in favor of the WTC, as interviewees mainly reverted to consulting those around them allocated on the lower end of the tie-gradient, namely colleagues from other departments or 'Users', to gain that new insight. Therefore, we can, to a certain extent, support Perry-Smith's and Mannucci's (2017) postulation of weak ties being more relevant during idea generation. As literature suggests, idea generation is dependent on the exchange of new knowledge (Amabile, 1988) which is mainly facilitated through weak ties (Granovetter, 1973). The risk of being stuck in the same ways of thinking, mentioned by one interviewee, contributes to the argument that strong ties often share a similar mindset, and redundant knowledge (Granovetter, 1973; Perry-Smith & Mannucci, 2015). This disadvantage is a reason for involving weaker ties when seeking inspiration.

Interestingly, strong(er) ties ('Team', 'Family and Friends') were also consulted for inspiration, with 'Family and Friends' being asked more frequently among these two clusters. This finding is, thus, more in accordance with the STC. We found that they are consulted when it comes to searching for a work-unrelated viewpoint on a work problem. Hereby, the person seeking inspiration goes outside their work environment, hence consulting 'Family and Friends'. In

addition, it is argued that established trust and psychological safety in strong(er) ties are what facilitates knowledge transfer required for the idea generation (e.g. Krackhardt, 1990; Ibarra, 1992; Shalley et al., 2004; Tortoriello & Krackhardt, 2010; Amabile, 2011; Sosa, 2011). However, other interviewees name the accessibility of their strong(er) ties to be another contributing factor. Thus, because strong(er) ties are usually around and available for providing inspiration, they are also involved in idea generation.

To summarize, the discussion of idea generation highlights that this phase of the creativity process is both individual (no ties involved) and collective with different tie strengths involved. In moments where ideas will just appear in one's mind (inspirationalist), or one seeks inspiration from prior work or images (structuralist) (Shneiderman, 2000), no ties are included. However, even though no ties are inspiring during this phase, various relationships, may they be strong(er) or weak(er), are also important for generating an idea (situationalist) (Shneiderman, 2000). The reason for that is that they provide a different perspective that stimulates the idea generation. It is to note, that, despite the situation that all tie strengths come into play, mainly those on the lower end of the tie-gradient are consulted in this phase, thus supporting the claim of Perry-Smith and Mannucci (2017) that weak ties are beneficial for idea generation. Only for work-unrelated viewpoints, we found the consultation of strong(er) ties.

5.3 Idea Evaluation

After an idea was generated, the interviewees referred to seeking out feedback, may it be from strong(er) or weak(er) ties, and adapting the respective idea. These activities match those defined as part of idea evaluation in the literature (see section 2.2.2). In the following, we present how our findings suggest this phase to be collective and show a logic according to which different tie strengths are involved. This pattern is illustrated in Figure 4. Step 1 shows the main reason for involving others which is the need for diverse perspectives gained from different knowledgeable and NDA-covered people (section 5.3.1). Step 2 delineates the tie-cascade. This is based on the secondary need for support which is more likely to be fulfilled in strong(er) ties (section 5.3.2). Derived from this, we elucidate why one follows the tie-cascade from the strongest to weakest tie within the pre-selected group of eligible feedback-givers when seeking feedback (section 5.3.3).

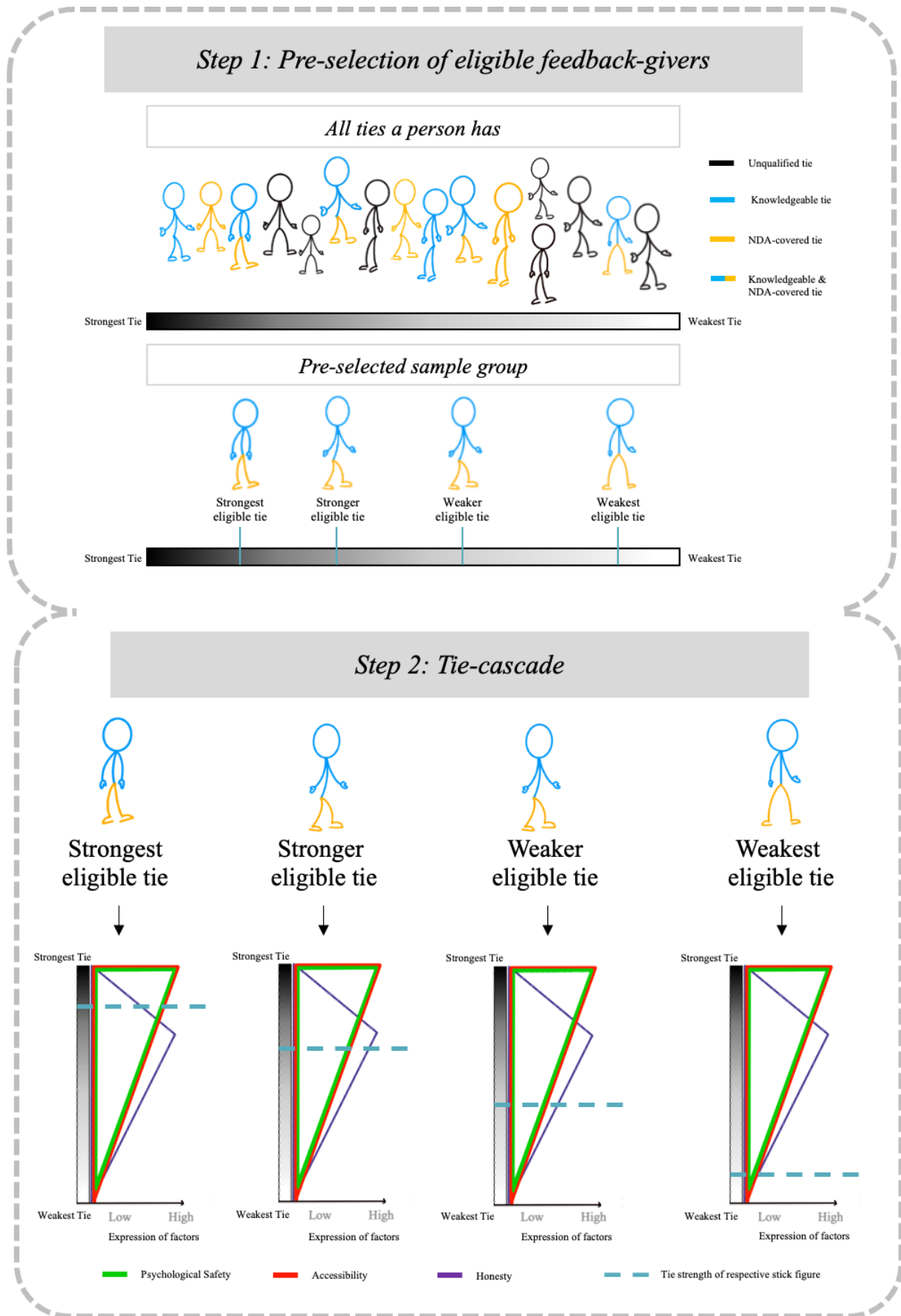


Figure 4: Pattern of involving different people in idea evaluation
Own illustration

5.3.1 Need for Diverse Perspectives from Knowledgeable and NDA-Covered Ties

We found that the idea evaluation phase is a collective phase in which the actor's main need is to gain diverse perspective to develop an idea. Hence, we agree with Wallas (1926) and Osborn (1963) who argue that this phase is characterized by making an idea more appropriate for the problem at hand. To achieve this, Suler (1980) and Basadur (1994) assume that involving other people in the form of getting their feedback is essential for this phase. Runco and Chand (1995) add that this involvement is just natural. Our interviewees confirmed the collective nature. Further, the unconscious involvement is underscored as some interviewees have not specifically mentioned the collective nature of the creativity process in general, but automatically used a collective vocabulary ('we') when describing their activities in idea evaluation.

However, the identified primary need for diverse opinion stands in contrast to the primary need for support postulated by Perry-Smith and Mannucci (2017). Instead of mentioning that they need support, our interviewees rather required multiple views on their generated idea to develop it and increase its quality. We found that the idea generators aimed to involve perspectives different from one's own which is why they consult other people.

Nevertheless, people asking for feedback only approach those who they (i) assume to be knowledgeable and who they (ii) are legally allowed to involve in this matter. These two criteria constitute a pre-selection that happen before one decides specifically who to consult.

When seeking feedback, the actors estimate their peer's knowledge which qualifies them to provide relevant feedback (i). Hence, it is not only the need for getting multiple perspectives that diverge from each other (Granovetter, 1973; Amabile, 1988), but also that this perspective is based on prior experience in the same or a similar field, or on more profound knowledge (Perry-Smith & Mannucci, 2015). This ensures that the knowledge is not only distinct, but also useful (Perry-Smith & Mannucci, 2015). This assessment is dependent on the desired type of feedback. We found that e. g. the 'Team' is more likely to provide relevant feedback when it comes to the professional work on an idea. In teams, people usually work on the same or related topics (Hackman, 2002). Hence, it is almost by nature that they possess relevant knowledge in the respective field which is required to work on the idea. This aligns with Amabile (1996) who characterizes technical and field-related skills and knowledge to be crucial for the idea evaluation. When it comes to broader feedback, especially 'Users' are often consulted as they possess the user's experience which is required in this context. They are usually less emotionally attached to the idea which leads to a lower affinity to current solutions and a more

open mindedness (e. g. Granovetter, 1983; Perry-Smith & Shalley, 2003; Perry-Smith & Mannucci, 2015). This can be beneficial, as the given feedback is less biased by prior habits, ingrained ways of thinking, or assumptions that are recognized as unchangeable facts in the respective field (e. g. Granovetter, 1983; Ibarra & Andrews, 1993; Hinds et al., 2000; Kossinets & Watts, 2009).

In the case of existing NDAs (ii), the actors are not allowed to talk to anyone they wish about their work-related issues. Therefore, they can only approach those who are covered by the same NDA. As we mentioned, this is only the case for contexts in which NDAs are existent, as it was at EMAN. However, we consider it to be an important factor as in the organizational context NDAs are commonly used (Lobel, 2018), thus limiting the sample group of possible feedback-givers.

Hence, our identified primary need for diverse opinion has to be refined as only the knowledgeable and NDA-covered ties are taken into consideration for providing feedback. This pre-selection is completely tie-strength-independent. So far, scholars researching the involvement of ties in the creativity process have not mentioned any specific pre-selections (e. g. Granovetter, 1973; Granovetter, 1983; Ibarra & Andrews, 1993; Shalley et al., 2004; Sosa, 2011; Perry-Smith & Mannucci, 2015). Consequently, they took all ties a person has, ranging from strong to weak, as the basis for elaborating the beneficial effects of specific tie strengths. Therefore, our preceding selection with the criteria knowledge and NDA coverage add to the existing literature.

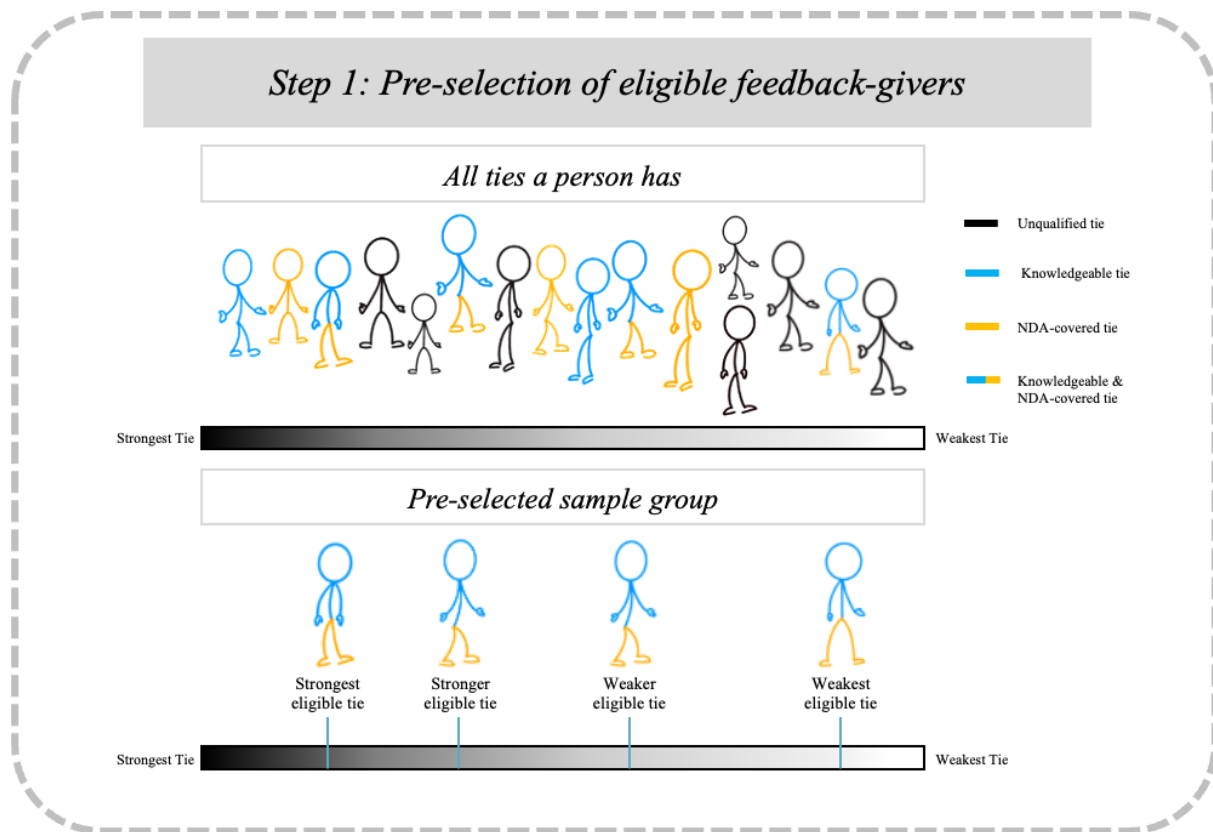


Figure 5: Pre-selections in combination with the tie-gradient
Own illustration

Figure 5 entails step 1 of our suggested pattern of tie involvement during the idea evaluation phase (see Figure 4). It depicts what the pre-selection can look like. The stick figures are an illustration of all ties a person has, scattered across the tie-gradient ranging from strongest (left) to weakest (right) tie. The blue stick figures represent the ties considered as knowledgeable, while the yellow stick figures pose as those covered by the same NDA. Only the ties that are half yellow and blue fulfill both criteria and are, hence, eligible feedback-givers. Thus, the black stick figures are those ties deemed unqualified regarding the respective matter.

Those ties constituting the pre-selected group of eligible feedback givers may come from anywhere on the tie-gradient as their tie strength does not play a role in being eligible. Due to tie-strength having no impact on said pre-selection, it is thus possible that complete relationship-clusters might be considered as unqualified feedback-givers in the respective context. Accordingly, the pre-selected group might contain less variance in tie-strengths unlike depicted in **Figure 5**.

How people proceed in idea evaluation after having identified which ties are eligible for giving feedback, is discussed in the next section.

5.3.2 Secondary Need for Support

Despite the main need for diverse perspectives, we found that the interviewees first reach out to stronger ties for getting feedback, and only move to weaker ties when the stronger ones cannot provide the required feedback. Henceforth, we support Perry-Smith's and Mannucci's (2017) postulated need for support in the idea development. Yet, in contrast to their conclusion, we found that it is only of secondary interest after the need for diverse perspectives. The WTC claims that knowledge provided by strong ties is generally too similar to one's own and that this does not facilitate the creativity process (e. g. Granovetter, 1983; Ibarra & Andrews, 1993; Hinds et al., 2000; Kossinets & Watts, 2009). In contrast to that, we observed that although strong ties might not provide as diverse perspectives as weak ties, they still provide sufficiently different knowledge.

By identifying the pattern of gradually moving from consulting the strongest tie to consulting weaker ties within the selected sample group, we could single out a tie-cascade. The logic behind why the tie-cascade is followed can be traced back to mainly three reasons, namely psychological safety, honesty, and accessibility, which we discuss below.

Psychological safety is the first decisive factors for the preference of involving stronger ties, facilitating the engagement in productive dissonance (Schaefer, in press). In alignment with previous literature (Krackhardt, 1990; Ibarra, 1992), we found that psychological safety is generally higher in strong(er)-tie-contexts. In those psychologically safe environments, both feedback-seekers and feedback-givers are more willing to share their ideas and thoughts as they do not fear judgement (Chua et al., 2012; Edmondson, 1999). Thus, strong(er) ties can facilitate the process of productive dissonance (Schaefer, in press) as follows. First, it alleviates the start of the idea evaluation. The presence of psychological safety increases the willingness of the person seeking feedback to share their generated idea and its potential issues, as well as to ask for others' opinions (Schaefer, in press; Edmondson, 1999). Secondly, there is a lower barrier for the people consulted to share the own, possibly diverging opinion (Edmondson, 1999). Finally, as shown by our empirical material, psychological safety aids all involved actors to not focus on saving face, but to engage productively in the discourse. Thereby, the contrasting orders of worth (Boltanski & Thévenot, 2006) are allowed to fully unfold. Henceforth, everyone opens up to seeing valuable and constructive aspects of other ideas (Chua et al., 2012). Subsequently, they are more likely to combine and develop the initial idea, reaching a creative synthesis (Schaefer, in press). Thereby, we add tie strength as a factor to Schaefer's (in press) friction model. The stronger a tie is, the more psychological safety tends to be present

which is beneficial for productive dissonance (Schaefer). Therefore, stronger ties are more likely to be consulted first in the tie-cascade.

Secondly, we found that strong(er) ties are very honest with each other when they experience high levels of psychological safety, while weaker ties carry a risk of dishonesty. Currently, scholars of the WTC only highlight the probable lack of honesty due to conformity in strong ties and disregard said risk in weak ties (Perry-Smith & Mannucci, 2015; Hollander, 1958; Kaplan et al., 2009). We discovered, however, that weak(er) ties might also lead to dishonesty due to their lower levels of psychological safety (Krackhardt, 1990; Ibarra, 1992). According to our findings, this is mainly attributable to the actors not feeling safe enough to admit knowledge gaps. However, such gaps would be important information to share as they influence the significance of the feedback provided. Hence, we argue that strong(er) ties result in more honesty which leads to an improved estimation of the feedback's usefulness.

Nevertheless, one has to acknowledge that strong(er) ties entail a risk of conformity (Krackhardt, 1990; Ibarra, 1992; Perry-Smith & Mannucci, 2015). As shown in the interviews and previous research (Hollander, 1958; Kaplan et al., 2009), this might prevent the consulted people to speak their honest mind as they want to avoid hurting the other's pride or feelings. Therefore, we can partly agree that strong(er) ties might hinder creativity processes as they might lead to conformity. Yet, aligned with Ruef (2002), we have to limit this confirmation as our interviewees mentioned, this only applies to the strongest relationship-cluster ('Family and Friends').

Considering the risks of both conformity in very strong ties and dishonesty in weak(er) ties, a sweet-spot at the team level is insinuated in which the expression of honesty is the highest. At team level, the emphasis of the professional attitude towards creating the best possible product is the highest. This confirms Janis (1982) suggestion that high levels of conformity can be prevented by encouraging the open expression of opinion. With our findings we add that this encouragement can be made through the emphasis of said professional attitude.

Finally, we found strong(er) ties to be more accessible than weak(er) ties which affects the probability of being asked for or providing feedback, as well as the pace of knowledge sharing. Often times, the choice of who is consulted for feedback is made based on who is present and available at the time. This is more likely to be a strong(er) tie, due to the higher frequency of

interaction (Granovetter, 1973). Beyond actively asking another person for feedback, we can add the factor of giving unsolicited feedback. We observed this to be more frequent in strong(er) ties due to their higher presence (Mueller & Kamdar, 2011). Moreover, this is in line with the assumption that knowledge sharing happens faster via strong(er) ties, especially when it comes to gaining insights into the experiences of others (Hansen, 1999; Reagans & McEvily, 2003).

However, this increased accessibility of strong(er) ties is accompanied by an increased time investment, which is, according to our material, willingly made. Our findings confirm the assumption of the WTC that strong(er) ties require more time investment and involve a sense of reciprocity / duty (van Osch & Bulgurcu, 2020). The interviewees regarded the time investment as something reciprocal that facilitates creativity rather than something that consumes time which could be used differently, e. g. for consulting a greater number of weaker ties. Further, we found this sense of reciprocity (van Osch & Bulgurcu, 2020) to be also beneficial as it motivates people to respond to the feedback request. Consequently, the greater time investment in strong(er) ties is readily made in return for quick and relevant feedback.

What emerges from our explanations is that all three factors have their highest expression in the upper part of the tie-gradient, hence at strong(er) ties explaining why the tie-cascade moves from the strongest eligible to the weakest eligible tie. We want to emphasize that not only one of the above-mentioned factors for involving strong ties is decisive, but their combination (simultaneous existence of all three). In our interviews none of the three factors was mentioned more frequently or was stated to be more important than another one. Therefore, we assume that all three factors are of equal importance.

Figure 6 plots all three factors (colored shapes) side by side in combination with the tie-gradient (black-white-gradient next to the colored shapes).

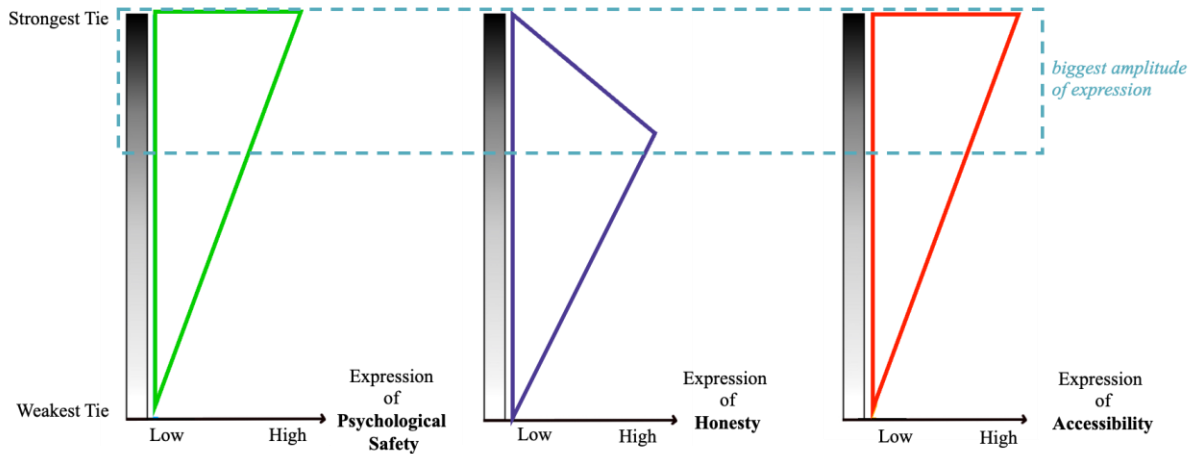


Figure 6: Expression of all three factors (psychological safety, honesty, accessibility) in combination, with the tie-gradient
 Own illustration

The left illustration depicts the expression of psychological safety (green shape) which tends to be higher the stronger a tie is. Our findings regarding the expression of honesty are illustrated in the middle (purple shape). In weaker ties, we found a higher risk of dishonesty while there is a risk of conformity in particularly strong ties. Hence, there is a sweet spot on the upper end of the tie-gradient, at team level, in which the most honest feedback is provided. The red shape on the right shows our findings concerning accessibility. It is higher in strong(er) ties, although there is a higher time investment.

If viewed side by side, one can see that the expression of all three factors is highest in the upper part of the tie-gradient, hence at strong(er) ties. What becomes clear is that although honesty does not have its highest expression at the strongest tie (very top end of the tie-gradient), the upper area of the tie-gradient accumulates the biggest amplitude of expressions among all three factors (turquoise box).

The implication this has on the above-mentioned tie-cascade is explained in the following section.

5.3.3 Tie-Cascade

As mentioned before, our findings indicate that when seeking feedback, one moves down the tie-gradient, starting with the strongest eligible tie. While the STC proposes that strong ties are beneficial for creativity in general (e. g. Zhou et al., 2009; Rost, 2011), the WTC proposes these benefits for weak ties vice versa (e. g. Granovetter, 1973; Cattani & Ferriani, 2008). Perry-Smith and Mannucci (2017), however, assume that strong ties are primarily of advantage during the idea evaluation phase. Our finding of the tie-cascade insinuates that ties from all tie

strengths might be involved in this phase, depending on the pre-selection (see section 5.3.1). Thus, the decision of involving others in idea evaluation is not a question of either consulting strong or weak ties. Instead, we propose that one first involves the strongest eligible tie and, subsequently, gradually moves downwards to weaker ties if the feedback is not considered sufficient. Therefore, we can confirm aspects of the STC, the WTC, and Perry-Smith and Mannucci (2017).

This finding is depicted in Figure 7, constituting step 2 of the developed pattern of involving different people in idea evaluation (see Figure 4). In this illustration, we laid the three factors (psychological safety, honest, accessibility) from Figure 6 over each other. It remains that each colored shape represents one factor (green: psychological safety, red: accessibility, purple: honesty).

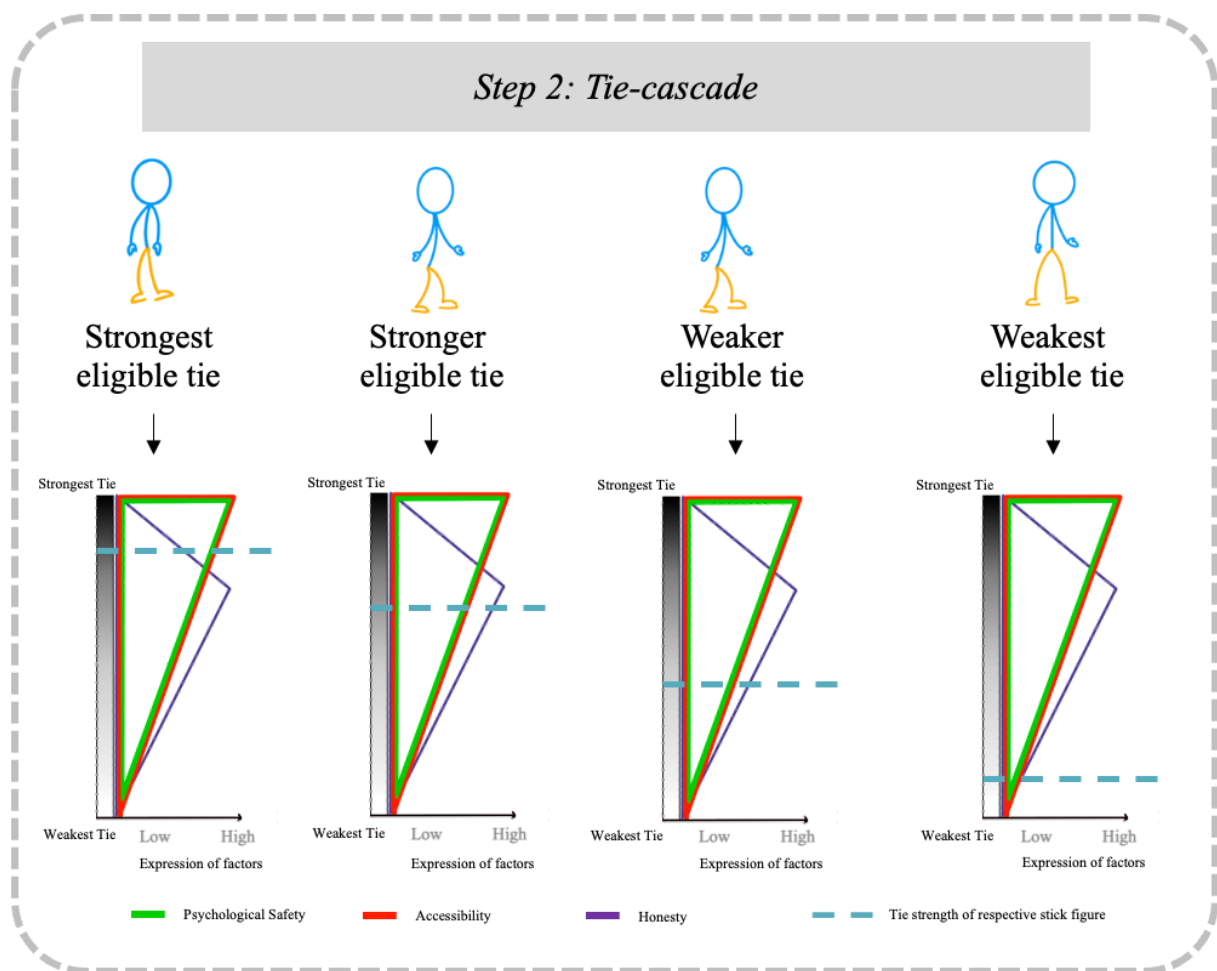


Figure 7: Tie-cascade
Own illustration

As shown before, the half blue and yellow stick figures portray the sample group of eligible feedback-givers. These ties can be of different tie strengths. Below each stick figure the

assigned position on the tie-gradient is illustrated by the turquoise dotted line. The respective tie-strength determines the expression of the three factors psychological safety (green shape), honesty (purple shape) and accessibility (red shape). If one compares the factor-expression of the four eligible feedback-givers, one sees that the total factor-expression is highest in the strongest and gradually decreases with declining tie strength (from left to right). This explains why one starts consulting the strongest eligible tie. If further feedback is required, one gradually moves downwards the tie-gradient.

With this tie-cascade, we extend the existing literature of the idea evaluation phase describing how and why different tie strengths come into play in this phase. According to this, it is not determined in advance which and how many relationship-clusters will be consulted. On the contrary, it leads to a wide range of tie strengths being involved during the evaluation phase with the specification of starting with the strongest eligible tie.

5.4 Chapter Summary

In this chapter we discussed our empirical findings with the current literature presented in the literature review. We showed that tie strength should be considered a continuum, instead of categorizing it into strong, weak, and intermediate ties as stated by multiple other scholars. Although such a continuum is commonly accepted (e.g. Granovetter, 1973; Zhou et al., 2009; Perry-Smith & Mannucci, 2017), we elaborated how with the current state of research it is impossible to precisely determine where on the tie-gradient a tie can be allotted based on its composition of the different amplitudes of Granovetter's (1973) three factors (frequency, length and emotional attachment). Nevertheless, we were able to allocate the five relationship-clusters mentioned in our interviews along the tie-gradient due to the comparison made by the interviewees. This, again, highlights how in each relationship-cluster multiple nuances can be found and that the boundaries between the clusters are blurred.

In the next step we established that during the idea generation phase, conscious (e.g. Basadur, 1994) and unconscious (e.g. Suler, 1980), as well as individual (e.g. Wallas, 1926) and collective activities (e.g. Shneiderman, 2000) are relevant. Furthermore, it came to light that in accordance with Perry-Smith and Mannucci (2017), mainly ties on the weaker end of the tie-gradient are consulted for inspiration as they provide the most diverse knowledge.

Said need for diverse perspectives was also identified in the idea evaluation phase, which adds the component of tie strength to Schaefer's (in press) friction model. This finding, however, contradicts Perry-Smith's and Mannucci's (2017) claim of support being the primary need in this phase. Further, we identified that during idea evaluation, knowledge and NDAs coverage

are criteria for pre-selecting eligible feedback-givers. With that tie-independent pre-selection, people from different tie-strengths constitute the pre-selected sample group. Finally, the need for support is not irrelevant, but only secondary to knowledge and NDA coverage. Once eligible feedback-givers are identified, the strongest tie within this group is consulted first. As reasons for this we identified that the upper part of the tie-gradient accumulates the highest expression of all three factors psychological safety, honesty, and accessibility. If additional feedback is required, one move along the tie-cascade downwards the tie-gradient which is accompanied by lower expressions of all factors.

6 Conclusion

Thinking back to our story in the introduction about Suze needing to present a new idea to her client, it was the thought of dialogue with others about her problem, thus the collective effort, that made her optimistic to come up with an idea soon and to develop it further. Aiming to unravel this collective effort, our study investigated how different people act when being creative, who they consult in their creativity process and how they understand and give reason to their actions. With the empirical findings from our interviews, we answered our research question of how and why different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase.

In this final chapter, we summarize our empirical findings and outline how they contribute to existing theory. Further, we discuss the practical implications of our thesis. Lastly, we highlight general limitations of our thesis which suggest possible aspects for future research.

6.1 Theoretical Contributions

Our first finding is the tie-gradient, representing the tie-strength-continuum, along which different relationship-clusters can be allotted through comparison. Our interviewees mentioned various people of different tie strength they consult during their creativity process. Deriving from this, we established five relationship-clusters, namely ‘Family and Friends’, ‘Team’, ‘Colleagues from neighboring departments’, ‘Clients’ and ‘Users’. Within those, individuals’ perception of tie strength is similar, however, there can also be nuances in these perceptions. The different levels in tie strength of the relationship-clusters confirm that tie-strength needs to be considered a continuum (e. g. Granovetter, 1973; Zhou et al., 2009; Perry-Smith & Mannucci, 2017). However, in contrast to prevailing literature (e. g. Granovetter, 1973; Granovetter, 1983; Perry-Smith & Shalley, 2003; Perry-Smith & Mannucci, 2017), these relationship-clusters cannot be assigned to only one of the two maxima strong or weak ties. Due to a missing uniform methodology of pinpointing a tie on the tie-continuum, we could only rank the relationship-clusters through the comparison between them made by our interviewees. By placing the resulting ranking of relationship-clusters next to the tie-continuum, we assigned each cluster a span on said continuum. With this span, we accounted for the nuances of tie strength within a cluster. Consequently, we illustrated the tie-continuum as a color gradient (tie-gradient) to depict the nuances within a relationship-cluster, and that the clusters’ boundaries blur into each other. With this tie-gradient, we add a more nuanced view on tie-strength to the literature.

Our second finding is the need for diverse perspective during idea generation which leads to almost all tie strengths being involved, with weak(er) ties being predominantly consulted.

Refining the WTC (e. g. Granovetter, 1973; Cattani & Ferriani, 2008), relationships from the lower end of the tie-gradient ('Users', 'Colleagues from neighboring departments') are more frequently approached as these are more likely to have diverging ways of thinking. Thus, we agree with Perry-Smith's and Mannucci's (2017) postulation that weak ties are more beneficial during idea generation. Nevertheless, our findings indicate that this does not ostracize the involvement of strong(er) ties to trigger inspiration. These were said to be mainly 'Family and Friends' as they can provide a perspective outside the work context. Their accessibility and trust, facilitate the involvement of these strong(er) ties. Henceforth, we also refine the STC (e. g. Zhou et al., 2009; Rost, 2011) by stating that strong(er) ties also have benefits during idea generation. Consequently, we add to the literature that both strong(er) and weak(er) ties have their advantages during this phase, despite the finding that the latter are more frequently consulted.

Additionally, our findings show that idea generation also happens individually by doing research, hence without consulting any ties. However, it was emphasized that this cannot completely replace the collective, as some things can only be learned through exchange with others. This combines existing literature as idea generation is both collective (e.g. Shneiderman, 2000) and individual (e.g. Wallas, 1926), as well as conscious (e.g. Basadur, 1994) and sometimes unconscious (e.g. Suler, 1980).

Our last finding concerns idea evaluation. In this phase we found a tie-cascade indicating that within a pre-selected group of eligible feedback-givers, the strongest tie is consulted first and that one gradually moves down the tie-gradient if additional feedback is required. Prior to the consideration of tie strength, we found evidence for a pre-selection with the two criteria knowledge and NDA coverage. Thus, people are only consulted for feedback if they are knowledgeable and covered by the same NDA. This adds to current literature as pre-selections are not yet mentioned by other authors.

From the resulting sample of eligible feedback-givers, the strongest tie is asked to provide feedback first. This is due to the higher sense of psychological safety, accessibility, and honesty which is more prominent in strong(er) ties. If the provided feedback is considered not sufficient, one turns to the next weaker tie within that sample group, thus moving down the tie-gradient. This displays the tie-cascade which represents the pattern according to which

feedback is gathered during idea evaluation. Thus, we again extend Perry-Smith's and Mannucci's (2017) creativity model, which postulates the inclusion of strong ties in this phase. Our findings suggest that although, within the group of eligible feedback-givers, stronger ties are consulted first due to their strengths, weaker ties are not necessarily excluded.

To summarize, our findings indicate that not one specific tie-cluster or its opposite is the most beneficial for creativity, as suggested by predominant literature. In consensus with Perry-Smith and Mannucci (2017), we found a phase dependency in which tie strength mainly comes into play during the creativity process. However, in contrast to them, we did not only focus on two tie strengths, but considered the whole tie-gradient. Although we found tendencies as to whether the stronger or weaker side of the gradient is more beneficial, we add that all parts of the gradient can be present in idea generation and idea evaluation. Accordingly, the inclusion of different tie strengths is not, as one might assume from the literature, a paradox, but a complementary phenomenon.

6.2 Practical Contributions

Our thesis shows that different tie strengths come into play in the creativity process during the idea generation and idea evaluation phase. From this, we can derive different practical implications.

Firstly, as different tie strengths are required during the creativity process, organizations can aid their employees to establish various tie strengths. In contemporary organizations, there is often a strong emphasis on shared identity, teamwork, and strong organizational culture (Alvesson & Sveningsson, 2016). This leads to more unity and closer relationships, hence strong(er) ties. The need for support in the idea evaluation phase is thereby endorsed and personal relationships, which we found to be important in this phase, are provided. However, especially during idea generation, employees also require weak(er) ties. Thus, organizations can support their employees by providing networking opportunities, such as network events or conferences. Hereby, employees can build a broader network of weak(er) ties. Subsequently, they can reach out to more diverse people which facilitates the creativity process. Thus, by providing both networking opportunities for building and maintaining weak(er) ties, and emphasizing teamwork and shared identity for strong(er) ties, organizations can provide good conditions for their employee's creativity. This, in turn, is important for the company's growth and competitiveness (Chesbrough, 2003).

Secondly, employees and organizations can provide transparency regarding existing knowledge and signed NDAs, thus facilitating the pre-selection of eligible feedback-givers in idea evaluation. As people assess their tie's knowledge, and if they are legally allowed to talk to them, it would be beneficial for employees to have a reliable foundation on which they can base their assessment. As we elaborated in the discussion, strong(er) ties tend to know more about each other, also including each other's knowledge. Thus, building strong(er) ties is one way to provide this transparency. However, only building ties allotted on the strong(er) end of the tie-gradient is neither possible nor desirable. Therefore, a contact database with a dense overview of people's knowledge could make the assessment more accurate. Further, the legal jargon is often very cumbersome and not easy to understand. Thus, making the contents of the NDAs and their implications easier to understand would help employees to better assess who they are legally allowed to talk to.

Finally, as we found that existing NDAs narrow down the sample group of eligible feedback-givers, it may be beneficial for organizations to only have NDAs in place when they are truly needed. Thus, checking conscientiously whether an NDA is necessary at all can be of advantage to creativity as this allows for a broader sample group of eligible feedback-givers. If an NDA is required, it would be beneficial to have more than one person within the company signing the NDA. Thereby, employees can seek inspiration and feedback from more sources, may that be strong(er) or weak(er) ties.

6.3 Limitations

Before we elaborate on future research questions arising from our thesis, we want to draw attention to the important limitations. There are significant limitations based on our methodology, such as the limited time frame, the number of interviewees and conducted interviews or the high context dependency. As we have already outlined them in detail in section 3.3, we now focus on more theoretical aspects.

Firstly, as proposed by symbolic interactionism, how people act in their creativity processes and how they assess the tie strength of people around them is something very individual. As we found similarities in the interviewees' comparison between the relationship-clusters, we could allocate the different relationship-clusters on the tie-gradient. From this finding, we were able to conclude the primary involvement of weak(er) ties during idea generation, and the tie-cascade from strong(er) to weak(er) ties during idea evaluation. However, it is not granted that these patterns will look the same in a different context.

Finally, we have to acknowledge that NDAs do not exist in all organizations which has implications for the pre-selection in the idea evaluation phase. In organizations where no NDAs are in place, the assessment of NDA coverage is omitted as a pre-selection criterion. However, we cannot conclude whether knowledge will remain the only pre-selection criterion, or whether other factors will replace the NDA coverage as second criterion.

6.4 Future Research

According to our findings and limitation, we suggest that future research is required to strengthen the applicability of our conclusions. First of all, the allocation of relationship-clusters along the tie-gradient was only possible through comparison. Thus, future research is needed to establish whether this allocation is possible with a uniform methodology, or whether, due to social construction of reality, tie strength remains a subjective matter which can only be assessed through comparison.

Further, our interviews suggest the existence of contributing factors, such as organizational culture, leadership, and personality, influencing the decision what specific tie strength is approached. Due to the limited extent of our thesis, we were not able to elaborate on them. Thus, we call for subsequent research focusing on those aspects. Hereby, our above-mentioned factors can pose as a baseline, however there might be other factors that were not encountered in our interviews.

To assess the generalizability of our findings, we finally call for research that puts our empirical findings into diverging contexts. Thereby, it is to extrapolate whether the involvement of mainly weak(er) ties in idea generation and the tie-cascade in idea evaluation can only be found at EMAN, or if these can be considered as general patterns. This would influence the degree of relevance of our theoretical contribution and our practical implications.

Ultimately, we believe that any further exploration of the relationship between creativity and tie strength can be both academically and practically valuable, and thus assist companies in remaining creative and surviving in our complex and ever-changing world.

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Appendix A: Interview Guide

<i>Category</i>	<i>Subcategory</i>	<i>Question</i>	<i>Sub- / Follow up question</i>
Start of the interview			
<ul style="list-style-type: none"> - Who are we (names, program, background in creativity course) - What do we research (we are not here to evaluate, only to learn how it works in practice)? - Recording of the interview (only for purpose of transcribing it, then we delete the audio file) - Confidentiality (name, company, projects, etc. will be anonymized) - Time span: roughly one hour 			
Warming up			
1	1.1	Could you please tell us briefly about yourself and your job?	
1	1.2	What role does creativity play in your job?	<p>In what ways do you work creatively?</p> <p>What make your work creative?</p> <p>To what extent would you say your work is creative?</p>

Creativity			
2	2.1	How do you define / understand creativity?	
2	2.2	Where do you usually get new ideas from?	Are those random / casual moments or conversations, etc.?
2	2.3	How does the path from an idea to its implementation look like?	Are there any phases / gates / stages that need to be passed?
2	2.4	What would you consider to be success factors for being creative?	
Ties			
3	3.1	Would you consider your creativity process as a collective effort?	Would you say that other people are involved in your creativity process? <ul style="list-style-type: none"> - When? - Who? - Why? - Why them?
		In what ways? Examples	

3	3.2	<p>What are you doing when looking for new <i>inspiration</i>?</p> <p>Example(s)</p>	Whom, if anyone, are you consulting?
			How close do you feel to the persons you contact?
			Why do you consult them?
			Do you see any disadvantages in involving them?
			Why do you still consult them?
			<p>Are there moments you can think of, when you don't take this way when looking for new inspiration?</p> <p>- When, why?</p>
3	3.3	<p>What are you doing when developing an idea? (After you came up with a new idea, what do you do next to develop it further?)</p> <p>Example(s)</p>	Whom, if anyone, are you consulting?
			Who do you turn to when you need feedback on ideas?
			How close do you feel to the persons you contact?
			Why do you consult them?
			Do you see any disadvantages in involving them?
			Why do you still consult them?

			<p>Are there moments you can think of, when you don't take this way when developing an idea?</p> <ul style="list-style-type: none"> - When, why?
Mediating factors			
4	4.1	<p>Is there anything that influences your decision whom to consult?</p> <p>Why and what? Example(s)</p>	<p>In what ways does ___ influence your decision of whom to contact?</p> <ul style="list-style-type: none"> - Your own personality - Organizational culture (networks, teams,...) - Leadership
End			
Thank you so much for this interesting talk!			